



Business Message Standard (BMS) Catalogue Item Sync

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BRAD Preliminary Trade Item 0.0.5		0.0.5
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1. Business Domain View

1.1. Problem Statement / Business Need

The business landscape has undergone a rapid and complicated transformation. Globalization, converging supply chains, and the rapid pace of technology have added new costs and complexity to the way business is conducted in every industry. These issues have added significant expense to the cost of doing business.

This makes standards, which bring order and efficiency to business processes more important and challenging than ever before. The success and growth of the GS1 System has been based, in part, on its strong legacy in Catalogue Item identification, linking together the physical flow of a Catalogue Item with the corresponding flow of electronic information. In order to maintain the value of this system, GS1 has embraced Simpl-eb (Simple e-Business), a business practice that streamlines and simplifies the flow of business trade information enabling more efficient and effective supply chains. As its name implies, Simpl-eb is focused on simplifying the underlying communication of information that is applicable across multiple business processes.

One of the premises of Simpl-eb is that EC constructs (data and data structures) that are common across multiple business processes must be aligned. Some of the Core Data must be synchronised so it need not be sent in each transaction and it has the same value in the trading partners systems; such data has been referred to as Master Data.

To put this in the context of the GS1 system, the GS1 Business Message Standards (XML), UCS EDI Standards, VICS EDI Standards, and EANCOM are electronic data carriers within the Simpl-eb framework. Simpl-eb is dependent on the alignment of core data and the Synchronisation of master data that is used in multiple business transactions. The most prevalent master data is Catalogue Item and party, which can be identified with GS1 keys", specifically the Global Trade Identification Number (GTIN) and Global Location Number (GLN).

The GS1 system provides the standards to align data between trading partners; these are the foundation standards. The GS1 system also defines a process by which trading partners can exchange this aligned data between them and synchronise master data across an entire community; these are the foundation processes.

This foundation allows for the simplification (Simpl-eb) of the basic trade processes of Plan, Order, Delivery, and Pay, which in turn form the basis for more complex processes such as CPFR, Micro-Merchandising, Scan-Based Trading (SBT), and any other future initiative.

Substantial effort has been made to develop a Global Data Synchronisation process because master data sharing between partners is both complex and fundamental to all supply chain processes. Integrity and timeliness of master data is critical to the flow of goods, services and information throughout the chain. Sharing data effectively and efficiently relies on access to common data definitions, data accuracy and agreement on the processes used to exchange data.

This process is termed Master Data Synchronisation. Throughout 2000-2002, with increased emphasis on global commerce, electronic trading communities and evolving Internet technology, it became obvious that global master data standards and processes were essential to support simple e-Business transactions. As a precursor to the establishment of standards, GCI, UCC and GS1 developed business requirements in parallel to address "What standard processes are required to enable Global Data Synchronisation?"

1.2. Objective

To supply the detail design of the catalogue Item synchronisation business transaction needed to meet the requirements of the referenced BRAD(s).

1.3. Audience

The audience of this standard is any participant in the global supply chain. This includes retailers, manufacturers, service providers and other third parties

1.4. References

Reference Name	Description
BRAD for Hierarchical Withdrawal	Describes the requirements for efficiently withdrawing an item within the GDSN by reducing the data required in a trade item for processing a withdrawal
BRAD for GDSN Major Release 3	This BRAD comprises a series of approved requirements that are aimed at improving the GDSN standards by allowing the use of additional attributes, update definitions and business rules to make the standard consistent with the current business practices and needs.
BMS Shared Common Release 3.1.0	Contains data elements which are common in use between both the GDSN and eCom messages.
BMS Modular Trade Item 0.0.8	The message designs and process changes necessary to perform trade item synchronization in the Global Data Synchronisation Network using a more flexible, context based trade item.
BRAD Preliminary Trade Item 0.0.5	Allow for the synchronisation of preliminary trade items. Preliminary trade items are trade items where not all attributes have been finalized and could change before production.

1.5. Acknowledgements

The following is a list of individuals (and their companies) who participated in the creation, review and approval of this BMS.

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1.5.2. Design Team Members

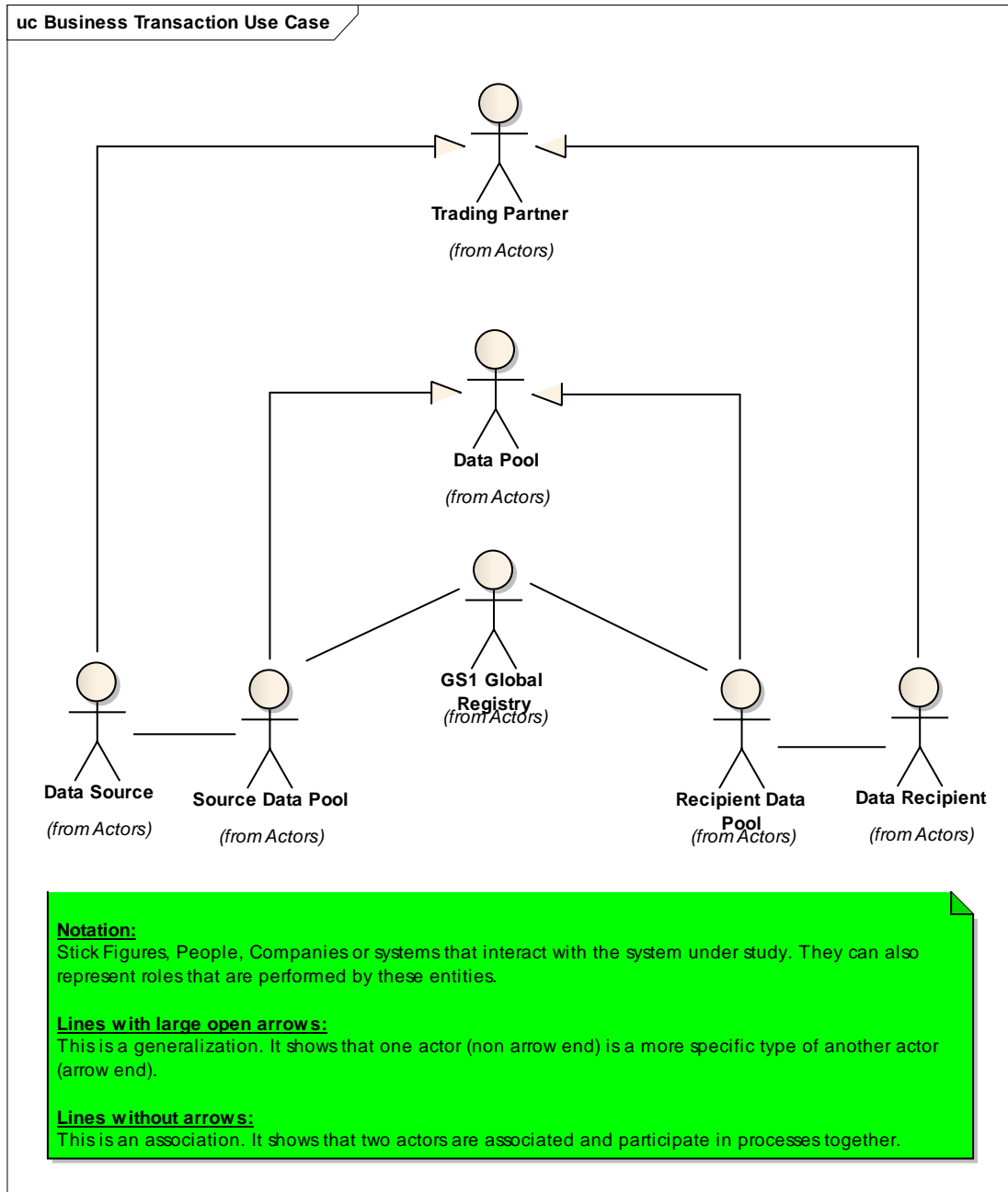
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2. Business Context

Context Category	Value(s)
Industry	All
Geopolitical	All
Product	All
Process	GDSN
System Capabilities	GS1
Official Constraints	None

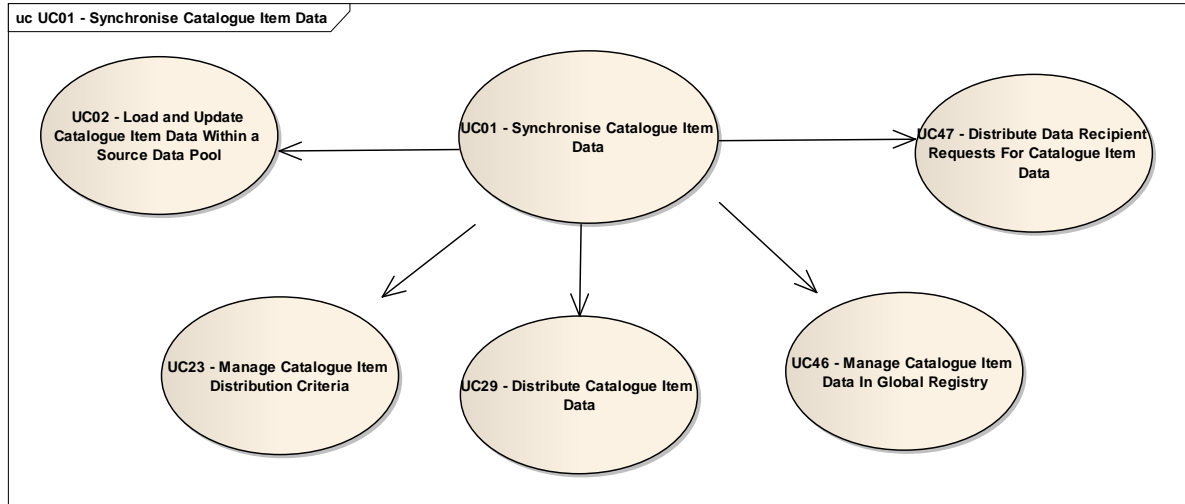
3. Business Transaction View (Summary Use Case Description)

3.1. Catalogue Item Synchronisation Actors



3.2. Synchronise Catalogue Item Data

Figure 3-1 Synchronise Catalogue Item Data Use Case Diagram



Use Case ID	UC-1
Use Case Name	Synchronise Catalogue Item Data
Use Case Description	<p>The process of continuous harmonisation of information between all trading partners within the supply chain through the use of Align Data standards.</p> <p>The salient points for synchronisation are: synchronisation is a process, it is auditable, must utilise industry standards (i.e. GS1), the data exchanged must be compliant with these standards, the recipient (i.e. the buyer) must acknowledge the integration of the data, and continuous updates must be applied.</p> <p>Note: As a summary use case, specific processes (e.g. Distribute Catalogue Item Data) will be further defined in this document.</p>
Performance Goals	<ul style="list-style-type: none"> ■ Data Source: To have Catalogue Item Data available to Data Recipients. ■ SDP: To have Data Source provided Catalogue Item Data is searchable by Recipient Data Pools. ■ RDP: To find Catalogue Item Data that matches the Data Recipient's search criteria. ■ Data Recipient: To find Catalogue Item Data available in the Target Markets served by the Data Recipient. ■ Global Registry: To ensure that Catalogue Item Data can be found by Recipient Data Pools.

3.3. Load and Update Catalogue Item Data within a Source Data Pool

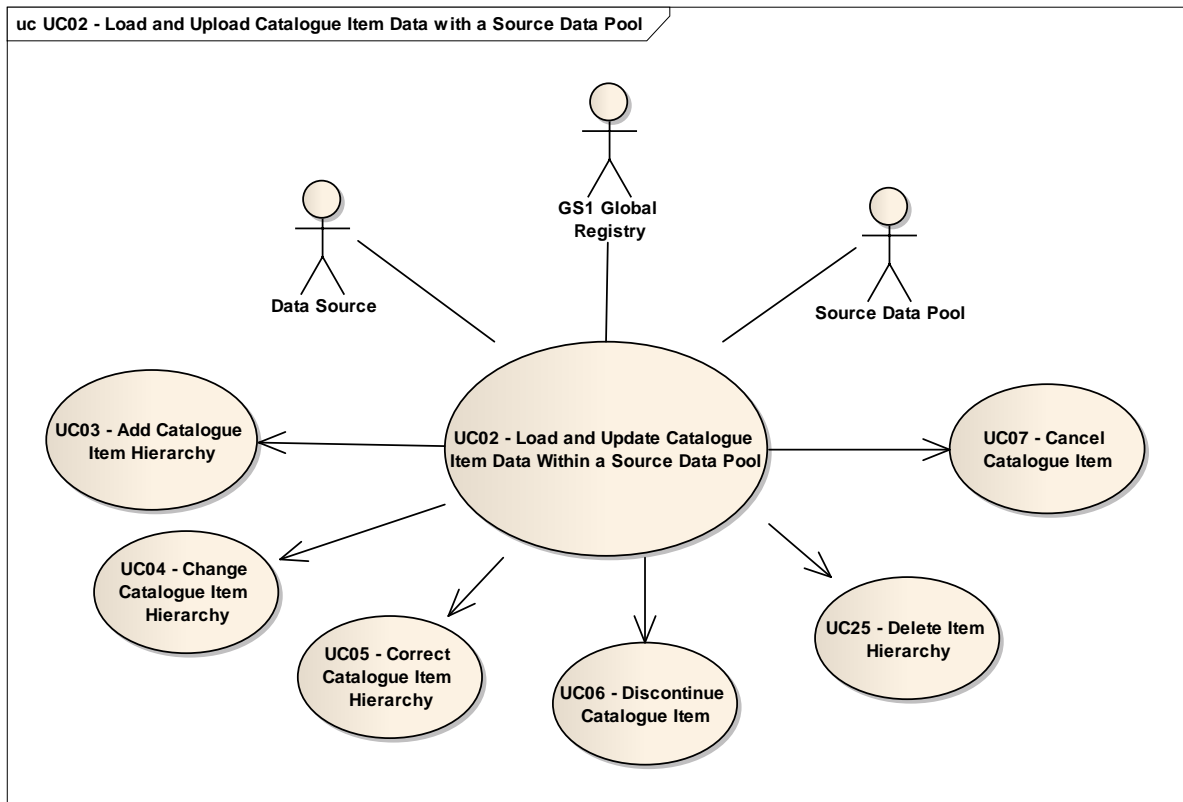
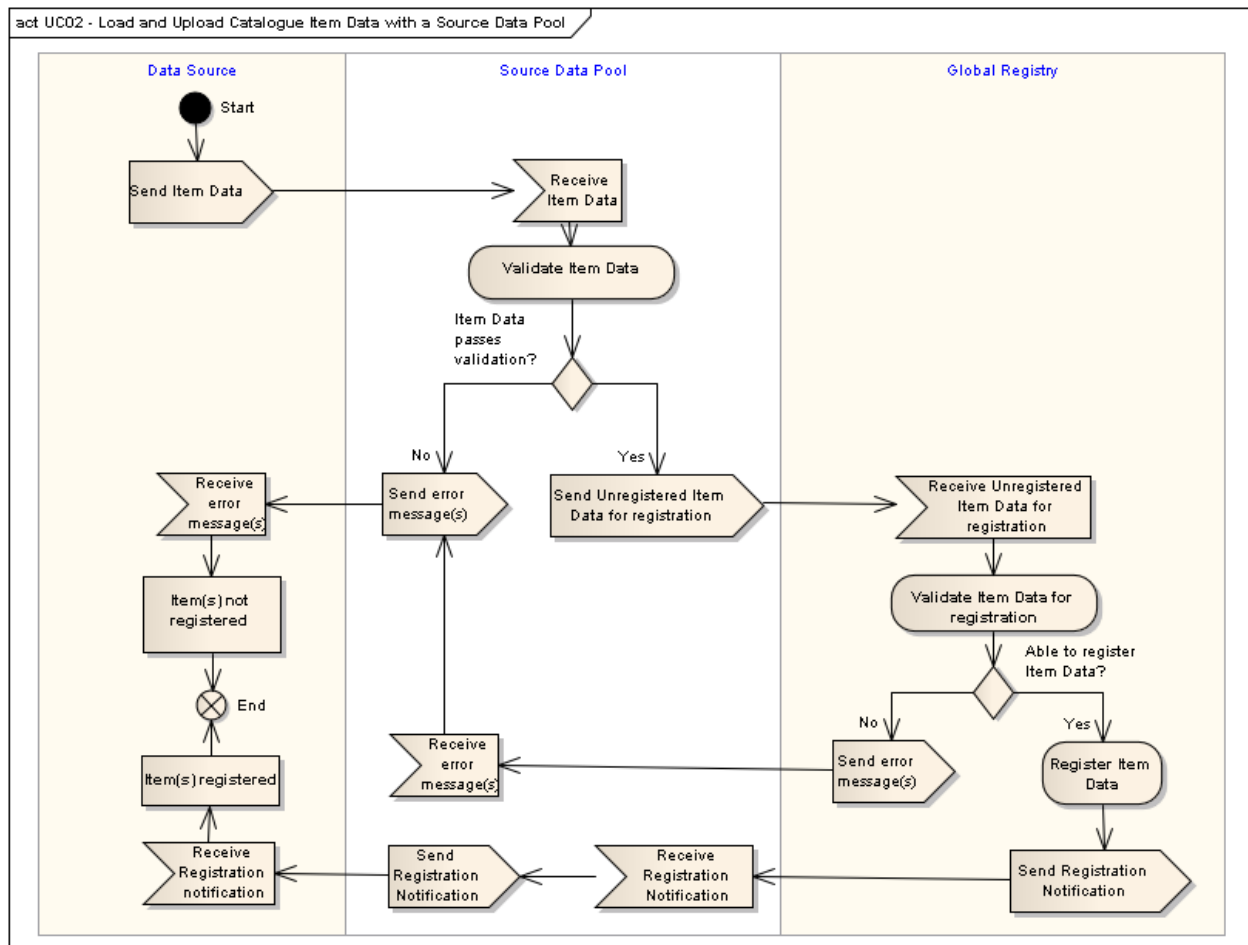


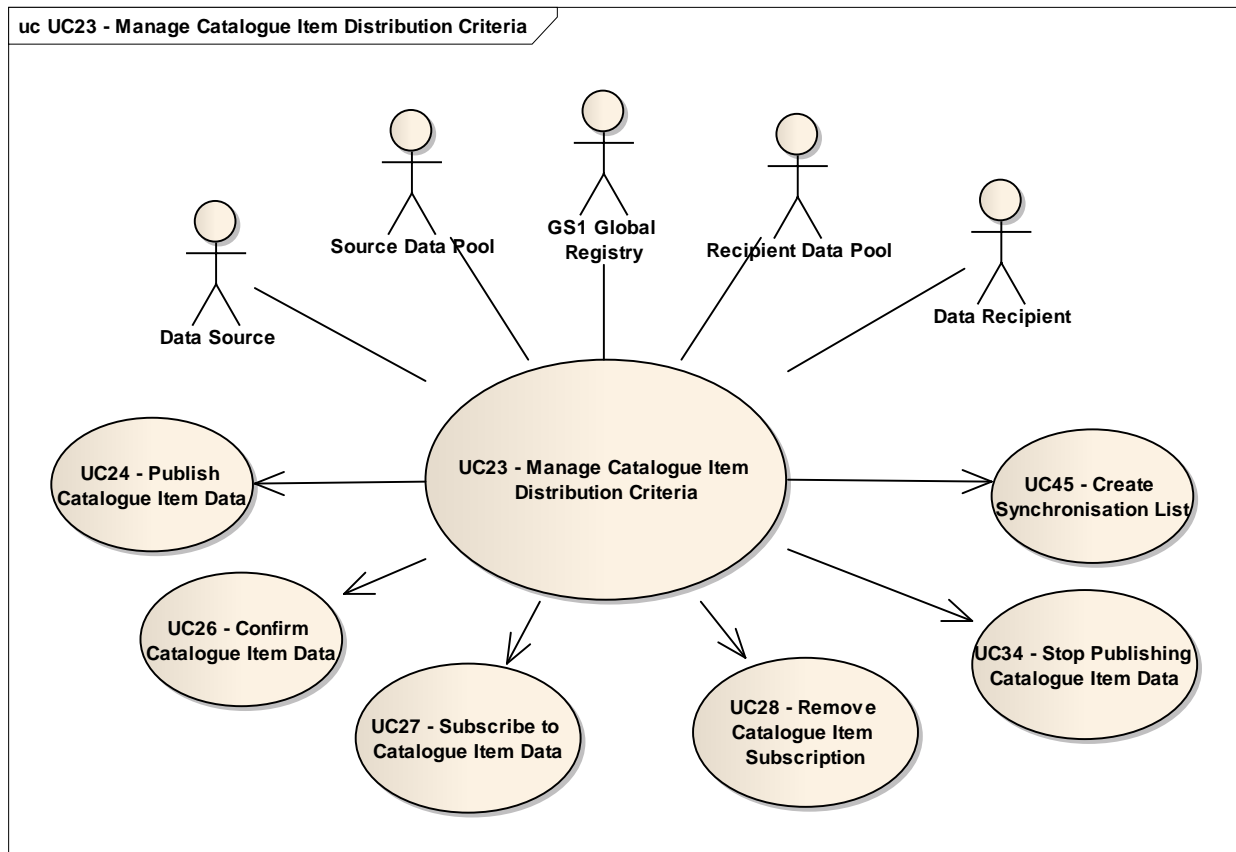
Figure 3-2 Load and Update Catalogue Item Data within a Source Data Pool Use Case Diagram

Use Case ID	UC-2
Use Case Name	Load and Update Catalogue Item Data within a Source Data Pool
Use Case Description	<p>This Use Case describes the processes that need to take place for Catalogue Item data to be transferred from the Data Source to the Source Data Pool, be validated and registered in the Global Registry. After this process, Catalogue Item data may be distributed to Recipients according to the distribution rules described in the Manage Catalogue Item Data Distribution Criteria Use Cases.</p> <p>As a summary Use Case, specific processes will be further defined in the Detail Use Case section of this document.</p>
Actors (Goal)	Data Source Source Data Pool (SDP) Global Registry
Performance Goals	<ul style="list-style-type: none"> ■ Data Source: To have validated, registered Catalogue Item Hierarchy data in their Source Data Pool. ■ SDP: To have validated, registered Catalogue Item Hierarchy data. ■ Global Registry: To ensure valid, unique Catalogue Item data are registered.

Figure 3-3 Load and Update Catalogue Item Data within a Source Data Pool Activity Diagram

3.4. Manage Catalogue Item Distribution Criteria

Figure 3-4 Manage Catalogue Item Distribution Criteria Use Case Diagram

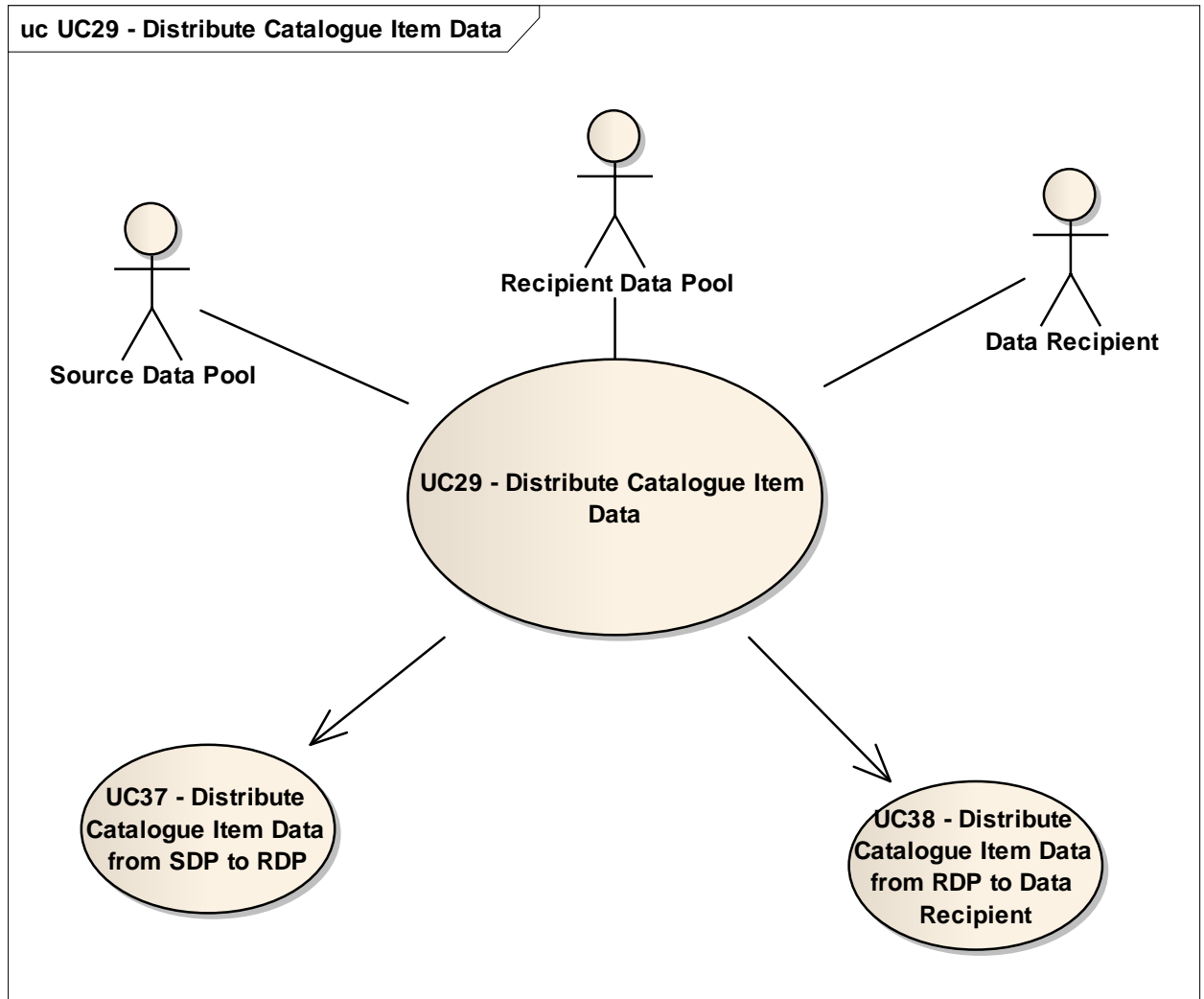


Use Case ID	UC-23
Use Case Name	Manage Catalogue Item Distribution Criteria
Use Case Description	<p>This Use Case describes the processes that need to take place for Publications, Subscriptions and Confirmations to be moved throughout the Synchronisation System.</p> <p>As a summary Use Case, specific processes will be further defined in the Detail Use Case section of this document.</p>
Actors (Goal)	Data Source Source Data Pool (SDP) Global Registry Recipient Data Pool (RDP) Data Recipient
Performance Goals	<ul style="list-style-type: none"> ■ Data Source: To have Catalogue Item publications available to the SDP for matching with Subscriptions. ■ SDP: To have the proper criteria (Publications, Subscriptions and Confirmations) to allow distribution of Catalogue Item data to Data Recipients (via their Recipient Data Pool). ■ Global Registry: To be able to distribute Catalogue Item Subscriptions to the proper Source Data Pools.

- **RDP:** To ensure Catalogue Item Subscriptions match the data that is being sent by SDPs.
- **Data Recipients:** To control the type and volume of Catalogue Item Data received.

3.5. Distribute Catalogue Item Data

Figure 3-5 Distribute Catalogue Item Data Use Case Diagram

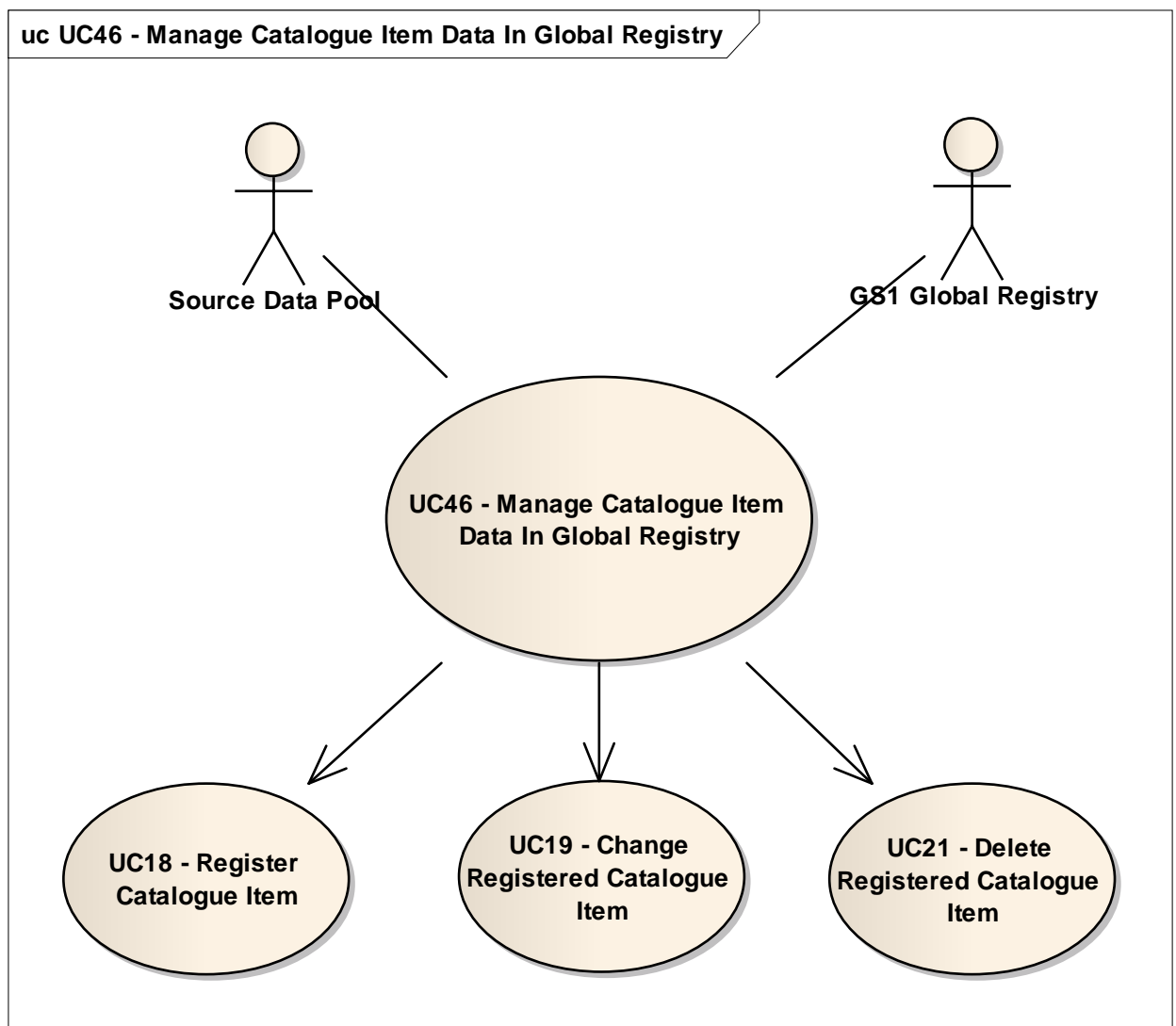


Use Case ID	UC-29
Use Case Name	Distribute Catalogue Item Data
Use Case Description	<p>Using the Distribution Criteria, the Catalogue Item Data are distributed from SDP to RDP and finally, to the Data Recipient.</p> <p>As a summary Use Case, specific processes will be further defined in the Detail Use Case section of this document.</p>

Actors (Goal)	Source Data Pool (SDP) Recipient Data Pool (RDP) Data Recipient
Performance Goals	<ul style="list-style-type: none"> SDP: Distribute Catalogue Item Data to the RDP based on the Distribution Criteria. RDP: Distribute Catalogue Item Data to the Recipient based on the Distribution Criteria. Data Recipient: To receive Catalogue Item Data that complies with their Subscriptions and Confirmations.
Preconditions	Publications, Subscriptions and Confirmations have been defined. The SDP knows which RDP needs to receive Catalogue Item Data for each Recipient.
Post conditions	Data Recipient has received Catalogue Item Data that comply with their Subscriptions and Confirmations.

3.6. Manage Catalogue Item Data in Global Registry

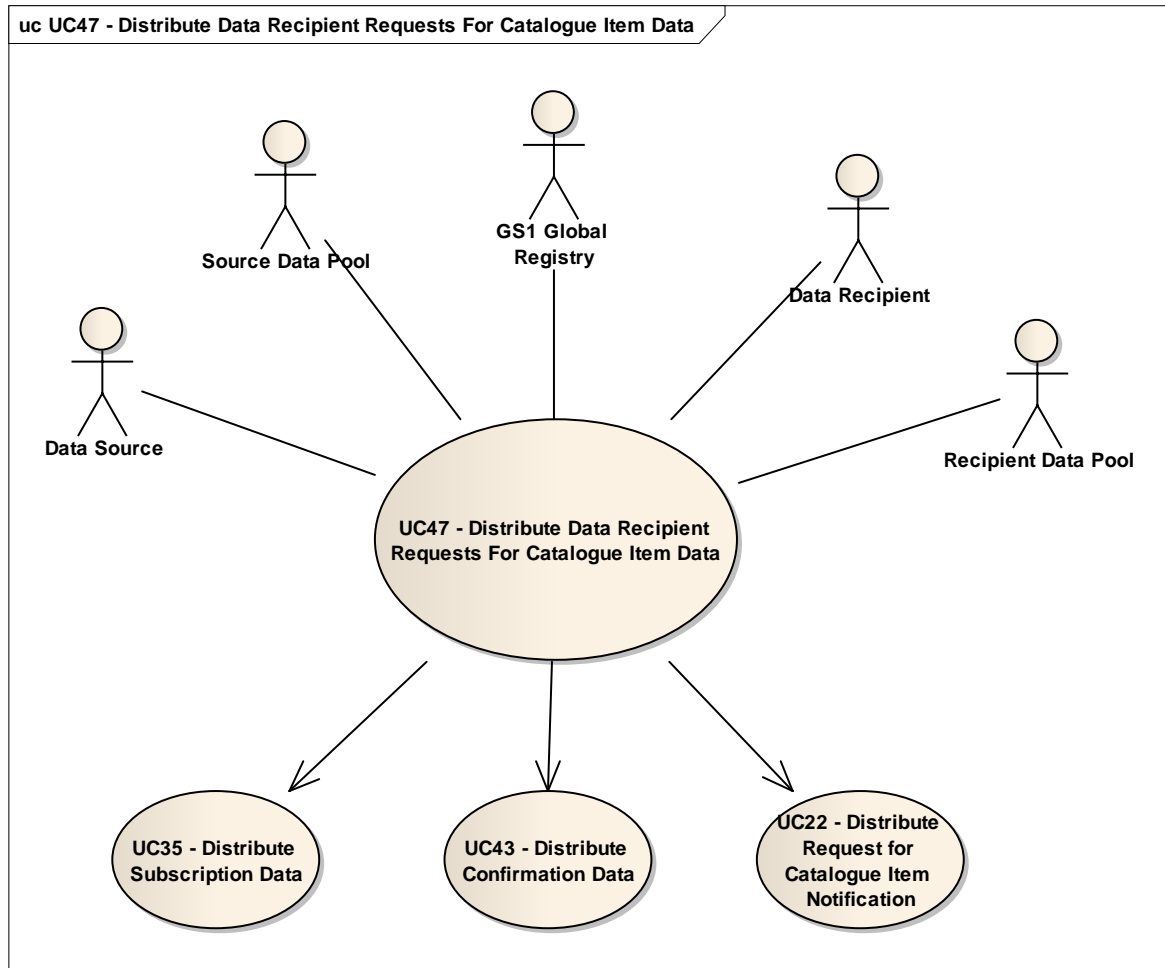
Figure 3-6 Manage Catalogue Item Data in Global Registry Use Case Diagram



Use Case ID	UC-46
Use Case Name	Manage Catalogue Item Data in Global Registry
Use Case Description	<p>This use case describes the processes that need to take place for Catalogue Item Data to be registered in the Global Registry.</p> <p>As a summary Use Case, specific processes will be further defined in the Detail Use Case section of this document.</p>
Actors (Goal)	<p>Source Data Pool (SDP)</p> <p>Global Registry</p>
Performance Goals	<p>SDP: To have validated, registered Catalogue Item Hierarchy data.</p> <p>Global Registry: To ensure valid, unique Catalogue Item data are registered.</p>
Preconditions	Data Source has defined Catalogue Item data and Catalogue Item hierarchies using Item Links.
Post conditions	Data Source knows that Catalogue Item data has been validated and registered and Item Links have been validated.

3.7. Distribute Data Recipient Requests for Catalogue Item Data

Figure 3-7 Distribute Data Recipient Request for Catalogue Item Data Use Case Diagram



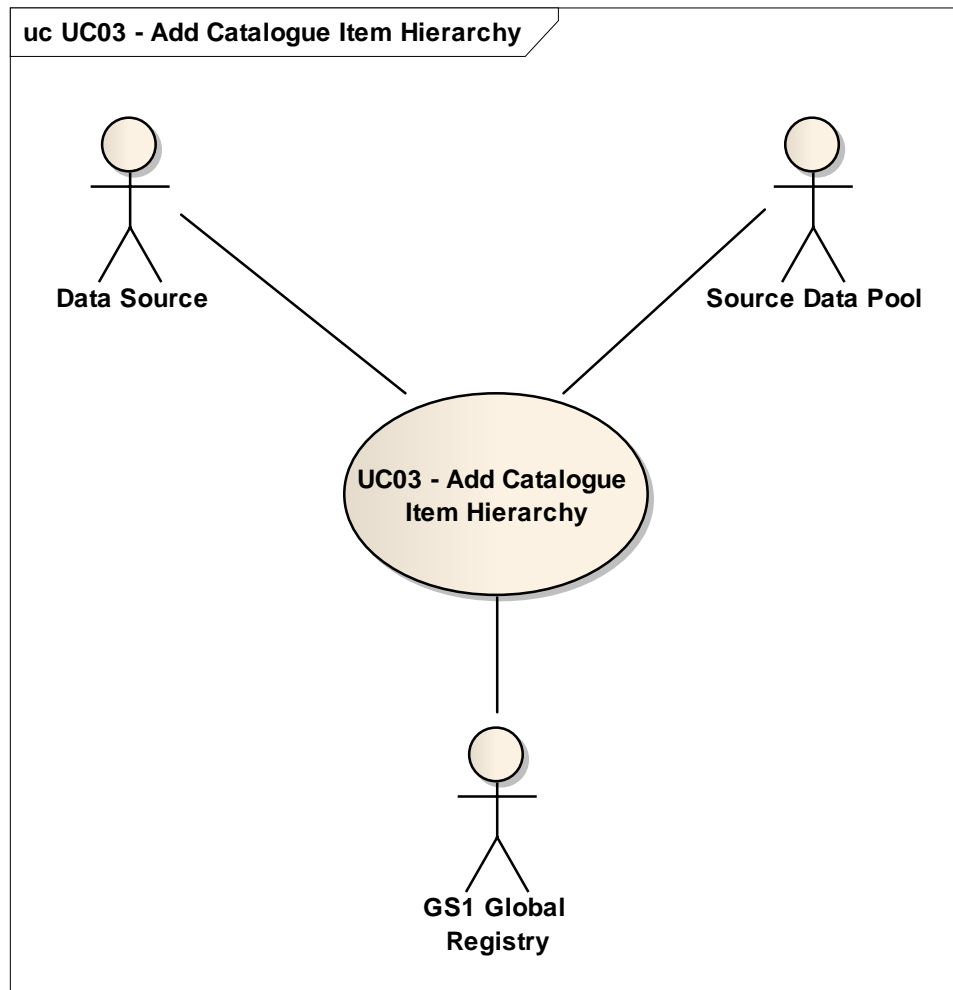
Use Case ID	UC-47
Use Case Name	Distribute Data Recipient Requests for Catalogue Item Data
Use Case Description	<p>This Use Case describes the processes that need to take place for Publications, Subscriptions and Confirmations to be moved throughout the Synchronisation System.</p> <p>As a summary Use Case, specific processes will be further defined in the Detail Use Case section of this document.</p>
Actors (Goal)	Data Source Source Data Pool (SDP) Global Registry Recipient Data Pool (RDP) Data Recipient

Performance Goals	<ul style="list-style-type: none">■ Data Source: To obtain a copy of all subscriptions.■ SDP: To have the proper criteria (Publications, Subscriptions and Confirmations) to allow distribution of Catalogue Item data to Data Recipients (via their Recipient Data Pool).■ Global Registry: To be able to distribute Catalogue Item Subscriptions to the proper Source Data Pools.■ RDP: To ensure Catalogue Item Subscriptions match the data that is being sent by SDPs.■ Data Recipients: To control the type and volume of Catalogue Item Data received.
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4. Detail Use Cases

4.1. Add Catalogue Item Hierarchy

Figure 4-1 Add Catalogue Item Hierarchy Use Case



Use Case ID	UC-3
Use Case Name	Add Catalogue Item Hierarchy
Use Case Description	<p>The Add Catalogue Item Hierarchy use case describes what activities need to happen to validate and register Catalogue Item Hierarchy data.</p> <p>After the Catalogue Item Hierarchy data are validated and registered, they can then reside in the Source Data Pool for distribution.</p>

Actors (Goal)	Data Source Source Data Pool (SDP) Global Registry																																										
Performance Goals	<ul style="list-style-type: none">■ Data Source: To have validated, registered Catalogue Item Hierarchy data in their Source Data Pool.■ SDP: To have validated, registered Catalogue Item Hierarchy data.■ Global Registry: To ensure valid, unique Catalogue Item data are registered.																																										
Preconditions	<ul style="list-style-type: none">• Data Source is aware of the validations appropriate to the product context to which the item's GPC brick is associated.• Data Source has defined both Catalogue Item data (in accordance with the data requirements of the product context) and Catalogue Item hierarchies.• SDP has implemented the data requirements and validations associated with the product context based on the GPC Brick sent in the CIN and can thus perform the required validations.																																										
Post conditions	Data Source knows that Catalogue Item data has been validated and registered and Item Links have been validated.																																										
Scenario	<p>Begins when... the Data Source sends, to the SDP, Catalogue Item Hierarchy data along with the identification of the context associated with the Trade Item.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Receives the Catalogue Item Hierarchy data.</td></tr><tr><td>2</td><td>SDP</td><td>validates the Catalogue Item Hierarchy data according to the data requirements and validation rules associated with the product context based on the GPC Brick associated with the trade item and any validation rules applicable to all product contexts,</td></tr><tr><td>3</td><td>SDP</td><td>Sends a validation acknowledgement to the Data Source.</td></tr><tr><td>4</td><td>Data Source</td><td>Receives the validation acknowledgement: <i>Catalogue Item Hierarchy data loaded.</i></td></tr><tr><td>5</td><td>SDP</td><td>Loads the Catalogue Item Hierarchy data.</td></tr><tr><td>6</td><td>SDP</td><td>Sends the Registry Catalogue Item data of Catalogue Items that are not registered yet to the Global Registry.</td></tr><tr><td>7</td><td>Global Registry</td><td>Receives the Registry Item data.</td></tr><tr><td>8</td><td>Global Registry</td><td>Validates the Registry Item data for uniqueness.</td></tr><tr><td>9</td><td>Global Registry</td><td>Registers the Registry Item data.</td></tr><tr><td>10</td><td>Global Registry</td><td>Sends a registration acknowledgement to the SDP.</td></tr><tr><td>11</td><td>SDP</td><td>Receives the registration acknowledgement.</td></tr><tr><td>12</td><td>SDP</td><td>Stores the registration acknowledgement.</td></tr><tr><td>13</td><td>SDP</td><td>Sends a registration acknowledgement to the Data Source.</td></tr></table> <p>Ends when... the Data Source receives the registration acknowledgement: <i>Catalogue Item data registered.</i></p>	Step #	Actor	Activity Step	1	SDP	Receives the Catalogue Item Hierarchy data.	2	SDP	validates the Catalogue Item Hierarchy data according to the data requirements and validation rules associated with the product context based on the GPC Brick associated with the trade item and any validation rules applicable to all product contexts,	3	SDP	Sends a validation acknowledgement to the Data Source.	4	Data Source	Receives the validation acknowledgement: <i>Catalogue Item Hierarchy data loaded.</i>	5	SDP	Loads the Catalogue Item Hierarchy data.	6	SDP	Sends the Registry Catalogue Item data of Catalogue Items that are not registered yet to the Global Registry.	7	Global Registry	Receives the Registry Item data.	8	Global Registry	Validates the Registry Item data for uniqueness.	9	Global Registry	Registers the Registry Item data.	10	Global Registry	Sends a registration acknowledgement to the SDP.	11	SDP	Receives the registration acknowledgement.	12	SDP	Stores the registration acknowledgement.	13	SDP	Sends a registration acknowledgement to the Data Source.
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Alternative Scenario	<p>Validation Fails: <i>Catalogue Item Hierarchy data not loaded</i></p> <p>Begins when... the SDP validates the Catalogue Item Hierarchy data according the data requirements and validation rules associated with the product context based on the GPC Brick associated with the</p>																																										

trade item and any validation rules applicable to all product contexts,

Step #	Actor	Activity Step
1	SDP	Discovers an error.
2	SDP	Sends a validation error message to the DS

Ends when... the Data Source receives acknowledgement of the validation error message.

Validation fails at the Global Registry: *Catalogue Item data not registered*

Step #	Actor	Activity Step
1	Global Registry	Sends a registration error message to the SDP.
2	SDP	Receives the registration error message.
3	SDP	Sends a registration error message to the Data Source.

Ends when... the Data Source receives the registration error message.

The validation and registration acknowledgment messages can be combined

**** SDP may not send Catalogue Item data to Registry for Uniqueness check w/o Registration.**

Related Requirements

ID	Requirement	Weight
1	Party data must exist prior to a Catalogue Item is being registered.	Primary
2	Catalogue Item data must be validated prior to registration.	Primary
3	Data Source must be able to add a Catalogue Item to the Source Data Pool.	Secondary
8	GS1 standards validation for GTIN and GLN format.	Primary
9	Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN) – only applies to the occurrence of the key, not to the uniqueness of the information related to it.	Primary
10	The Catalogue Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique.	Primary
12	Every command needs a response and is handled according to the agreement between the parties involved. In the inter-operable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt- Success / Failure of processing (syntax and content)- Reason for failure, with a code number and text message unique assigned to each failure.	Secondary
20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load	Primary

	(add, change, etc...) - Data validation - Registration of new Catalogue Item.	
26	Notification to the data recipient will always include the entire hierarchy. (Applies to add & update by adding a higher level).	Primary
28	The updated hierarchy always fully replaces the current hierarchy. This action is called "Full Refresh".	Primary
30	Only Catalogue Items are registered in the Global Registry. Not Catalogue Item Hierarchies.	Primary
31	Validation acknowledgements are mandatory.	Primary
32	Acknowledgement Reason codes must be unique.	Primary
33	ItemLinks are identified by the parent GTIN key + child GTIN key + quantity contained.	Secondary
34	ItemLinks are not registered or held within the Global Registry.	Primary
46	New hierarchy replaces old hierarchy completely.	Primary
92	"Single Data Source" Principle: - there can only be one official source of the data – the one that is registered - this source is identified by the data source - this is the only valid source for data synchronisation and related processes.	Primary
100	The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements: - Validation - Registration - Subscription - Global Search.	Primary
101	Registry Validation includes: - GS1 standards validation for GTIN and GLN formats (i.e. check digit) - Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN), ensuring there is only one occurrence and data source for each data record as identified by the appropriate fields.	Primary
104	In summary, the registry requirements for validation are: - GS1 standards validation for GTIN/GLN formats - Uniqueness validation for Item, Party and data pool key - Store and maintain GS1 standards - Process validation command - Provide validation acknowledgement.	Primary
105	Registration is the process, which references all Catalogue Items and Parties published in all certified data pools and on which there is a need to synchronise / retrieve information. This is supported by data storage in accordance with the Registry data scope and rules.	Primary
106	Registering a Catalogue Item involves a check by the Global Registry for Item uniqueness. The Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique. When an Item is registered, the registry verifies that the combination of this data is unique to that Item.	Primary
107	The registration process is triggered by the following business cases: 1. Create Catalogue Item: After the physical load and validation of the data, the registry record needs to be created before data can be published.	Primary

		<p>2. Update Catalogue Item: When a registered Catalogue Item is updated in its source data pool, updates impacting the Registry data must be reflected in the Global Registry, before the updated data can be propagated to the recipients. Registration of Catalogue Item changes only needs to happen for changes that: Impacts fields stored in the Global Registry. Are authorised according to the GTIN allocation rules.</p> <p>3. Correct Catalogue Item: When a registered item is corrected in its source data pool, corrections impacting the Registry data must be reflected in the Global Registry before the updated data can be propagated to the data recipients.</p> <p>4. Delete Catalogue Item: Deletions need to be reflected in the Global Registry.</p> <p>5. Cancel Catalogue Item: Communicates a trade item was never manufactured – this allows an earlier “reuse” of the GTIN i.e. standard retention period. This is achieved through the maintenance (using change function) of the cancel date.</p> <p>6. Removing a Catalogue Item from the supply chain: The permanent removal of a Catalogue Item from the supply chain is achieved through the maintenance of a discontinuation date. This date has to be reflected in the Global Registry. Temporary removals are not reflected in the Global Registry and only handled through the maintenance of the availability period in the data pools.</p>		
	108	Registry requirements for registration are: - Registration can only happen after successful validation. - Registration can only produce errors, no warnings. - Successful Registration of a Catalogue Item is mandatory prior to publication of any hierarchy containing that Catalogue Item. - ItemStatus needs to be included in GTIN data model to reflect validation and registration status. - Process registration command (for create, update, correct, delete). - Provide registration acknowledgement.	Primary	
	159	Multiple independent hierarchies can co-exist at the data-pool for an item for example hierarchy 1 = case A – each A and hierarchy 2 = pallet A – case A –each A.	Primary	
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary	
	193	Hierarchical links between Trade Items can only be created or changed using the CatalogueItemChildLink class in the Catalogue Item Notification message. It is also mandatory to populate the ChildTradeItem class within the Trade Item as well to specify a hierarchy.	Primary	
	206	The validation rules applied to the CIN are based upon the product context determined by the GPC Brick associated with the trade item and any validation rules applicable to all product contexts,	Primary	
	208	The context associated with a Trade Item has no impact on the Registry Catalogue Item data and as no effect on the	Primary	

		registration of a Trade Item.	
	209	The Product Context used to validate the trade item is determined based on the Product Classification of the Trade Item . For example, if the GPC Brick in the Trade Item is Bread (Shelf Stable), then the context referenced by the contextIdentification must be Food Beverage Tobacco Pet Food.	Primary
	251	The product context associated with a trade item has no impact on the Registry Catalogue Item data and has no effect on the registration of a trade item.	Primary
	253	For purposes of matching validation rules with product contexts, Source Data Pools must be able to map between the GPC brick in the Catalogue Item and the GPC level associated with the product context in the standard.	Primary
	254	Source Data Pools will be notified of the contexts applicable to a GPC brick through updates to the standard for a release. The Context Reports will be updated in alignment with GPC releases to include any necessary changes to GPC.	Primary
	255	If the GPC brick associated with the trade item is 99999999 then validations will be performed based only on the validation rules applicable to all product contexts. Note: see Context Report Cross Segment for all GPC's that should be validated based only on the validation rules applicable to all product contexts.	Primary
Related Rules			

Figure 4-2 Add Catalogue Item Hierarchy Activity Diagram

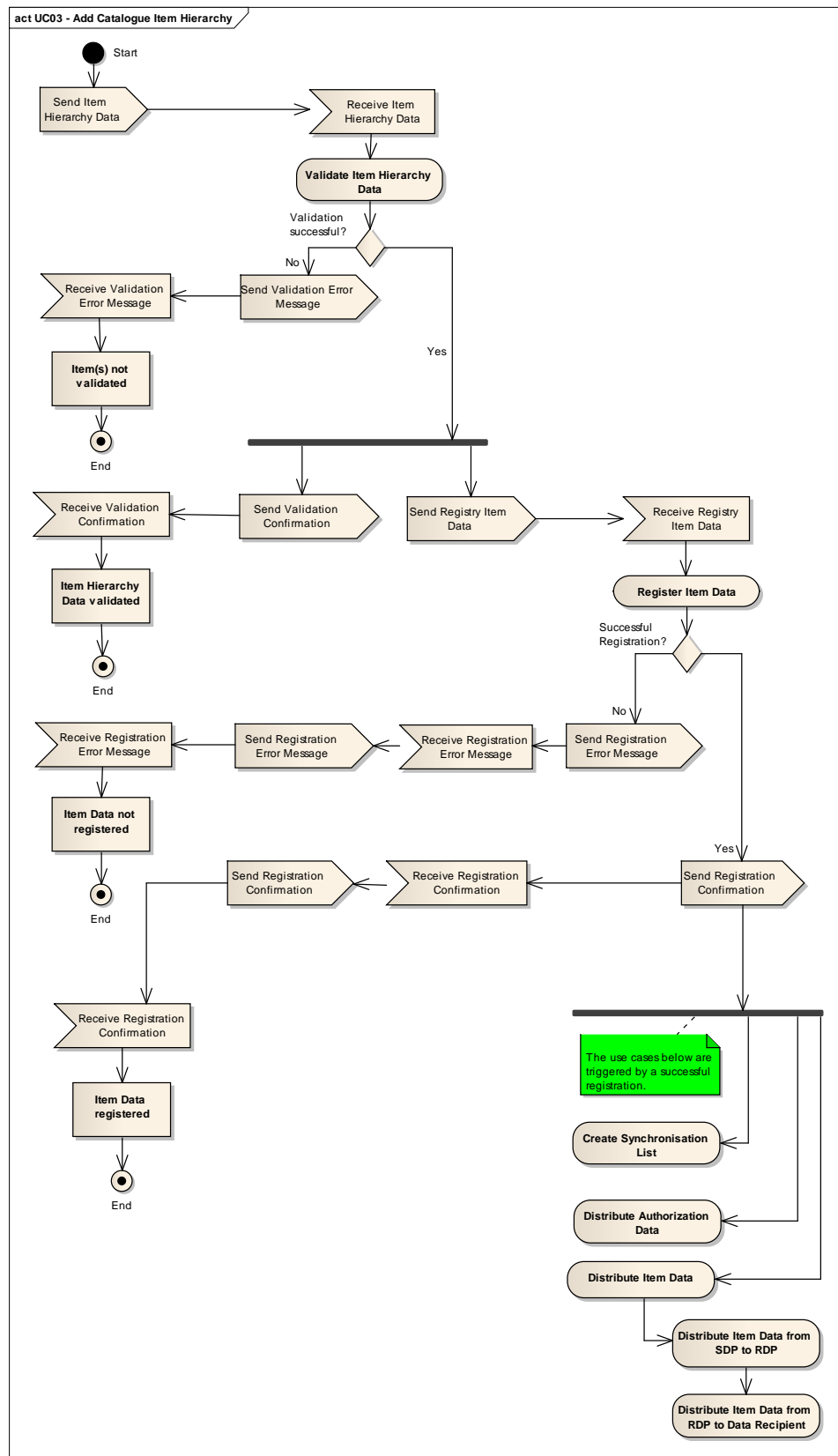
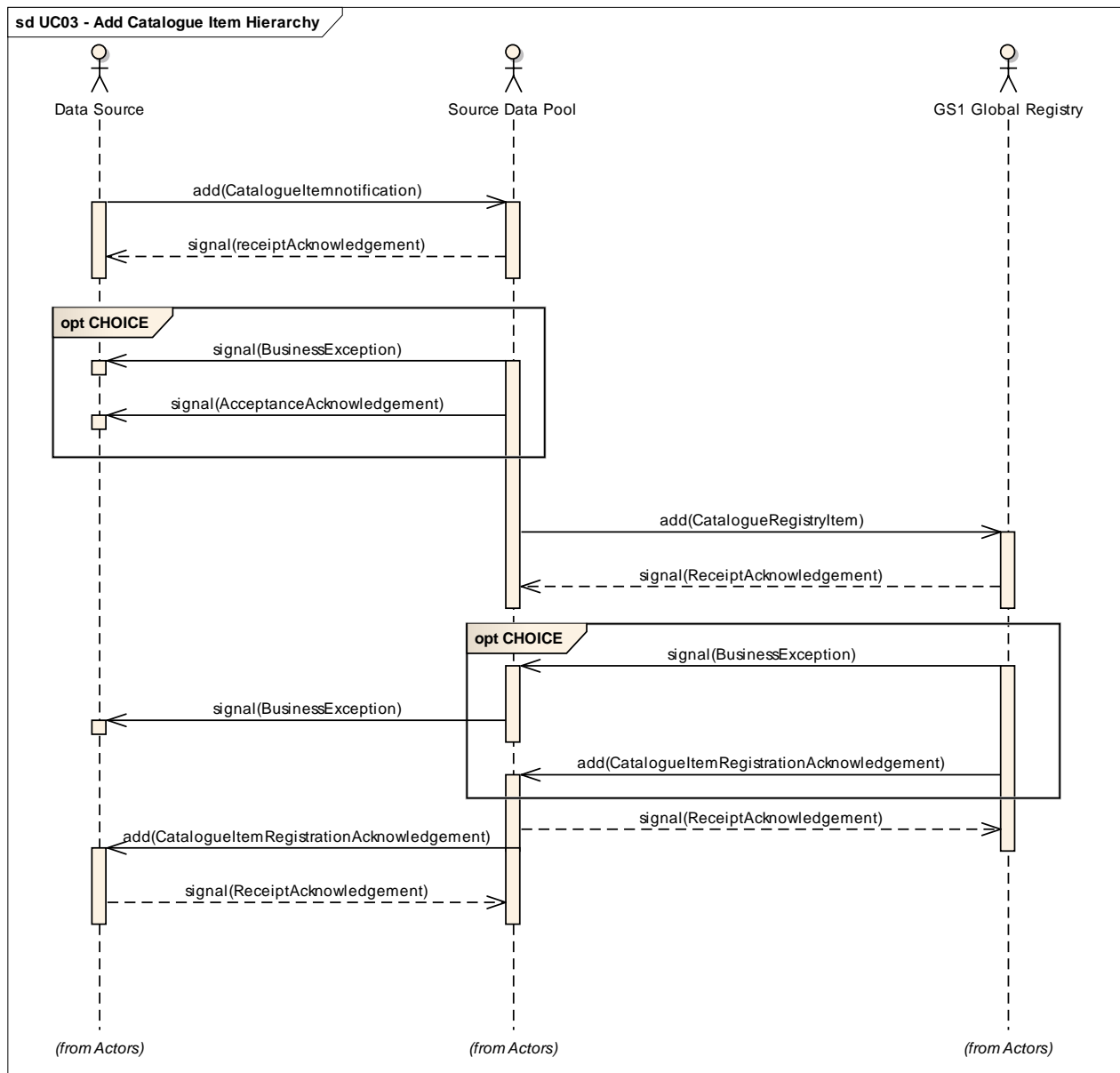
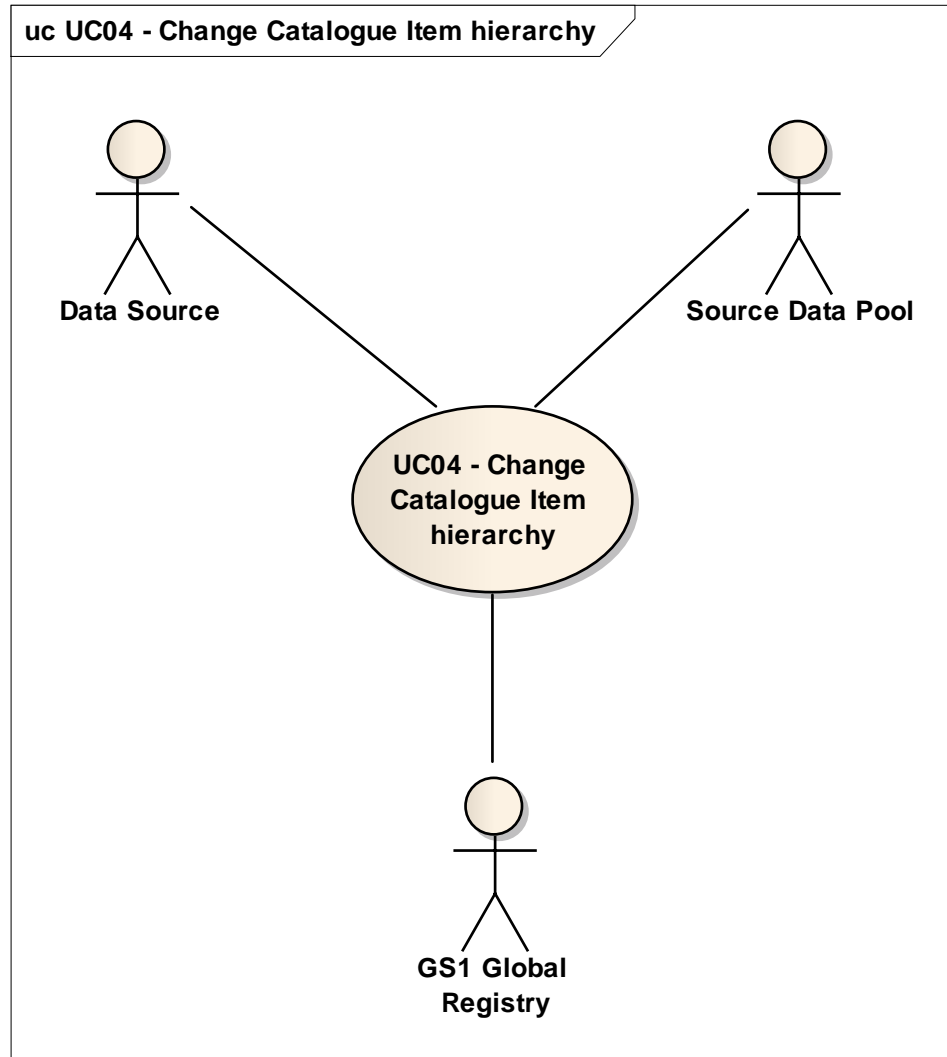


Figure 4-3 Add Catalogue Item Hierarchy Sequence Diagram

4.2. Change Catalogue Item Hierarchy

Figure 4-4 Change Catalogue Item Hierarchy Use Case



Use Case ID	UC-4
Use Case Name	Change Catalogue Item Hierarchy
Use Case Description	The Change Catalogue Item Hierarchy use case describes what activities need to happen to change Catalogue Item Hierarchy data of a Catalogue Item already existing in a Source Data Pool, whether the Catalogue Item has been registered or not.
Actors (Goal)	Data Source Source Data Pool (SDP) Global Registry

Performance Goals	<ul style="list-style-type: none">■ Data Source: To change Catalogue Item Hierarchy data in their Source Data Pool.■ SDP: To have validated, registered updated Catalogue Item Hierarchy data.■ Global Registry: To ensure valid, unique Catalogue Item data are registered, whether the Catalogue Item has been changed or not.																																										
Preconditions	<ul style="list-style-type: none">• Data Source has defined the changes to Catalogue Item data and Catalogue Item hierarchies (using Item Links) of a Catalogue Item already existing in a Source Data Pool.• Data Source is aware of the validations appropriate to the GPC brick associated with the trade Item.• Data Source has defined both Catalogue Item data (in accordance with the data requirements of the product context) and Catalogue Item hierarchies.• SDP has implemented the data requirements and validations associated with the product context based on the GPC Brick sent in the CIN and can thus perform the required validations.																																										
Post conditions	Data Source knows that updated Catalogue Item data has been validated and registered and updated Item Links have been validated.																																										
Scenario	<p>Begins when... the Data Source sends, to the SDP, Catalogue Item Hierarchy data to be changed.</p> <p>Continues with...</p> <table><thead><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr></thead><tbody><tr><td>1</td><td>SDP</td><td>Receives Catalogue Item Hierarchy data to be changed.</td></tr><tr><td>2</td><td>SDP</td><td>Validates the Catalogue Item Hierarchy data according to the data requirements and validation rules associated with the product context based on the GPC Brick associated with the trade item and any validation rules applicable to all product contexts.</td></tr><tr><td>3</td><td>SDP</td><td>Sends a validation acknowledgement to the Data Source.</td></tr><tr><td>4</td><td>Data Source</td><td>Receives the validation acknowledgement: <i>Catalogue Item Hierarchy data changed.</i></td></tr><tr><td>5</td><td>SDP</td><td>Loads the changed Catalogue Item Hierarchy data.</td></tr><tr><td>6</td><td>SDP</td><td>Sends the Registry Item data (to be changed) to the Global Registry.</td></tr><tr><td>7</td><td>Global Registry</td><td>Receives the Registry Item data to be changed.</td></tr><tr><td>8</td><td>Global Registry</td><td>Validates the Registry Item data.</td></tr><tr><td>9</td><td>Global Registry</td><td>Registers the changed Registry Item data.</td></tr><tr><td>10</td><td>Global Registry</td><td>Sends a registration acknowledgement to the SDP.</td></tr><tr><td>11</td><td>SDP</td><td>Receives the registration acknowledgement.</td></tr><tr><td>12</td><td>SDP</td><td>Stores the registration acknowledgement.</td></tr><tr><td>13</td><td>SDP</td><td>Sends a registration acknowledgement to the Data Source.</td></tr></tbody></table> <p>Ends when... the Data Source receives the registration acknowledgement: <i>Catalogue Item data registered.</i></p>	Step #	Actor	Activity Step	1	SDP	Receives Catalogue Item Hierarchy data to be changed.	2	SDP	Validates the Catalogue Item Hierarchy data according to the data requirements and validation rules associated with the product context based on the GPC Brick associated with the trade item and any validation rules applicable to all product contexts.	3	SDP	Sends a validation acknowledgement to the Data Source.	4	Data Source	Receives the validation acknowledgement: <i>Catalogue Item Hierarchy data changed.</i>	5	SDP	Loads the changed Catalogue Item Hierarchy data.	6	SDP	Sends the Registry Item data (to be changed) to the Global Registry.	7	Global Registry	Receives the Registry Item data to be changed.	8	Global Registry	Validates the Registry Item data.	9	Global Registry	Registers the changed Registry Item data.	10	Global Registry	Sends a registration acknowledgement to the SDP.	11	SDP	Receives the registration acknowledgement.	12	SDP	Stores the registration acknowledgement.	13	SDP	Sends a registration acknowledgement to the Data Source.
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Alternative Scenario	<p>Validation Fails at SDP:</p> <p>Begins when... validates the Catalogue Item Hierarchy data according to requirements and validation rules associated with the product context based on the GPC Brick associated with the trade item and any validation rules applicable to all product contexts,</p> <table><thead><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr></thead><tbody><tr><td>1</td><td>SDP</td><td>Finds an error.</td></tr></tbody></table>	Step #	Actor	Activity Step	1	SDP	Finds an error.																																				
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	2	SDP	Sends a validation error message to the DS
	Ends when... the Data Source receives acknowledgement of the validation error message.		
	Validation fails at the Global Registry: <i>Catalogue Item data not registered</i>		
	Step #	Actor	Activity Step
	1	Global Registry	Sends a registration error message to the SDP.
	2	SDP	Receives the registration error message.
	3	SDP	Sends a registration error message to the Data Source.
Ends when... the Data Source receives the registration error message			
The validation and registration acknowledgment messages can be combined.			
** SDP may not send Catalogue Item data to Registry for Uniqueness check w/o Registration.			
Related Requirements			
Related Rules	ID	Rule	Weight
	4	Data Source must be able to change Catalogue Item data in the Source Data Pool.	Primary
	8	GS1 standards validation for GTIN and GLN format.	Primary
	9	Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN) – only applies to the occurrence of the key, not to the uniqueness of the information related to it.	Primary
	10	The Catalogue Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique.	Primary
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt - Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
	30	Only Catalogue Items are registered in the Global Registry. Not Catalogue Item Hierarchies.	Primary
	31	Validation acknowledgements are mandatory.	Primary
	32	Acknowledgement Reason codes must be unique.	Primary
	33	ItemLinks are identified by the parent GTIN key + child GTIN key + quantity contained.	Primary

	34	ItemLinks are not registered or held within the Global Registry.	Primary
	35	Changes have to comply with validation rules.	Secondary
	36	If the Catalogue Item was registered, updates impacting the Registry data must be reflected in the Global Registry.	Primary
	37	Registration of Catalogue Item changes only needs to happen for changes that: - Impact fields stored in the Global Registry. - Are authorised according to the GTIN allocation rules.	Primary
	38	The change function implies a full refresh of all attributes of the previously created Catalogue Item – this will be reflected in the subsequent notification, including a full refresh of the changed record of the full hierarchy.	Secondary
	46	New hierarchy replaces old hierarchy completely.	Secondary
	92	“Single Data Source” Principle: - there can only be one official source of the data - the one that is registered - this source is identified by the data source - this is the only valid source for data synchronisation and related processes.	Primary
	100	The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements: - Validation - Registration - Subscription - Global Search.	Primary
	101	Registry Validation includes: - GS1 standards validation for GTIN and GLN formats (i.e. check digit) - Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN), ensuring there is only one occurrence and data source for each data record as identified by the appropriate fields.	Primary
	104	In summary, the registry requirements for validation are: - GS1 standards validation for GTIN/GLN formats - Uniqueness validation for Item, Party and data pool key - Store and maintain GS1 standards - Process validation command - Provide validation acknowledgement.	Primary
	105	Registration is the process, which references all Catalogue Items and Parties published in all certified data pools and on which there is a need to synchronise / retrieve information. This is supported by data storage in accordance with the Registry data scope and rules.	Primary
	106	Registering a Catalogue Item involves a check by the Global Registry for Item uniqueness. The Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique. When an Item is registered, the registry verifies that the	Primary

		combination of this data is unique to that Item.	
	107	<p>The registration process is triggered by the following business cases:</p> <ol style="list-style-type: none"> 1. Create Catalogue Item: After the physical load and validation of the data, the registry record needs to be created before data can be published. 2. Update Catalogue Item: When a registered Catalogue Item is updated in its source data pool, updates impacting the Registry data must be reflected in the Global Registry, before the updated data can be propagated to the recipients. Registration of Catalogue Item changes only needs to happen for changes that: Impacts fields stored in the Global Registry. Are authorised according to the GTIN allocation rules. 3. Correct Catalogue Item: When a registered item is corrected in its source data pool, corrections impacting the Registry data must be reflected in the Global Registry before the updated data can be propagated to the data recipients. 4. Delete Catalogue Item: Deletions need to be reflected in the Global Registry. 5. Cancel Catalogue Item: Communicates a trade item was never manufactured – this allows an earlier “reuse” of the GTIN i.e. standard retention period. This is achieved through the maintenance (using change function) of the cancel date. 6. Removing a Catalogue Item from the supply chain: The permanent removal of a Catalogue Item from the supply chain is achieved through the maintenance of a discontinuation date. This date has to be reflected in the Global Registry. Temporary removals are not reflected in the Global Registry and only handled through the maintenance of the availability period in the data pools. 	Primary
	108	<p>Registry requirements for registration are:</p> <ul style="list-style-type: none"> - Registration can only happen after successful validation. - Registration can only produce errors, no warnings. - Successful Registration of a Catalogue Item is mandatory prior to publication of any hierarchy containing that Catalogue Item. - ItemStatus needs to be included in GTIN data model to reflect validation and registration status. - Process registration command (for create, update, correct, delete). - Provide registration acknowledgement. 	Primary
	118	Changes/corrections applied to the Global Registry are effective immediately.	Primary
	119	Future effective changes stored in the data pool are only reflected in the Global Registry when they become effective.	Primary
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary
	193	<p>Hierarchical links between Trade Items can only be created or changed using the CatalogueItemChildLink class in the Catalogue Item Notification message.</p> <p>It is also mandatory to populate the ChildTradeItem class within the Trade Item as well to specify a hierarchy.</p>	Primary

	208	The context associated with a Trade Item has no impact on the Registry Catalogue Item data and as no effect on the registration of a Trade Item.	Primary
	209	The Product Context used to validate the trade item is determined based on the Product Classification of the Trade Item . For example, if the GPC Brick in the Trade Item is Bread (Shelf Stable), then the context referenced by the contextIdentification must be Food Beverage Tobacco Pet Food.	Primary
	251	The product context associated with a trade item has no impact on the Registry Catalogue Item data and has no effect on the registration of a trade item.	Primary
	253	For purposes of matching validation rules with product contexts, Source Data Pools must be able to map between the GPC brick in the Catalogue Item and the GPC level associated with the product context in the standard.	Primary
	256	If the GPC brick associated with the trade item is 99999999 then validations will be performed based only on the validation rules applicable to all product contexts.	Primary

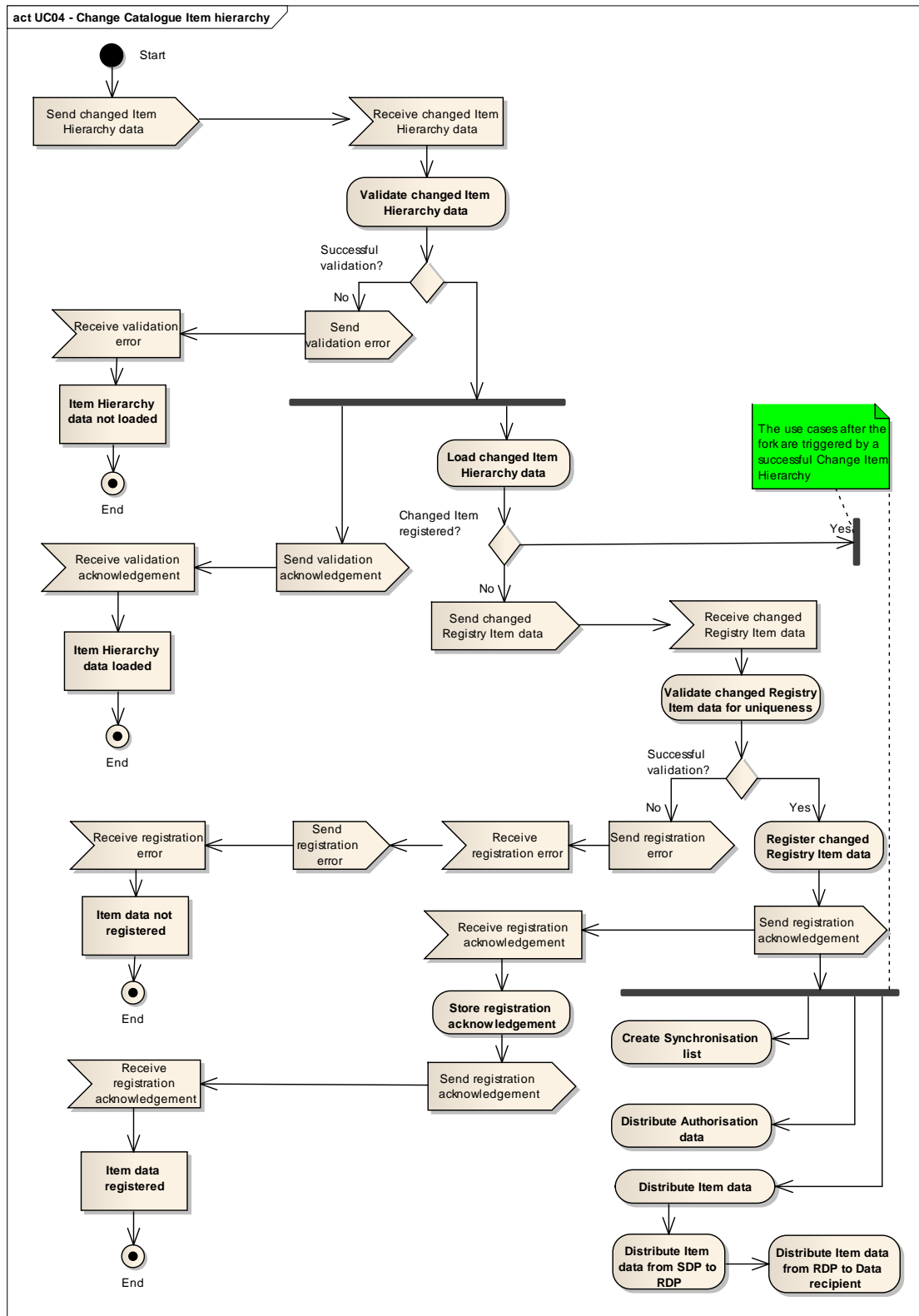
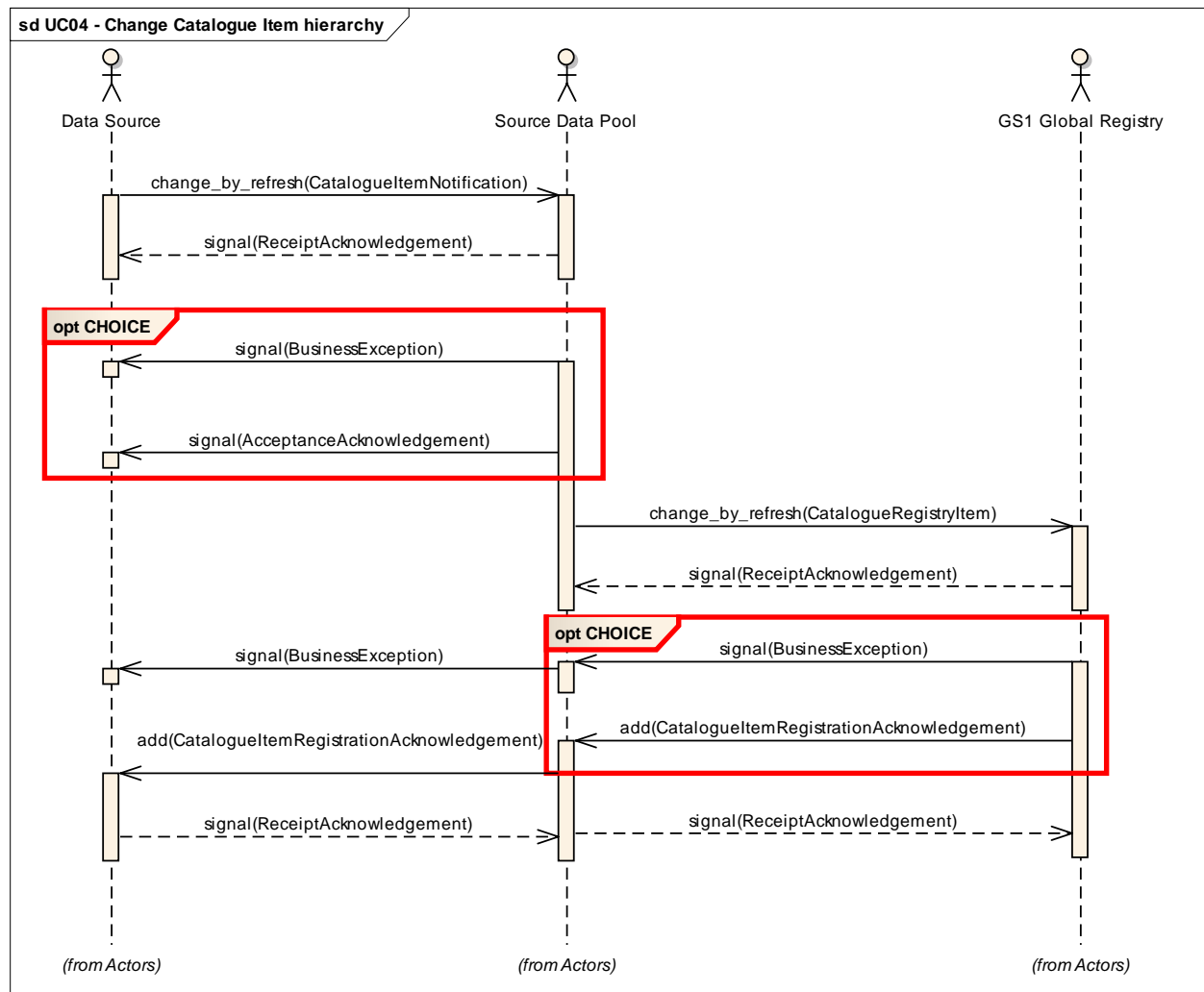
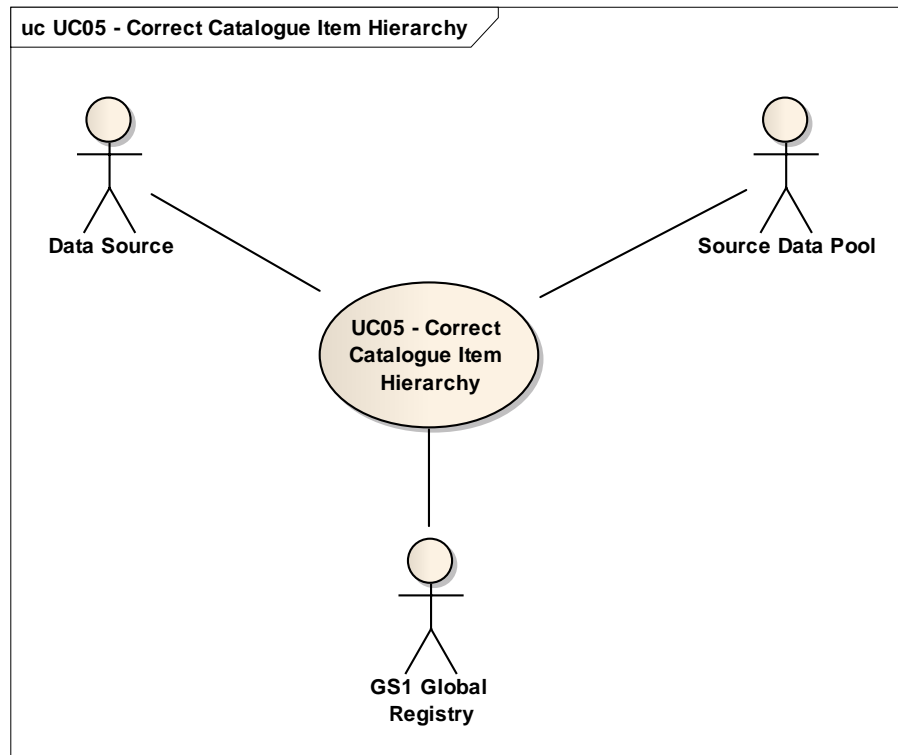
Figure 4-5 Change Catalogue Item Hierarchy Activity Diagram


Figure 4-6 Change Catalogue Item Hierarchy Sequence Diagram



4.3. Correct Catalogue Item Hierarchy

Figure 4-7 Correct Catalogue Item Hierarchy Use Case



Use Case ID	UC-5
Use Case Name	Correct Catalogue Item Hierarchy
Use Case Description	<p>The Correct Catalogue Item Hierarchy use case describes what activities need to happen to correct Catalogue Item Hierarchy data of a Catalogue Item already existing in a Source Data Pool, whether the Catalogue Item has been registered or not.</p> <p>A correction allows a Data Source to make changes to Catalogue Item data and hierarchy that would not be allowed by validation rules and as such is outside of normal processing.</p> <p>It is intended to provide a means for errors to be corrected and not as an alternative to the Change Catalogue Item Hierarchy process. A Data Source should expect that a Correct Catalogue Item Hierarchy message may be scrutinized more closely by the Data Recipient and possibly incur a delay in processing.</p>
Actors (Goal)	Data Source Source Data Pool (SDP) Global Registry
Performance Goals	<ul style="list-style-type: none"> ■ Data Source: To make corrections to errors in Catalogue Item Hierarchy data and have those corrections reflected in their Source Data Pool. ■ SDP: To have validated, registered updated Catalogue Item Hierarchy data. ■ Global Registry: To ensure valid, unique Catalogue Item data are registered, whether the Catalogue Item has been corrected or not.

Preconditions	<ul style="list-style-type: none">■ Data Source has defined the corrections to Catalogue Item data and Catalogue Item hierarchies (using Item Links) of a Catalogue Item already existing in a Source Data Pool.■ Data Source is aware of the validations appropriate to the GPC brick associated with the trade Item.■ Data Source has defined both Catalogue Item data (in accordance with the data requirements of the product context) and Catalogue Item hierarchies.■ SDP has implemented the data requirements and validations associated with the product context based on the GPC Brick sent in the CIN and can thus perform the required validations.																																										
Post conditions	Data Source knows that corrected Catalogue Item data has been validated and registered and corrected Item Links have been validated.																																										
Scenario	<p>Begins when... when, the Data Source sends, to the SDP, Catalogue Item Hierarchy data to be corrected.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Receives Catalogue Item Hierarchy data to be corrected.</td></tr><tr><td>2</td><td>SDP</td><td>Validates the Catalogue Item Hierarchy data according to the data requirements and validation rules associated with the product context based on the GPC Brick associated with the trade item and any validation rules applicable to all product contexts.</td></tr><tr><td>3</td><td>SDP</td><td>Sends a validation acknowledgement to the Data Source.</td></tr><tr><td>4</td><td>Data Source</td><td>Receives the validation acknowledgement: <i>Catalogue Item Hierarchy data corrected.</i></td></tr><tr><td>5</td><td>SDP</td><td>Loads the corrected Catalogue Item Hierarchy data.</td></tr><tr><td>6</td><td>SDP</td><td>Sends the Registry Item data (to be corrected) to the Global Registry.</td></tr><tr><td>7</td><td>Global Registry</td><td>Receives the Registry Item data to be corrected.</td></tr><tr><td>8</td><td>Global Registry</td><td>Checks that the Catalogue Item exists in the Registry.</td></tr><tr><td>9</td><td>Global Registry</td><td>Registers the corrected Registry Item data.</td></tr><tr><td>10</td><td>Global Registry</td><td>Sends a registration acknowledgement to the SDP.</td></tr><tr><td>11</td><td>SDP</td><td>Receives the registration acknowledgement.</td></tr><tr><td>12</td><td>SDP</td><td>Stores the registration acknowledgement.</td></tr><tr><td>13</td><td>SDP</td><td>Sends a registration acknowledgement to the Data Source.</td></tr></table> <p>Ends when... when, the Data Source receives the registration acknowledgement: <i>Catalogue Item data registered</i></p>	Step #	Actor	Activity Step	1	SDP	Receives Catalogue Item Hierarchy data to be corrected.	2	SDP	Validates the Catalogue Item Hierarchy data according to the data requirements and validation rules associated with the product context based on the GPC Brick associated with the trade item and any validation rules applicable to all product contexts.	3	SDP	Sends a validation acknowledgement to the Data Source.	4	Data Source	Receives the validation acknowledgement: <i>Catalogue Item Hierarchy data corrected.</i>	5	SDP	Loads the corrected Catalogue Item Hierarchy data.	6	SDP	Sends the Registry Item data (to be corrected) to the Global Registry.	7	Global Registry	Receives the Registry Item data to be corrected.	8	Global Registry	Checks that the Catalogue Item exists in the Registry.	9	Global Registry	Registers the corrected Registry Item data.	10	Global Registry	Sends a registration acknowledgement to the SDP.	11	SDP	Receives the registration acknowledgement.	12	SDP	Stores the registration acknowledgement.	13	SDP	Sends a registration acknowledgement to the Data Source.
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Alternative Scenario	<p><u>Validation Fails at SDP:</u></p> <p>Begins when..... validates the Catalogue Item Hierarchy data according to requirements and validation rules associated with the product context based on the GPC Brick associated with the trade item and any validation rules applicable to all product contexts,</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Finds an error.</td></tr></table>	Step #	Actor	Activity Step	1	SDP	Finds an error.																																				
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<p>ad 14: Correction is for fixing incorrect hierarchical links:</p>																					
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<p>Related Requirements</p>	<ol style="list-style-type: none">1. Data Source is using a (source) data pool.2. Catalogue Item Hierarchy data consists of Catalogue Item data and Item Link data (if applicable).3. Validation is done against existing data, applying GDD standard and GTIN allocation rules.4. Catalogue Item Hierarchy data bypasses the GTIN Allocation Rules																				
<p>Related Rules</p>	<table><tr><th>ID</th><th>Requirement</th><th>Weight</th></tr><tr><td>5</td><td>Data Source must be able to correct Catalogue Item data in the Source Data Pool.</td><td>Primary</td></tr><tr><td>8</td><td>GS1 standards validation for GTIN and GLN format.</td><td>Primary</td></tr></table>	ID	Requirement	Weight	5	Data Source must be able to correct Catalogue Item data in the Source Data Pool.	Primary	8	GS1 standards validation for GTIN and GLN format.	Primary											
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	9	Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN) – only applies to the occurrence of the key, not to the uniqueness of the information related to it.	Primary
	10	The Catalogue Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique.	Primary
	11	Corrections bypass the standard GTIN/GLN allocation rules.	Primary
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt - Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary
	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary
	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process.	Primary
	24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
	26	Notification to the data recipient will always include the entire hierarchy. (Applies to add & update by adding a higher level).	Primary
	27	In case of an ItemLink correction, the entire hierarchy will be indicated as corrected in the notification.	Secondary
	28	The updated hierarchy always fully replaces the current hierarchy. This action is called "Full Refresh".	Secondary
	30	Only Catalogue Items are registered in the Global Registry. Not Catalogue Item Hierarchies.	Primary
	31	Validation acknowledgements are mandatory.	Primary
	32	Acknowledgement Reason codes must be unique.	Primary

	33	ItemLinks are identified by the parent GTIN key + child GTIN key + quantity contained.	Primary
	34	ItemLinks are not registered or held within the Global Registry.	Primary
	36	If the Catalogue Item was registered, updates impacting the Registry data must be reflected in the Global Registry.	Primary
	37	Registration of Catalogue Item changes only needs to happen for changes that: - Impact fields stored in the Global Registry. - Are authorised according to the GTIN allocation rules.	Primary
	40	Incorrect core data (i.e. attributes that cannot be updated according to allocation rules) can only be updated through a specific correction functionality.	Secondary
	41	Correct Item Hierarchy must: - trigger syntactical and content validation - skip GTIN allocation rules validation - set a flag on the GTIN data record to inform the data recipient of the correction (see data distribution / notification) - the correction will also be reflected in the Global Registry if it impacts Registry data.	Secondary
	42	If the correction impacts the hierarchy, then it must be handled by deleting the incorrect ItemLink and adding a new Item Link - Add/Delete Scenarios.	Secondary
	43	If the correction does not impact the hierarchy, then ItemLink attributes will be updated through the correction command.	Primary
	46	New hierarchy replaces old hierarchy completely.	Primary
	57	A deletion cannot be corrected – only the discontinuation can be reversed.	Primary
	59	Item Links can only be deleted: - as the correction of an error - as the result of a delete Item.	Primary
	92	“Single Data Source” Principle: - there can only be one official source of the data - the one that is registered - this source is identified by the data source - this is the only valid source for data synchronisation and related processes/	Primary
	100	The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements: - Validation - Registration - Subscription - Global Search/	Primary

	101	<p>Registry Validation includes:</p> <ul style="list-style-type: none"> - GS1 standards validation for GTIN and GLN formats (i.e. check digit) - Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN), ensuring there is only one occurrence and data source for each data record as identified by the appropriate fields. 	Primary
	104	<p>In summary, the registry requirements for validation are:</p> <ul style="list-style-type: none"> - GS1 standards validation for GTIN/GLN formats - Uniqueness validation for Item, Party and data pool key - Store and maintain GS1 standards - Process validation command - Provide validation acknowledgement/ 	Primary
	105	<p>Registration is the process, which references all Catalogue Items and Parties published in all certified data pools and on which there is a need to synchronise / retrieve information. This is supported by data storage in accordance with the Registry data scope and rules.</p>	Primary
	106	<p>Registering a Catalogue Item involves a check by the Global Registry for Item uniqueness. The Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique. When an Item is registered, the registry verifies that the combination of this data is unique to that Item.</p>	Primary
	107	<p>The registration process is triggered by the following business cases:</p> <ol style="list-style-type: none"> 1. Create Catalogue Item: After the physical load and validation of the data, the registry record needs to be created before data can be published. 2. Update Catalogue Item: When a registered Catalogue Item is updated in its source data pool, updates impacting the Registry data must be reflected in the Global Registry, before the updated data can be propagated to the recipients. Registration of Catalogue Item changes only needs to happen for changes that: Impacts fields stored in the Global Registry. Are authorised according to the GTIN allocation rules. 3. Correct Catalogue Item: When a registered item is corrected in its source data pool, corrections impacting the Registry data must be reflected in the Global Registry before the updated data can be propagated to the data recipients. 4. Delete Catalogue Item: Deletions need to be reflected in the Global Registry. 5. Cancel Catalogue Item: Communicates a trade item was never manufactured – this allows an earlier “reuse” of the GTIN i.e. standard retention period. This is achieved through the maintenance (using change function) of the cancel date. 6. Removing a Catalogue Item from the supply chain: The permanent removal of a Catalogue Item from the supply chain is achieved through the maintenance of a discontinuation date. This date has to be reflected in the Global Registry. Temporary removals are not reflected in the Global Registry and only handled through the maintenance of the availability period in the data pools. 	Primary

	108	Registry requirements for registration are: - Registration can only happen after successful validation. - Registration can only produce errors, no warnings. - Successful Registration of a Catalogue Item is mandatory prior to publication of any hierarchy containing that Catalogue Item. - ItemStatus needs to be included in GTIN data model to reflect validation and registration status. - Process registration command (for create, update, correct, delete). - Provide registration acknowledgement.	Primary
	118	Changes/corrections applied to the Global Registry are effective immediately.	Primary
	119	Future effective changes stored in the data pool are only reflected in the Global Registry when they become effective.	Primary
	159	Multiple independent hierarchies can co-exist at the data-pool for an item for example hierarchy 1 = case A – each A hierarchy 2 = pallet A – case A –each A.	Primary
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary
	193	Hierarchical links between Trade Items can only be created or changed using the CatalogueItemChildLink class in the Catalogue Item Notification message. It is also mandatory to populate the ChildTradeItem class within the Trade Item as well to specify a hierarchy.	Primary
	208	The context associated with a Trade Item has no impact on the Registry Catalogue Item data and as no effect on the registration of a Trade Item.	Primary
	209	The Product Context used to validate the trade item is determined based on the Product Classification of the Trade Item . For example, if the GPC Brick in the Trade Item is Bread (Shelf Stable), then the context referenced by the contextIdentification must be Food Beverage Tobacco Pet Food.	Primary
	227	The Catalogue Item Hierarchical Withdrawal Message can only be sent at the highest level of the published hierarchy.	Primary
	228	The trade item being deleted via a “Catalogue Item Hierarchical Withdrawal” must have been previously registered.	Primary
	229	The only valid Document Command for the “Catalogue Item Hierarchical Withdrawal” document is DELETE. (new validation).	Primary
	230	To correct a catalogue item hierarchy for incorrect links, the hierarchy must be deleted using the Catalogue Item Hierarchical Withdrawal message with a reason code of Hierarchy Link Correction and then re-added with the correct links using the Add command.	Primary
	231	The subsequent Add Message (after the hierarchy link correction) must be treated as a correction for validation purposes.	Primary

	251	The product context associated with a trade item has no impact on the Registry Catalogue Item data and has no effect on the registration of a trade item.	Primary	
	253	For purposes of matching validation rules with product contexts, Source Data Pools must be able to map between the GPC brick in the Catalogue Item and the GPC level associated with the product context in the standard.	Primary	
	256	If the GPC brick associated with the trade item is 99999999 then validations will be performed based only on the validation rules applicable to all product contexts.	Primary	

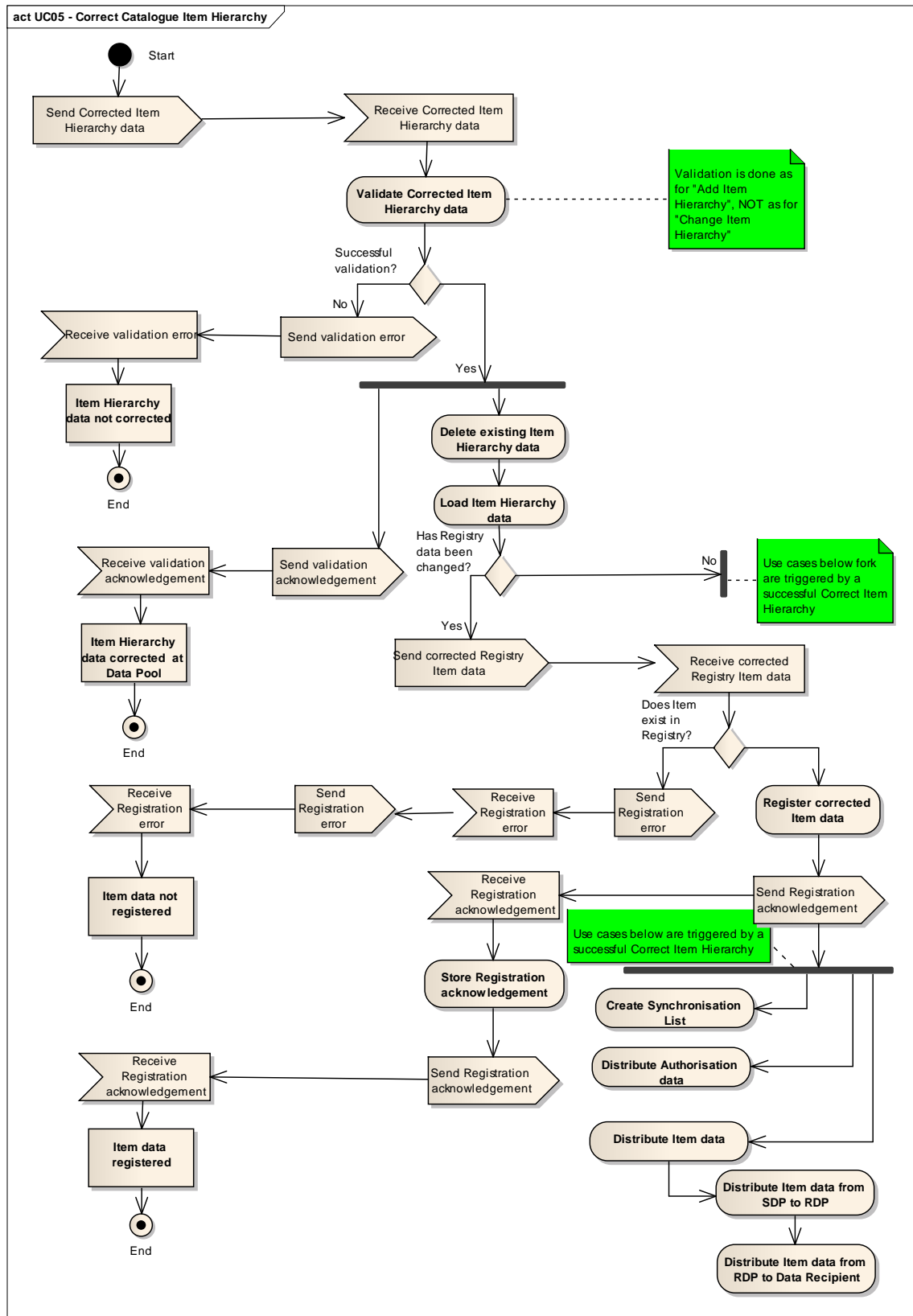
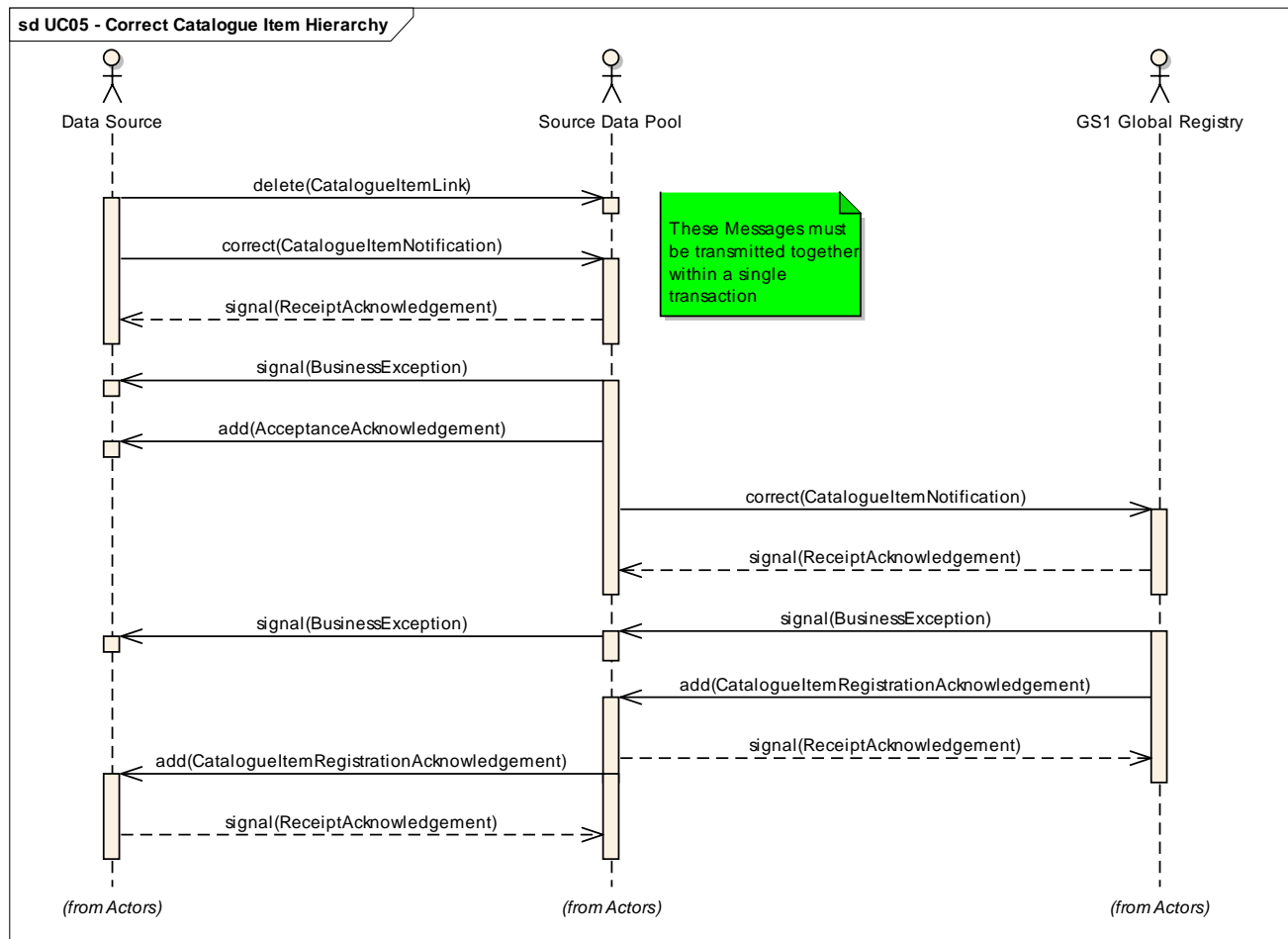
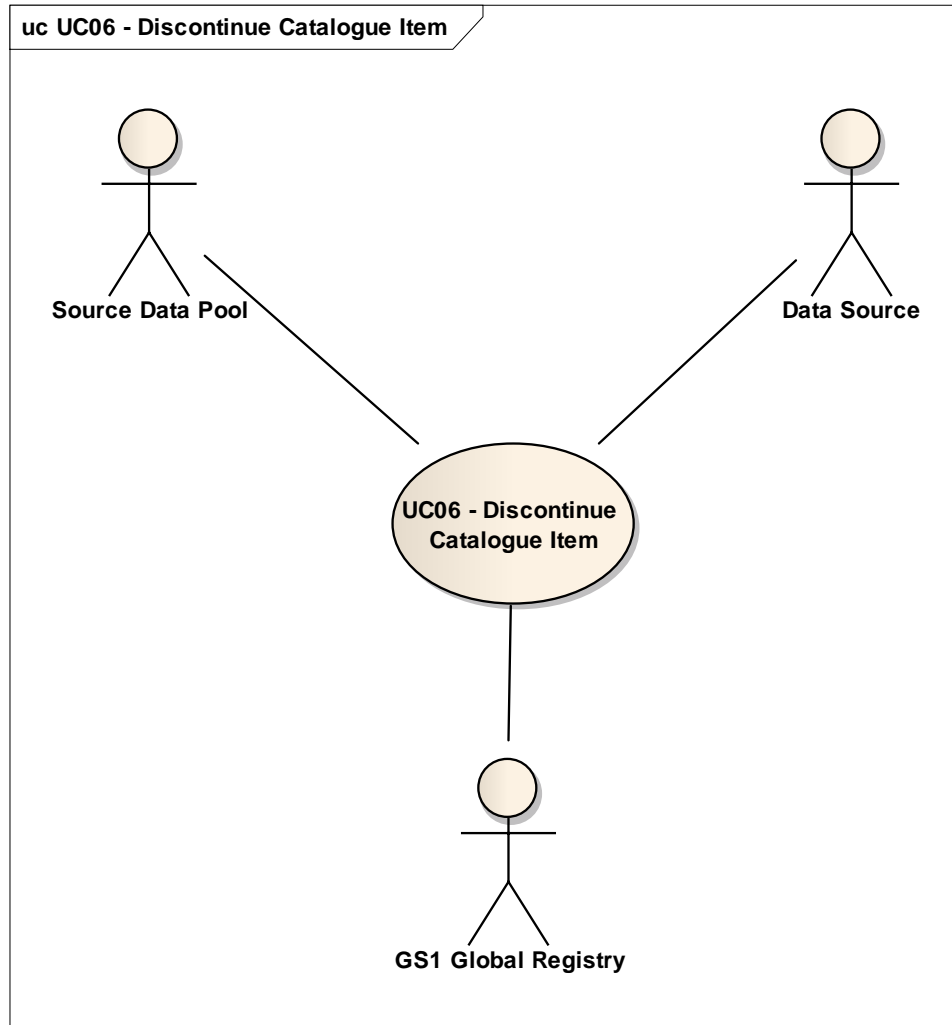
Figure 4-8 Correct Catalogue Item Hierarchy Data Activity Diagram


Figure 4-9 Correct Catalogue Item Hierarchy Sequence Diagram



4.4. Discontinue Catalogue Item

Figure 4-10 Discontinue Catalogue Item Use Case



Use Case ID	UC-6
Use Case Name	Discontinue Catalogue Item
Use Case Description	<p>This use case describes the process to flag a Catalogue Item for deletion, authorising the deletion of the Catalogue Item Data. When an item is discontinued in the GDSN, the waiting period for the GTIN before it can be reused for an item has to be aligned with the specific industry requirement (as defined by GS1 GTIN allocation rules). After the discontinuation period lapses, all parties are free to delete the Item from their databases.</p> <p>This process is a special case of the Change Catalogue Item in that it uses the Change Catalogue Item process to set the discontinuation flag and date.</p> <p>Use Cases Above: UC-2: Load and Update Catalogue Item Data within a Source Data Pool Use Cases Below: UC-21: Delete Registered Catalogue Item</p>
Actors (Goal)	Data Source

	Source Data Pool (SDP) Global Registry																																				
Performance Goals	<ul style="list-style-type: none">■ Data Source: To be able to discontinue Catalogue Item Data in the SDP (and in the Global Registry).■ SDP: To discontinue Catalogue Item Data upon request of the Data Source. SDP sends the RCI to the GS1 GR, and after some time sends the updated CIN to all recipients currently synchronizing on the item with the discontinue information.■ GS1 Global Registry: To discontinue Catalogue Item Data upon request of a SDP. The GS1 GR determines the GTIN reuse period for this industry type of trade item, calculates the deletion date and updates the existing state as needed.																																				
Preconditions	The SDP has identified the Catalogue Item Data to be discontinued.																																				
Post conditions	The Data Source has received the discontinue acknowledgement: <i>Catalogue Item data discontinued</i>																																				
Scenario	<p>Begins when... the Data Source sends the Catalogue Item Data to be discontinued to the SDP.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Receives the Catalogue Item Data to be discontinued.</td></tr><tr><td>2</td><td>SDP</td><td>Validates the Catalogue Item Data against: Publication status Availability status (end availability + discontinued Y/N) Hierarchy (parents have to be deleted before children)</td></tr><tr><td>3</td><td>SDP</td><td>Discontinues the Catalogue Item Data.</td></tr><tr><td>4</td><td>SDP</td><td>Discontinues any Item Link involving the Catalogue Item Data.</td></tr><tr><td>5</td><td>SDP</td><td>Sends the Registry Item data to be discontinued to the Global Registry.</td></tr><tr><td>6</td><td>Global Registry</td><td>Receives the Registry Item data to be discontinued.</td></tr><tr><td>7</td><td>Global Registry</td><td>Validates the Registry Item data.</td></tr><tr><td>8</td><td>Global Registry</td><td>Discontinues the Registry Item data by setting the discontinue date.</td></tr><tr><td>9</td><td>Global Registry</td><td>Sends a discontinue acknowledgement to the SDP.</td></tr><tr><td>10</td><td>SDP</td><td>Receives the discontinue acknowledgement.</td></tr><tr><td>11</td><td>SDP</td><td>Sends the discontinue acknowledgement to the Data Source.</td></tr></table> <p>Ends when... the Data Source receives the discontinue acknowledgement: <i>Catalogue Item data discontinued</i>.</p>	Step #	Actor	Activity Step	1	SDP	Receives the Catalogue Item Data to be discontinued.	2	SDP	Validates the Catalogue Item Data against: Publication status Availability status (end availability + discontinued Y/N) Hierarchy (parents have to be deleted before children)	3	SDP	Discontinues the Catalogue Item Data.	4	SDP	Discontinues any Item Link involving the Catalogue Item Data.	5	SDP	Sends the Registry Item data to be discontinued to the Global Registry.	6	Global Registry	Receives the Registry Item data to be discontinued.	7	Global Registry	Validates the Registry Item data.	8	Global Registry	Discontinues the Registry Item data by setting the discontinue date.	9	Global Registry	Sends a discontinue acknowledgement to the SDP.	10	SDP	Receives the discontinue acknowledgement.	11	SDP	Sends the discontinue acknowledgement to the Data Source.
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Related Rules	ID	Rule	Weight
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the inter-operable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt - Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary
	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary
	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process.	Primary
	24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
	26	Notification to the data recipient will always include the entire hierarchy. (Applies to add & update by adding a higher level).	Primary
	30	Only Catalogue Items are registered in the Global Registry. Not Catalogue Item Hierarchies.	Primary
	31	Validation acknowledgements are mandatory.	Primary
	32	Acknowledgement Reason codes must be unique.	Primary
	34	ItemLinks are not registered or held within the Global Registry.	Primary
	36	If the Catalogue Item was registered, updates impacting the Registry data must be reflected in the Global Registry.	Primary
	37	Registration of Catalogue Item changes only needs to happen for changes that: - Impact fields stored in the Global Registry. - Are authorised according to the GTIN allocation rules.	Primary

	46	New hierarchy replaces old hierarchy completely.	Primary
	56	The discontinuation dates starts the standard retention period depending on the sector as soon as GTIN has been discontinued in ALL target markets where it was active (needs to be stored in the Global Registry).	Secondary
	57	A deletion cannot be corrected – only the discontinuation can be reversed.	Primary
	67	Communicate the product is no longer going to be manufactured: discontinued = Y + effective change date = discontinued date in the Global Registry.	Secondary
	68	Communicate the product is no longer going to be available: maintain end availability date.	Secondary
	92	“Single Data Source” Principle: - there can only be one official source of the data - the one that is registered - this source is identified by the data source - this is the only valid source for data synchronisation and related processes.	Primary
	100	The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements: - Validation - Registration - Subscription - Global Search.	Primary
	101	Registry Validation includes: - GS1 standards validation for GTIN and GLN formats (i.e. check digit) - Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN), ensuring there is only one occurrence and data source for each data record as identified by the appropriate fields.	Primary
	104	In summary, the registry requirements for validation are: - GS1 standards validation for GTIN/GLN formats - Uniqueness validation for Item, Party and data pool key - Store and maintain GS1 standards - Process validation command - Provide validation acknowledgement.	Primary
	105	Registration is the process, which references all Catalogue Items and Parties published in all certified data pools and on which there is a need to synchronise / retrieve information. This is supported by data storage in accordance with the Registry data scope and rules.	Primary
	106	Registering a Catalogue Item involves a check by the Global Registry for Item uniqueness. The Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique. When an Item is registered, the registry verifies that the combination of this data is unique to that Item.	Primary
	107	The registration process is triggered by the following business cases: 1. Create Catalogue Item: After the physical load and validation of the data, the registry record needs to be created before data can be published. 2. Update Catalogue Item: When a registered Catalogue Item is updated in its source data pool, updates impacting the Registry	Primary

		<p>data must be reflected in the Global Registry, before the updated data can be propagated to the recipients. Registration of Catalogue Item changes only needs to happen for changes that: Impacts fields stored in the Global Registry. Are authorised according to the GTIN allocation rules.</p> <p>3. Correct Catalogue Item: When a registered item is corrected in its source data pool, corrections impacting the Registry data must be reflected in the Global Registry before the updated data can be propagated to the data recipients.</p> <p>4. Delete Catalogue Item: Deletions need to be reflected in the Global Registry.</p> <p>5. Cancel Catalogue Item: Communicates a trade item was never manufactured – this allows an earlier “reuse” of the GTIN i.e. standard retention period. This is achieved through the maintenance (using change function) of the cancel date.</p> <p>6. Removing a Catalogue Item from the supply chain: The permanent removal of a Catalogue Item from the supply chain is achieved through the maintenance of a discontinuation date. This date has to be reflected in the Global Registry. Temporary removals are not reflected in the Global Registry and only handled through the maintenance of the availability period in the data pools.</p>	
	108	<p>Registry requirements for registration are:</p> <ul style="list-style-type: none"> - Registration can only happen after successful validation. - Registration can only produce errors, no warnings. - Successful Registration of a Catalogue Item is mandatory prior to publication of any hierarchy containing that Catalogue Item. - ItemStatus needs to be included in GTIN data model to reflect validation and registration status. - Process registration command (for create, update, correct, delete). - Provide registration acknowledgement. 	Primary
	118	Changes/corrections applied to the Global Registry are effective immediately.	Primary
	119	Future effective changes stored in the data pool are only reflected in the Global Registry when they become effective.	Primary
	159	Multiple independent hierarchies can co-exist at the data-pool for an item for example hierarchy 1 = case A – each A and hierarchy 2 = pallet A – case A –each A.	Primary
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary
	191	When an item has a discontinue date, the state of the item does not get updated until that date becomes current.	Primary
	192	The Global Registry must support a Registry Catalogue Item State of “DELETED”.	Primary
<p>1. The original discontinue (discontinue date and status) is synchronised across data pools but all data pools are not notified of deletes.</p>			

Figure 4-11 Discontinue Catalogue Item Activity Diagram

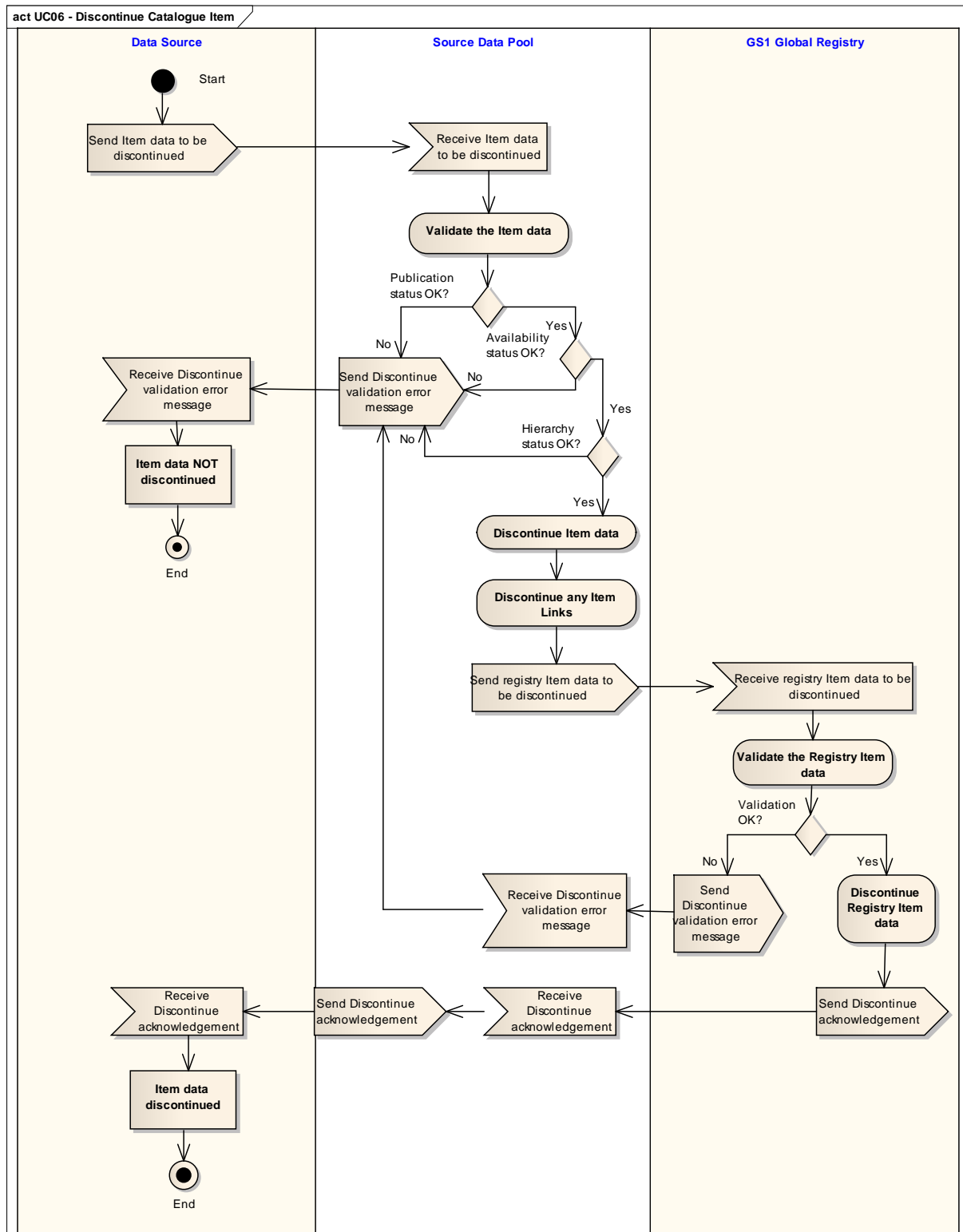
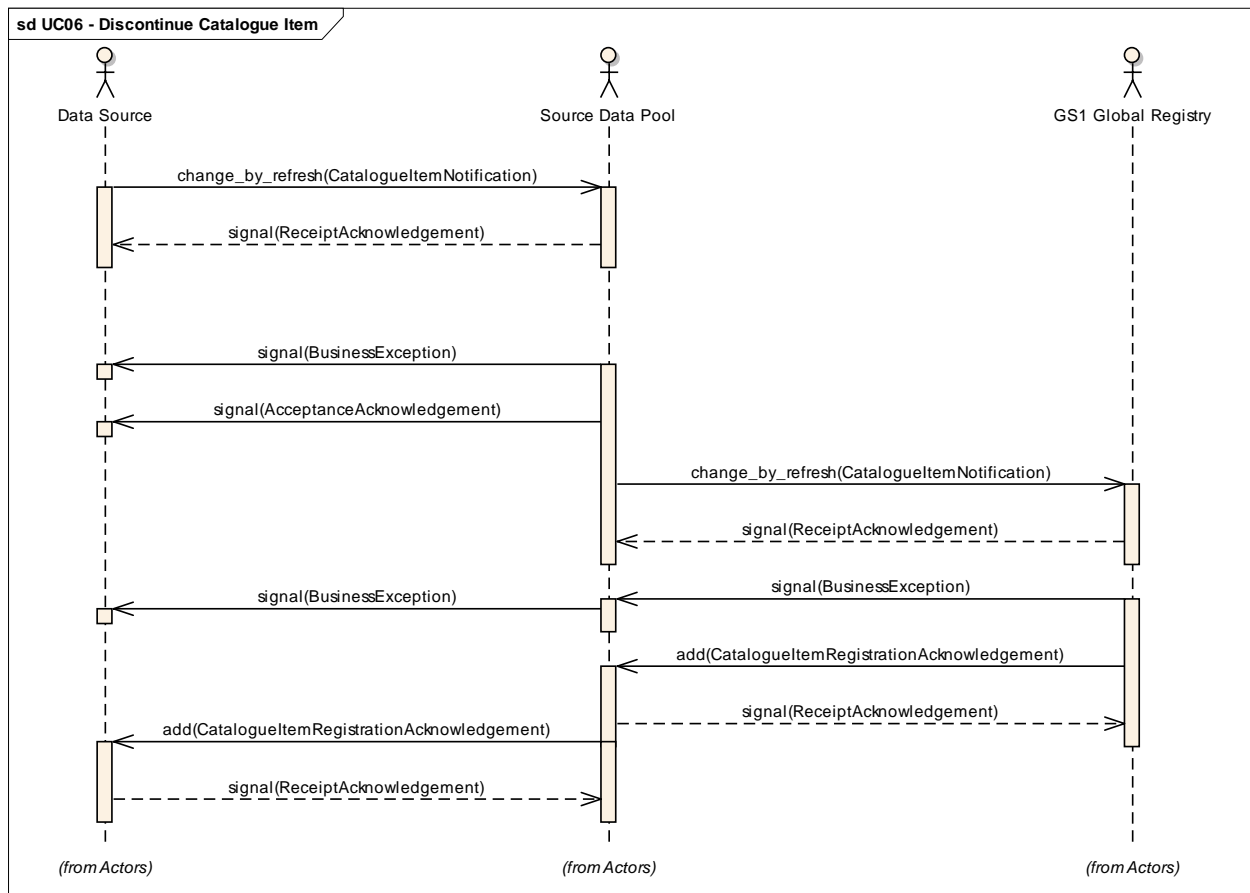
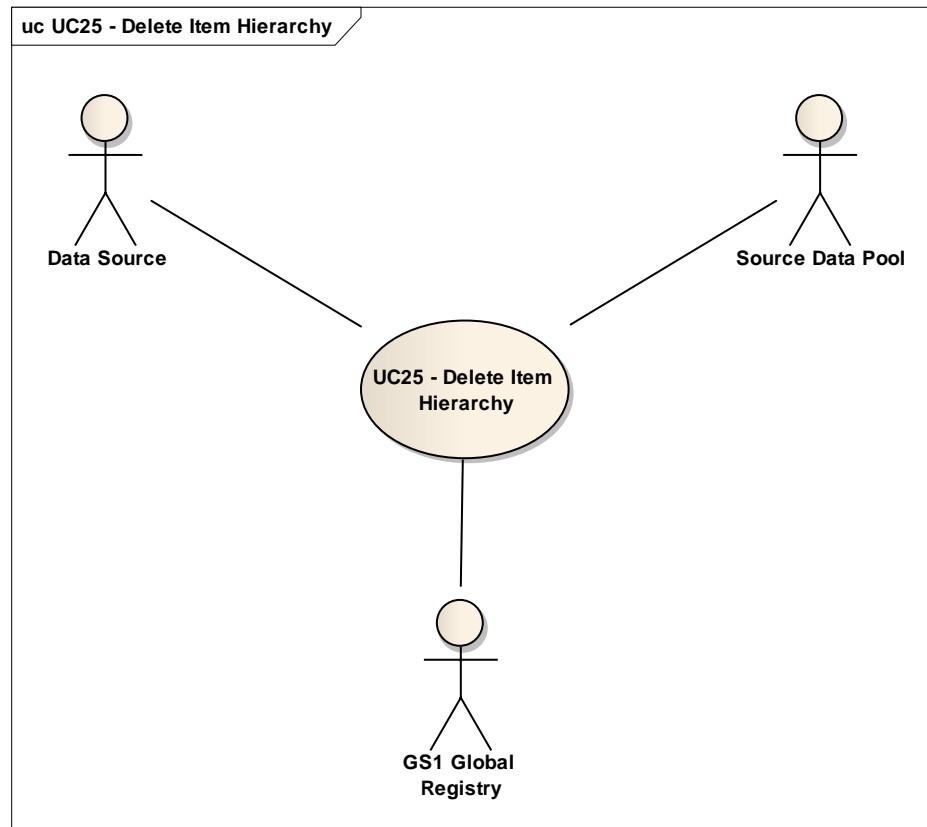


Figure 4-12 Discontinue Catalogue Item Sequence Diagram



4.5. Delete Catalogue Item Hierarchy

Figure 4-13 Delete Catalogue Item Hierarchy Use Case



Use Case ID	UC-25
Use Case Name	Delete Catalogue Item Hierarchy
Use Case Description	This use case describes the process to remove a Catalogue Item from the Source Data Pool. Use Cases Above: UC-2: Load and Update Catalogue Item Data within a Source Data Pool Use Cases Below: None
Actors (Goal)	Data Source Source Data Pool (SDP) Global Registry
Performance Goals	<ul style="list-style-type: none"> ■ Data Source: To be able to remove a discontinued or cancelled Catalogue Item Data in the SDP (and in the Global Registry). ■ SDP: To be able to remove a discontinued or cancelled Catalogue Item Data. ■ Global Registry: To remove a discontinued or cancelled Catalogue Item Data.
Preconditions	The SDP has either discontinued or cancelled a Catalogue Item within the timeframe allowed by GS1 standards.
Post conditions	The Catalogue Item has been removed from the SDP and Registry.
Scenario	The SDP and Registry may remove (physically delete) a Catalogue Item that has been Cancelled or Discontinued for a period described in the GS1 General Specification.

	<p>Begins with: a request being sent from the SDP to the GR to purge discontinued items from the Global Registry.</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>GR</td><td>Receives request.</td></tr><tr><td>2</td><td>GR</td><td>Validates request for following criteria:<ul style="list-style-type: none">a. Purge request sent from same SDP that sent in the discontinuation or cancellation.b. The Catalogue Item exist in the GRc. Discontinue or cancellation date exists for the catalogue item in the GR.</td></tr><tr><td>3</td><td>GR</td><td>Deletes requested catalogue items.</td></tr><tr><td>4</td><td>GR</td><td>Sends confirmation to the SDP</td></tr></table> <p>Ends: when SDP receives confirmation.</p>			Step #	Actor	Activity Step	1	GR	Receives request.	2	GR	Validates request for following criteria: <ul style="list-style-type: none">a. Purge request sent from same SDP that sent in the discontinuation or cancellation.b. The Catalogue Item exist in the GRc. Discontinue or cancellation date exists for the catalogue item in the GR.	3	GR	Deletes requested catalogue items.	4	GR	Sends confirmation to the SDP									
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4	GR	Sends confirmation to the SDP																									
Alternative Scenario	None																										
Related Requirements	Notes: SDP is responsible for determining																										
Related Rules	<table><tr><th>ID</th><th>Rule</th><th>Weight</th></tr><tr><td>6</td><td>Data Source must be able to delete Catalogue Item data in the Source Data Pool.</td><td>Primary</td></tr><tr><td>7</td><td>If a Catalogue Item is deleted:<ul style="list-style-type: none">- the links pointing down must be deleted- all links above must be deleted- all Items above must be deleted.</td><td>Primary</td></tr><tr><td>12</td><td>Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information:<ul style="list-style-type: none">- Confirmation of message receipt- Success / Failure of processing (syntax and content)- Reason for failure, with a code number and text message unique assigned to each failure.</td><td>Primary</td></tr><tr><td>20</td><td>Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.</td><td>Primary</td></tr><tr><td>21</td><td>If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.</td><td>Primary</td></tr><tr><td>22</td><td>Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.</td><td>Primary</td></tr><tr><td>23</td><td>Events that can trigger notifications are:<ul style="list-style-type: none">- Publication of new data / change of publication- Change of published Catalogue Item / Party / Partner Profile- Change of owner, rights</td><td>Primary</td></tr></table>			ID	Rule	Weight	6	Data Source must be able to delete Catalogue Item data in the Source Data Pool.	Primary	7	If a Catalogue Item is deleted: <ul style="list-style-type: none">- the links pointing down must be deleted- all links above must be deleted- all Items above must be deleted.	Primary	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: <ul style="list-style-type: none">- Confirmation of message receipt- Success / Failure of processing (syntax and content)- Reason for failure, with a code number and text message unique assigned to each failure.	Primary	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary	23	Events that can trigger notifications are: <ul style="list-style-type: none">- Publication of new data / change of publication- Change of published Catalogue Item / Party / Partner Profile- Change of owner, rights	Primary
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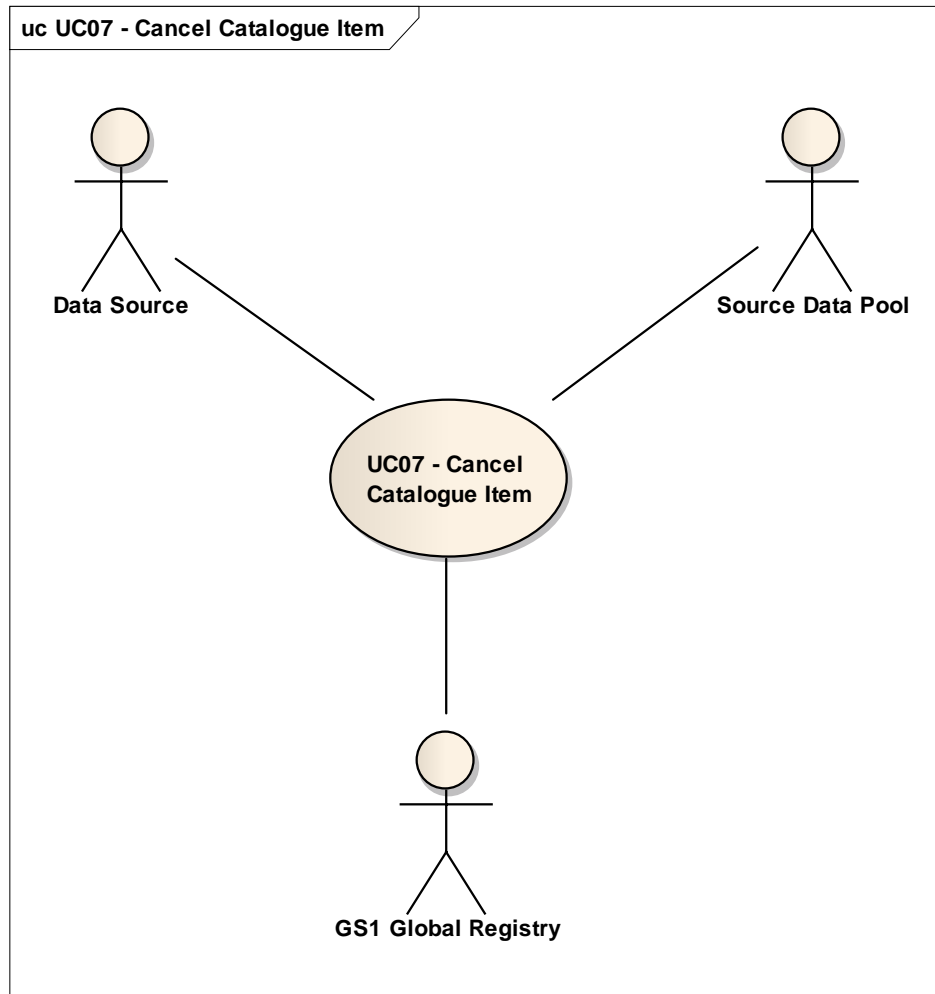
	<ul style="list-style-type: none"> - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process. 	
24	<p>Notifications must NOT be sent in the following cases since data is not yet public and validated information:</p> <ul style="list-style-type: none"> - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item. 	Primary
26	Notification to the data recipient will always include the entire hierarchy. (Applies to add & update by adding a higher level).	Primary
30	Only Catalogue Items are registered in the Global Registry. Not Catalogue Item Hierarchies.	Primary
31	Validation acknowledgements are mandatory.	Primary
32	Acknowledgement Reason codes must be unique.	Primary
33	ItemLinks are identified by the parent GTIN key + child GTIN key + quantity contained.	Primary
34	ItemLinks are not registered or held within the Global Registry.	Primary
36	If the Catalogue Item was registered, updates impacting the Registry data must be reflected in the Global Registry.	Primary
37	Registration of Catalogue Item changes only needs to happen for changes that: - Impact fields stored in the Global Registry. - Are authorised according to the GTIN allocation rules.	Primary
46	New hierarchy replaces old hierarchy completely.	Primary
47	The objective of the "Delete" Function is not to physically remove data from the data pool, but to "Flag for deletion", authorising the deletion of the data.	Primary
48	The deletion needs to be validated against a number of criteria, e.g. Item is no longer published, item discontinued, retention limit (GS1 Specifications).	Secondary
50	Deletions need to be reflected in the registry (deletion flag + effective change date = deletion date in the Global Registry)	Primary
51	To protect data integrity within the data pool, the deletion of a child can only occur after the deletion of the parents.	Primary
52	Validation for deleted Items ensures the parents have been deleted before the deletion of the child is performed.	Primary
53	Validation is automatically triggered by the "Delete" command and does not require a specific message flow.	Primary
54	Deletion of a Catalogue Item must trigger the invalidation of any hierarchy links involving that Item, whether that Item is the parent or the child in the link. This is completed by the Refresh.ItemLink message. Ackn.ItemLink will be repeated for every link that was refreshed or invalidated.	Primary
55	Deletion needs to be validated against:	Primary

		<ul style="list-style-type: none"> - Publication status - Availability Status (end availability + discontinued Y/N) - Hierarchy: parents have to be deleted before children. 	
	57	A deletion cannot be corrected – only the discontinuation can be reversed.	Primary
	58	Deletes are not synchronised across data pools.	Primary
	59	ItemLinks can only be deleted: <ul style="list-style-type: none"> - as the correction of an error - as the result of a delete.Item. 	Secondary
	60	The validity period of an ItemLink is defined by the validity period of the Parent Item and/or the Child Item.	Secondary
	61	When either parent or child expire, the related ItemLink(s) have to expire as well. This is achieved through the Refresh.ItemLink function.	Secondary
	92	“Single Data Source” Principle: <ul style="list-style-type: none"> - there can only be one official source of the data - the one that is registered - this source is identified by the data source - this is the only valid source for data synchronisation and related processes. 	Primary
	100	The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements: <ul style="list-style-type: none"> - Validation - Registration - Subscription - Global Search. 	Primary
	101	Registry Validation includes: <ul style="list-style-type: none"> - GS1 standards validation for GTIN and GLN formats (i.e. check digit) - Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN), ensuring there is only one occurrence and data source for each data record as identified by the appropriate fields. 	Primary
	104	In summary, the registry requirements for validation are: <ul style="list-style-type: none"> - GS1 standards validation for GTIN/GLN formats - Uniqueness validation for Item, Party and data pool key - Store and maintain GS1 standards - Process validation command - Provide validation acknowledgement. 	Primary
	105	Registration is the process, which references all Catalogue Items and Parties published in all certified data pools and on which there is a need to synchronise / retrieve information. This is supported by data storage in accordance with the Registry data scope and rules.	Primary
	106	Registering a Catalogue Item involves a check by the Global Registry for Item uniqueness. The Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique. When an Item is registered, the registry	Primary

		verifies that the combination of this data is unique to that Item.	
107	<p>The registration process is triggered by the following business cases:</p> <p>1. Create Catalogue Item: After the physical load and validation of the data, the registry record needs to be created before data can be published.</p> <p>2. Update Catalogue Item: When a registered Catalogue Item is updated in its source data pool, updates impacting the Registry data must be reflected in the Global Registry, before the updated data can be propagated to the recipients. Registration of Catalogue Item changes only needs to happen for changes that: Impacts fields stored in the Global Registry. Are authorised according to the GTIN allocation rules.</p> <p>3. Correct Catalogue Item: When a registered item is corrected in its source data pool, corrections impacting the Registry data must be reflected in the Global Registry before the updated data can be propagated to the data recipients.</p> <p>4. Delete Catalogue Item: Deletions need to be reflected in the Global Registry.</p> <p>5. Cancel Catalogue Item: Communicates a trade item was never manufactured – this allows an earlier “reuse” of the GTIN i.e. standard retention period. This is achieved through the maintenance (using change function) of the cancel date.</p> <p>6. Removing a Catalogue Item from the supply chain: The permanent removal of a Catalogue Item from the supply chain is achieved through the maintenance of a discontinuation date. This date has to be reflected in the Global Registry. Temporary removals are not reflected in the Global Registry and only handled through the maintenance of the availability period in the data pools.</p>	Primary	
108	<p>Registry requirements for registration are:</p> <ul style="list-style-type: none">- Registration can only happen after successful validation.- Registration can only produce errors, no warnings.- Successful Registration of a Catalogue Item is mandatory prior to publication of any hierarchy containing that Catalogue Item.- ItemStatus needs to be included in GTIN data model to reflect validation and registration status.- Process registration command (for create, update, correct, delete).- Provide registration acknowledgement.	Primary	
118	Changes/corrections applied to the Global Registry are effective immediately.	Primary	
119	Future effective changes stored in the data pool are only reflected in the Global Registry when they become effective.	Primary	
159	Multiple independent hierarchies can co-exist at the data-pool for an item for example hierarchy 1 = case A – each A hierarchy 2 = pallet A – case A –each A.	Primary	

4.6. Cancel Catalogue Item

Figure 4-14 Cancel Catalogue Item Use Case Diagram



Use Case ID	UC-7
Use Case Name	Cancel Catalogue Item
Use Case Description	<p>In certain cases, a manufacturer will register a Catalogue Item prior to deciding if it will ultimately be manufactured and sold.</p> <p>The Cancel Catalogue Item use case describes the process to communicate that a trade item was never manufactured. This allows the reuse of the GTIN 12 months after cancellation instead of 48 months. When an item is cancelled in the GDSN, the waiting period for an item may have to be aligned with the specific industry requirement.</p> <p>Note: This is a special usage of the Change Catalogue Item Hierarchy or Correct Catalogue Item Hierarchy use cases.</p> <p>Use Cases Above: UC-2: Load and Update Catalogue Item Data within a Source Data Pool</p> <p>Use Cases Below: UC-22: Cancel Registered Catalogue Item</p>
Actors (Goal)	Data Source Source Data Pool (SDP) Global Registry

Performance Goals	<ul style="list-style-type: none">■ Data Source: To be able to reuse the GTIN of a Catalogue Item that has not been manufactured as soon as possible.■ SDP: To have validated, registered updated Catalogue Item Hierarchy data. Sends the RCI to the GS1 GR, and after some time sends the updated CIN to all recipients currently synchronizing on the item with the cancellation information.■ GS1 Global Registry: To ensure valid, unique Catalogue Item data are registered. The GS1 GR determines the GTIN reuse period for this industry type of trade item, calculates the deletion date and the state remains unchanged.																																										
Preconditions	Data Source has registered a Catalogue Item that it now does not intend to manufacture.																																										
Post conditions	Catalogue Item retention period begins (after which, the GTIN can be reused).																																										
Scenario	<p>Begins when... the Data Source sends, to the SDP, Catalogue Item Hierarchy data with a Catalogue Item that contains a cancel date.</p> <p>Continues with...</p> <table><thead><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr></thead><tbody><tr><td>1</td><td>SDP</td><td>Receives Catalogue Item Hierarchy data to be changed.</td></tr><tr><td>2</td><td>SDP</td><td>Validates Catalogue Item Hierarchy data to be changed.</td></tr><tr><td>3</td><td>SDP</td><td>Sends a validation acknowledgement to the Data Source.</td></tr><tr><td>4</td><td>Data Source</td><td>Receives the validation acknowledgement: <i>Catalogue Item Hierarchy data cancelled.</i></td></tr><tr><td>5</td><td>SDP</td><td>Loads the changed Catalogue Item Hierarchy data.</td></tr><tr><td>6</td><td>SDP</td><td>Sends the Registry Item data (to be changed) to the Global Registry.</td></tr><tr><td>7</td><td>Global Registry</td><td>Receives the Registry Item data to be changed.</td></tr><tr><td>8</td><td>Global Registry</td><td>Checks that the Catalogue Item exists in the Registry.</td></tr><tr><td>9</td><td>Global Registry</td><td>Registers the changed Registry Item data.</td></tr><tr><td>10</td><td>Global Registry</td><td>Sends a registration acknowledgement to the SDP.</td></tr><tr><td>11</td><td>SDP</td><td>Receives the registration acknowledgement.</td></tr><tr><td>12</td><td>SDP</td><td>Stores the registration acknowledgement.</td></tr><tr><td>13</td><td>SDP</td><td>Sends a registration acknowledgement to the Data Source.</td></tr></tbody></table> <p>Ends when... the Data Source receives the registration acknowledgement: <i>Catalogue Item data changed</i></p>	Step #	Actor	Activity Step	1	SDP	Receives Catalogue Item Hierarchy data to be changed.	2	SDP	Validates Catalogue Item Hierarchy data to be changed.	3	SDP	Sends a validation acknowledgement to the Data Source.	4	Data Source	Receives the validation acknowledgement: <i>Catalogue Item Hierarchy data cancelled.</i>	5	SDP	Loads the changed Catalogue Item Hierarchy data.	6	SDP	Sends the Registry Item data (to be changed) to the Global Registry.	7	Global Registry	Receives the Registry Item data to be changed.	8	Global Registry	Checks that the Catalogue Item exists in the Registry.	9	Global Registry	Registers the changed Registry Item data.	10	Global Registry	Sends a registration acknowledgement to the SDP.	11	SDP	Receives the registration acknowledgement.	12	SDP	Stores the registration acknowledgement.	13	SDP	Sends a registration acknowledgement to the Data Source.
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Alternative Scenario	<p>Validation fails: <i>Catalogue Item Hierarchy data not loaded</i></p> <table><thead><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr></thead><tbody><tr><td>1</td><td>SDP</td><td>Sends an validation error message to the Data Source.</td></tr></tbody></table> <p>Ends when... the Data Source receives the validation error message</p> <p>The Catalogue Item is not found in the Registry: <i>Catalogue Item data not registered</i></p> <table><thead><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr></thead><tbody><tr><td>1</td><td>Global Registry</td><td>Sends a registration error message to the SDP.</td></tr><tr><td>2</td><td>SDP</td><td>Receives the registration error message.</td></tr></tbody></table>	Step #	Actor	Activity Step	1	SDP	Sends an validation error message to the Data Source.	Step #	Actor	Activity Step	1	Global Registry	Sends a registration error message to the SDP.	2	SDP	Receives the registration error message.																											
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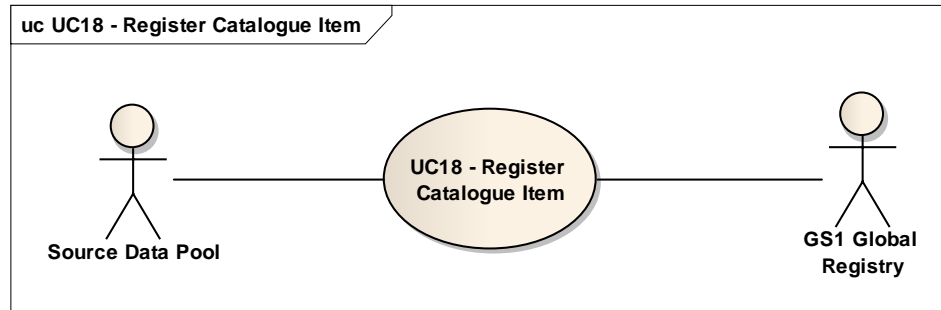
	3	SDP	Sends a registration error message to the Data Source.
	Ends when... the Data Source receives the registration error message ** The validation and registration acknowledgment messages can be combined ** The Catalogue Item Data is now not available for distribution.		
Related Rules	ID	Rule	Weight
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt - Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary
	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary
	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process.	Primary
	24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
	26	Notification to the data recipient will always include the entire hierarchy. (Applies to add & update by adding a higher level).	Primary
	30	Only Catalogue Items are registered in the Global Registry. Not Catalogue Item Hierarchies.	Primary
	31	Validation acknowledgements are mandatory.	Primary
	32	Acknowledgement Reason codes must be unique.	Primary
	34	ItemLinks are not registered or held within the Global Registry.	Primary
	36	If the Catalogue Item was registered, updates impacting the Registry data must be reflected in the Global Registry.	Primary
	37	Registration of Catalogue Item changes only needs to happen for changes that: - Impact fields stored in the Global Registry.	Primary

	- Are authorised according to the GTIN allocation rules.	
62	Cancel Catalogue Item is achieved through the maintenance (using change function) of the cancel date.	Secondary
64	Cancel date needs to be stored in the Global Registry.	Secondary
65	Communicate that product is no longer available: maintain end availability date.	Secondary
66	When product is available again: update start/end availability date.	Secondary
92	“Single Data Source” Principle: - there can only be one official source of the data - the one that is registered - this source is identified by the data source - this is the only valid source for data synchronisation and related processes.	Primary
100	The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements: - Validation - Registration - Subscription - Global Search.	Primary
101	Registry Validation includes: - GS1 standards validation for GTIN and GLN formats (i.e. check digit) - Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN), ensuring there is only one occurrence and data source for each data record as identified by the appropriate fields.	Primary
104	In summary, the registry requirements for validation are: - GS1 standards validation for GTIN/GLN formats - Uniqueness validation for Item, Party and data pool key - Store and maintain GS1 standards - Process validation command - Provide validation acknowledgement.	Primary
105	Registration is the process, which references all Catalogue Items and Parties published in all certified data pools and on which there is a need to synchronise / retrieve information. This is supported by data storage in accordance with the Registry data scope and rules.	Primary
106	Registering a Catalogue Item involves a check by the Global Registry for Item uniqueness. The Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique. When an Item is registered, the registry verifies that the combination of this data is unique to that Item.	Primary
107	The registration process is triggered by the following business cases: 1. Create Catalogue Item: After the physical load and validation of the data, the registry record needs to be created before data can be published. 2. Update Catalogue Item: When a registered Catalogue Item is updated in its source data pool, updates impacting the Registry	Primary

	<p>data must be reflected in the Global Registry, before the updated data can be propagated to the recipients. Registration of Catalogue Item changes only needs to happen for changes that: Impacts fields stored in the Global Registry. Are authorised according to the GTIN allocation rules.</p> <p>3. Correct Catalogue Item: When a registered item is corrected in its source data pool, corrections impacting the Registry data must be reflected in the Global Registry before the updated data can be propagated to the data recipients.</p> <p>4. Delete Catalogue Item: Deletions need to be reflected in the Global Registry.</p> <p>5. Cancel Catalogue Item: Communicates a trade item was never manufactured – this allows an earlier “reuse” of the GTIN i.e. standard retention period. This is achieved through the maintenance (using change function) of the cancel date.</p> <p>6. Removing a Catalogue Item from the supply chain: The permanent removal of a Catalogue Item from the supply chain is achieved through the maintenance of a discontinuation date. This date has to be reflected in the Global Registry. Temporary removals are not reflected in the Global Registry and only handled through the maintenance of the availability period in the data pools.</p>		
	<p>108 Registry requirements for registration are:</p> <ul style="list-style-type: none"> - Registration can only happen after successful validation. - Registration can only produce errors, no warnings. - Successful Registration of a Catalogue Item is mandatory prior to publication of any hierarchy containing that Catalogue Item. - ItemStatus needs to be included in GTIN data model to reflect validation and registration status. - Process registration command (for create, update, correct, delete). - Provide registration acknowledgement. 	Primary	
	<p>118 Changes/corrections applied to the Global Registry are effective immediately.</p>	Primary	
	<p>119 Future effective changes stored in the data pool are only reflected in the Global Registry when they become effective.</p>	Primary	
	<p>159 Multiple independent hierarchies can co-exist at the data-pool for an item for example hierarchy 1 = case A – each A hierarchy 2 = pallet A – case A –each A.</p>	Primary	
	<p>171 The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 response must equal the DocumentIdentification: instanceIdentifier of the original message.</p>	Primary	
	<p>191 When an item has a discontinue date, the state of the item does not get updated until that date becomes current.</p>	Primary	

4.7. Register Catalogue Item

Figure 4-15 Register Catalogue Item Use Case Diagram



Use Case ID	UC-18															
Use Case Name	Register Catalogue Item															
Use Case Description	<p>All Catalogue Items for trade must be registered in the Global Registry. Prior to registration, the Catalogue Item data must pass a validation at the Source Data Pool and a uniqueness check at the Registry. The Global Registry ensures that valid, unique Catalogue Item data are available worldwide. This Use Case describes the Registration process that is performed by the Global Registry.</p> <p>Use Cases Above: UC-2: Load and Update Catalogue Item Data within a Source Data Pool Use Cases Below: None</p>															
Actors (Goal)	Source Data Pool (SDP) Global Registry															
Performance Goals	SDP: To have validated, registered Catalogue Item data. Global Registry: To ensure valid, unique Catalogue Item data are registered.															
Preconditions	The Source Data Pool is a certified Data Pool. The Source Data Pool has a profile that resides in the registry. The Source Data Pool has validated Catalogue Item data received from a Data Source and has sent that Catalogue Item data and a Validation Certificate to the Global Registry.															
Post conditions	The Catalogue Item data has been registered and retained by the Global Registry.															
Scenario	<p>Begins when... the Global Registry receives validated Catalogue Item Data from a Source Data Pool. Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>Global Registry</td><td>Ensures that the Source Data Pool is certified.</td></tr><tr><td>2</td><td>Global Registry</td><td>Validates the Validation Certificate (from validation engine) sent with the Catalogue Item data.</td></tr><tr><td>3</td><td>Global Registry</td><td>Verifies the uniqueness of the GTIN, GLN, TM combination.</td></tr><tr><td>4</td><td>Global Registry</td><td>Stores the Catalogue Item data.</td></tr></table> <p>Ends when... the Global Registry sends a registration acknowledgement to the SDP.</p>	Step #	Actor	Activity Step	1	Global Registry	Ensures that the Source Data Pool is certified.	2	Global Registry	Validates the Validation Certificate (from validation engine) sent with the Catalogue Item data.	3	Global Registry	Verifies the uniqueness of the GTIN, GLN, TM combination.	4	Global Registry	Stores the Catalogue Item data.
Step #	Actor	Activity Step														
1	Global Registry	Ensures that the Source Data Pool is certified.														
2	Global Registry	Validates the Validation Certificate (from validation engine) sent with the Catalogue Item data.														
3	Global Registry	Verifies the uniqueness of the GTIN, GLN, TM combination.														
4	Global Registry	Stores the Catalogue Item data.														
Alternative Scenario	Data Pool not certified:															

	<table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>Global Registry</td><td>Sends an error message to the Source Data Pool.</td></tr></table> <p>Ends when... the Source Data Pool receives the error message</p> <p>Validation certificate does not pass validation:</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>Global Registry</td><td>Sends a validation error message to the Source Data Pool.</td></tr></table> <p>Ends when... the Source Data Pool receives the validation error message.</p> <p>The Catalogue Item already exists in the Registry:</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>Global Registry</td><td>Sends a registration error message to the SDP.</td></tr><tr><td>2</td><td>SDP</td><td>Receives the registration error message.</td></tr><tr><td>3</td><td>SDP</td><td>Sends a registration error message to the Data Source.</td></tr></table> <p>Ends when... the Data Source receives the registration error message.</p>	Step #	Actor	Activity Step	1	Global Registry	Sends an error message to the Source Data Pool.	Step #	Actor	Activity Step	1	Global Registry	Sends a validation error message to the Source Data Pool.	Step #	Actor	Activity Step	1	Global Registry	Sends a registration error message to the SDP.	2	SDP	Receives the registration error message.	3	SDP	Sends a registration error message to the Data Source.					
	Step #	Actor	Activity Step																											
	1	Global Registry	Sends an error message to the Source Data Pool.																											
	Step #	Actor	Activity Step																											
	1	Global Registry	Sends a validation error message to the Source Data Pool.																											
Step #	Actor	Activity Step																												
1	Global Registry	Sends a registration error message to the SDP.																												
2	SDP	Receives the registration error message.																												
3	SDP	Sends a registration error message to the Data Source.																												
Related Requirements																														
Related Rules	<table><tr><th>ID</th><th>Rules</th><th>Weight</th></tr><tr><td>1</td><td>Party data must exist prior to a Catalogue Item is being registered.</td><td>Secondary</td></tr><tr><td>2</td><td>Catalogue Item data must be validated prior to registration.</td><td>Secondary</td></tr><tr><td>8</td><td>GS1 standards validation for GTIN and GLN format.</td><td>Primary</td></tr><tr><td>9</td><td>Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN) – only applies to the occurrence of the key, not to the uniqueness of the information related to it.</td><td>Primary</td></tr><tr><td>10</td><td>The Catalogue Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique.</td><td>Secondary</td></tr><tr><td>12</td><td>Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt- Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.</td><td>Primary</td></tr><tr><td>20</td><td>Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.</td><td>Primary</td></tr><tr><td>23</td><td>Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription</td><td>Primary</td></tr></table>	ID	Rules	Weight	1	Party data must exist prior to a Catalogue Item is being registered.	Secondary	2	Catalogue Item data must be validated prior to registration.	Secondary	8	GS1 standards validation for GTIN and GLN format.	Primary	9	Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN) – only applies to the occurrence of the key, not to the uniqueness of the information related to it.	Primary	10	The Catalogue Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique.	Secondary	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt- Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.	Primary	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription	Primary		
	ID	Rules	Weight																											
	1	Party data must exist prior to a Catalogue Item is being registered.	Secondary																											
	2	Catalogue Item data must be validated prior to registration.	Secondary																											
	8	GS1 standards validation for GTIN and GLN format.	Primary																											
	9	Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN) – only applies to the occurrence of the key, not to the uniqueness of the information related to it.	Primary																											
	10	The Catalogue Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique.	Secondary																											
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt- Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.	Primary																											
20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary																												
23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription	Primary																												

	<ul style="list-style-type: none"> - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process. 	
24	<p>Notifications must NOT be sent in the following cases since data is not yet public and validated information:</p> <ul style="list-style-type: none"> - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item. 	Secondary
30	Only Catalogue Items are registered in the Global Registry. Not Catalogue Item Hierarchies.	Secondary
31	Validation acknowledgements are mandatory.	Secondary
32	Acknowledgement Reason codes must be unique.	Primary
34	Item Links are not registered or held within the Global Registry.	Secondary
36	If the Catalogue Item was registered, updates impacting the Registry data must be reflected in the Global Registry.	Primary
37	Registration of Catalogue Item changes only needs to happen for changes that: - Impact fields stored in the Global Registry. - Are authorised according to the GTIN allocation rules.	Primary
42	If the correction impacts the hierarchy, then it must be handled by deleting the incorrect ItemLink and adding a new Item Link - Add/Delete Scenarios.	Primary
92	<p>"Single Data Source" Principle:</p> <ul style="list-style-type: none"> - there can only be one official source of the data - the one that is registered - this source is identified by the data source - this is the only valid source for data synchronisation and related processes. 	Primary
100	<p>The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements:</p> <ul style="list-style-type: none"> - Validation - Registration - Subscription - Global Search 	Primary
101	Registry Validation includes: - GS1 standards validation for GTIN and GLN formats (i.e. check digit) - Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN), ensuring there is only one occurrence and data source for each data record as identified by the appropriate fields.	Primary
104	<p>In summary, the registry requirements for validation are:</p> <ul style="list-style-type: none"> - GS1 standards validation for GTIN/GLN formats - Uniqueness validation for Item, Party and data pool key - Store and maintain GS1 standards - Process validation command - Provide validation acknowledgement. 	Secondary
105	Registration is the process, which references all Catalogue Items and Parties published in all certified data pools and on which there is a need to synchronise / retrieve information. This is supported by	Secondary

		data storage in accordance with the Registry data scope and rules.	
	106	Registering a Catalogue Item involves a check by the Global Registry for Item uniqueness. The Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique. When an Item is registered, the registry verifies that the combination of this data is unique to that Item.	Secondary
	107	<p>The registration process is triggered by the following business cases:</p> <ol style="list-style-type: none"> 1. Create Catalogue Item: After the physical load and validation of the data, the registry record needs to be created before data can be published. 2. Update Catalogue Item: When a registered Catalogue Item is updated in its source data pool, updates impacting the Registry data must be reflected in the Global Registry, before the updated data can be propagated to the recipients. Registration of Catalogue Item changes only needs to happen for changes that: Impacts fields stored in the Global Registry. Are authorised according to the GTIN allocation rules. 3. Correct Catalogue Item: When a registered item is corrected in its source data pool, corrections impacting the Registry data must be reflected in the Global Registry before the updated data can be propagated to the data recipients. 4. Delete Catalogue Item: Deletions need to be reflected in the Global Registry. 5. Cancel Catalogue Item: Communicates a trade item was never manufactured – this allows an earlier “reuse” of the GTIN i.e. standard retention period. This is achieved through the maintenance (using change function) of the cancel date. 6. Removing a Catalogue Item from the supply chain: The permanent removal of a Catalogue Item from the supply chain is achieved through the maintenance of a discontinuation date. This date has to be reflected in the Global Registry. Temporary removals are not reflected in the Global Registry and only handled through the maintenance of the availability period in the data pools. 	Secondary
	108	<p>Registry requirements for registration are:</p> <ul style="list-style-type: none"> - Registration can only happen after successful validation. - Registration can only produce errors, no warnings. - Successful Registration of a Catalogue Item is mandatory prior to publication of any hierarchy containing that Catalogue Item. - ItemStatus needs to be included in GTIN data model to reflect validation and registration status. - Process registration command (for create, update, correct, delete). - Provide registration acknowledgement. 	Secondary
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary

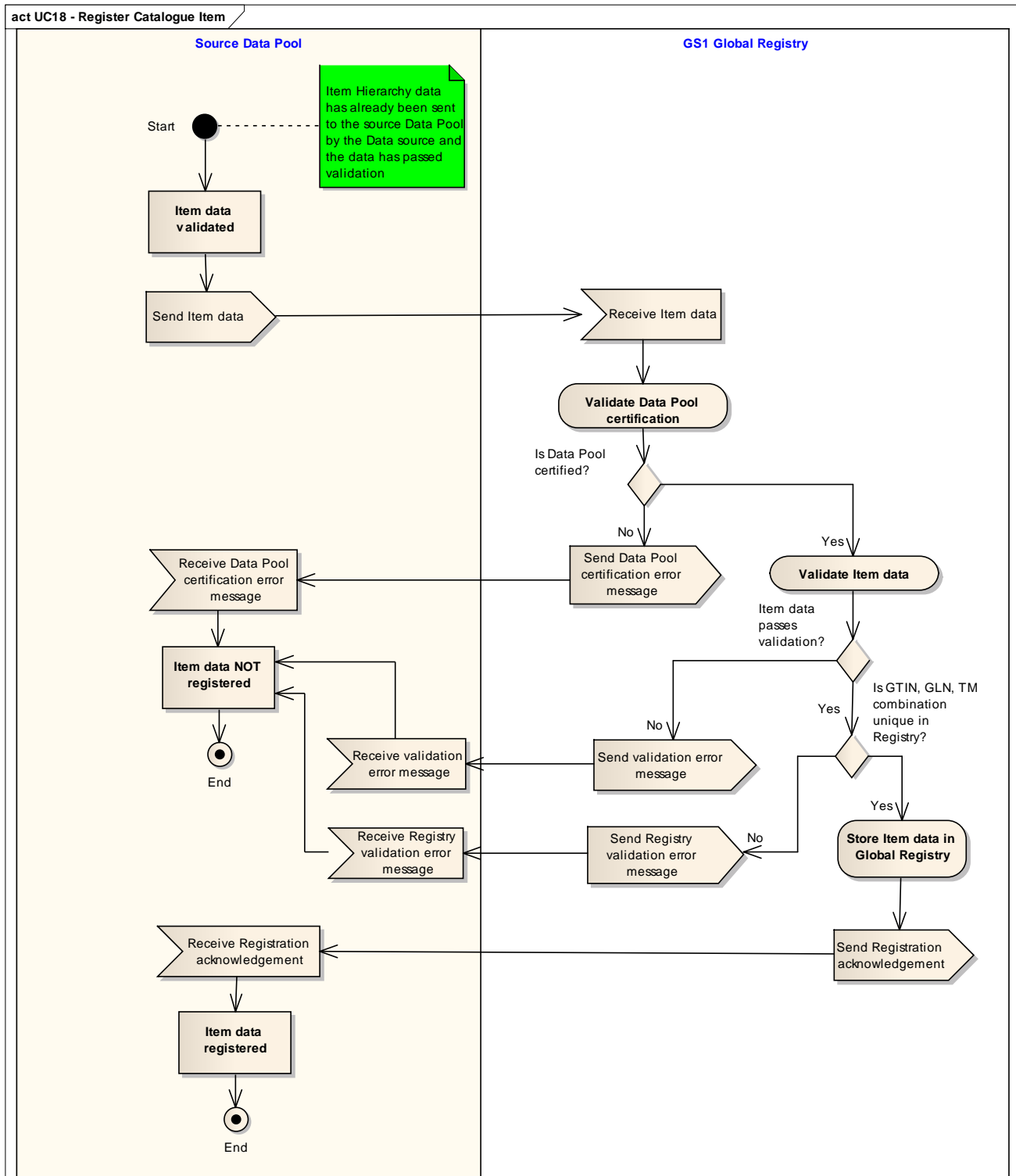
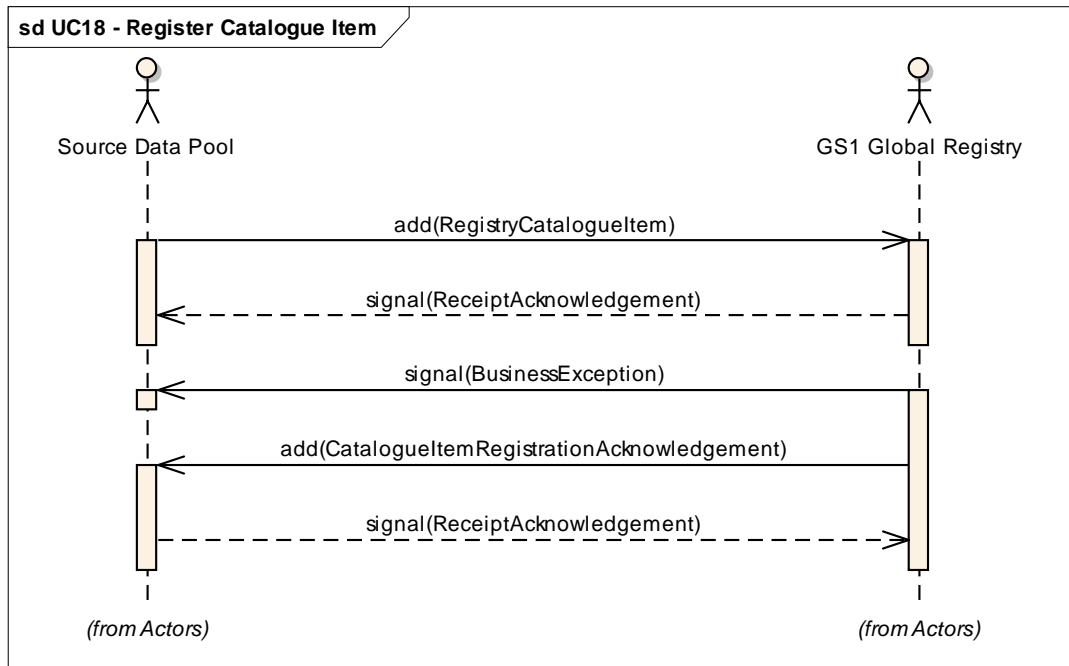
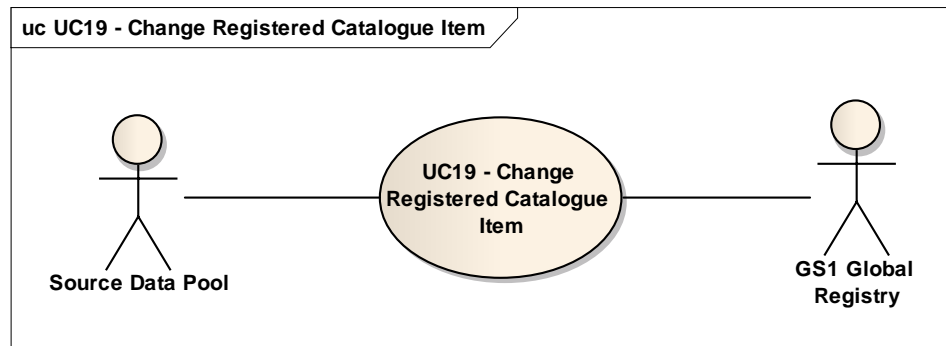
Figure 4-16 Register Catalogue Item Activity Diagram


Figure 4-17 Register Catalogue Item Sequence Diagram



4.8. Change Registered Catalogue Item

Figure 4-18 Change Registered Catalogue Item Use Case Diagram



Use Case ID	UC-19															
Use Case Name	Change Registered Catalogue Item															
Use Case Description	All Catalogue Items for trade must be registered in the Global Registry. Prior to registration, the Catalogue Item data must pass a validation at the Source Data Pool and a uniqueness check at the Registry. The Global Registry ensures that valid, unique Catalogue Item data are available worldwide. In the event that Catalogue Item data changes (see Change Catalogue Item Hierarchy Use Case) in a Source Data Pool, the changes must be reflected in the Global Registry.															
Actors (Goal)	Source Data Pool (SDP) Global Registry															
Performance Goals	<ul style="list-style-type: none">■ SDP: To have validated, registered Catalogue Item data.■ Global Registry: To ensure valid, unique Catalogue Item data are registered.															
Preconditions	The Source Data Pool is a certified Data Pool. . The Source Data Pool has a profile that resides in the registry. The Source Data Pool has received a “Change Catalogue Item Hierarchy” message from the Data Source. The Source Data Pool has validated Catalogue Item data received from a Data Source and has sent that Catalogue Item data and a Validation Certificate to the Global Registry.															
Post conditions	The Catalogue Item data changes have been applied and retained in the Global Registry.															
Scenario	<p>Begins when... the Global Registry receives a validated Change Registered Catalogue Item message from a Source Data Pool.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>Global Registry</td><td>Ensures that the Source Data Pool is certified.</td></tr><tr><td>2</td><td>Global Registry</td><td>Validates the Validation Certificate (from validation engine) sent with the Catalogue Item data.</td></tr><tr><td>3</td><td>Global Registry</td><td>Ensures that the Catalogue Item data already exists in the Registry.</td></tr><tr><td>4</td><td>Global Registry</td><td>Stores the Catalogue Item data.</td></tr></table>	Step #	Actor	Activity Step	1	Global Registry	Ensures that the Source Data Pool is certified.	2	Global Registry	Validates the Validation Certificate (from validation engine) sent with the Catalogue Item data.	3	Global Registry	Ensures that the Catalogue Item data already exists in the Registry.	4	Global Registry	Stores the Catalogue Item data.
Step #	Actor	Activity Step														
1	Global Registry	Ensures that the Source Data Pool is certified.														
2	Global Registry	Validates the Validation Certificate (from validation engine) sent with the Catalogue Item data.														
3	Global Registry	Ensures that the Catalogue Item data already exists in the Registry.														
4	Global Registry	Stores the Catalogue Item data.														

	Ends when... The Global Registry sends a registration acknowledgement to the SDP.		
Alternative Scenario	Data Pool not certified:		
	Step #	Actor	Activity Step
	1	Global Registry	Sends an error message to the Source Data Pool.
	Ends when... the Source Data Pool receives the error message.		
	Validation certificate does not pass validation:		
	Step #	Actor	Activity Step
1	Global Registry	Sends a validation error message to the Source Data Pool.	
Ends when... the Source Data Pool receives the validation error message			
The Catalogue Item does not exist in the Registry:			
Step #	Actor	Activity Step	
1	Global Registry	Sends a registration error message to the SDP.	
2	SDP	Receives the registration error message.	
Ends when... the Source Data Pool receives the registration error message.			
Related Requirements			
Related Rules	ID	Rules	Weight
	4	Data Source must be able to change Catalogue Item data in the Source Data Pool.	Secondary
	8	GS1 standards validation for GTIN and GLN format.	Primary
	9	Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN) – only applies to the occurrence of the key, not to the uniqueness of the information related to it.	Primary
	10	The Catalogue Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique.	Primary
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt - Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights	Primary

		<ul style="list-style-type: none"> - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process. 	
24	<p>Notifications must NOT be sent in the following cases since data is not yet public and validated information:</p> <ul style="list-style-type: none"> - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item. 	Primary	
30	Only Catalogue Items are registered in the Global Registry. Not Catalogue Item Hierarchies.	Primary	
31	Validation acknowledgements are mandatory.	Primary	
32	Acknowledgement Reason codes must be unique.	Primary	
34	Item Links are not registered or held within the Global Registry.	Primary	
35	Changes have to comply with validation rules.	Secondary	
36	If the Catalogue Item was registered, updates impacting the Registry data must be reflected in the Global Registry.	Secondary	
37	<p>Registration of Catalogue Item changes only needs to happen for changes that:</p> <ul style="list-style-type: none"> - Impact fields stored in the Global Registry. - Are authorised according to the GTIN allocation rules. 	Secondary	
38	The change function implies a full refresh of all attributes of the previously created Catalogue Item – this will be reflected in the subsequent notification, including a full refresh of the changed record of the full hierarchy.	Primary	
62	Cancel Catalogue Item is achieved through the maintenance (using change function) of the cancel date.	Primary	
64	Cancel date needs to be stored in the Global Registry.	Primary	
92	<p>“Single Data Source” Principle:</p> <ul style="list-style-type: none"> - there can only be one official source of the data – the one that is registered - this source is identified by the data source - this is the only valid source for data synchronisation and related processes. 	Primary	
100	<p>The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements:</p> <ul style="list-style-type: none"> - Validation - Registration - Subscription - Global Search. 	Primary	
101	<p>Registry Validation includes:</p> <ul style="list-style-type: none"> - GS1 standards validation for GTIN and GLN formats (i.e. check digit) - Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN), ensuring there is only one occurrence and data 	Primary	

		source for each data record as identified by the appropriate fields.	
104	In summary, the registry requirements for validation are: - GS1 standards validation for GTIN/GLN formats - Uniqueness validation for Item, Party and data pool key - Store and maintain GS1 standards - Process validation command - Provide validation acknowledgement.	Primary	
105	Registration is the process, which references all Catalogue Items and Parties published in all certified data pools and on which there is a need to synchronise / retrieve information. This is supported by data storage in accordance with the Registry data scope and rules.	Primary	
106	Registering a Catalogue Item involves a check by the Global Registry for Item uniqueness. The Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique. When an Item is registered, the registry verifies that the combination of this data is unique to that Item.	Primary	
107	<p>The registration process is triggered by the following business cases:</p> <p>1. Create Catalogue Item: After the physical load and validation of the data, the registry record needs to be created before data can be published.</p> <p>2. Update Catalogue Item: When a registered Catalogue Item is updated in its source data pool, updates impacting the Registry data must be reflected in the Global Registry, before the updated data can be propagated to the recipients. Registration of Catalogue Item changes only needs to happen for changes that: Impacts fields stored in the Global Registry. Are authorised according to the GTIN allocation rules.</p> <p>3. Correct Catalogue Item: When a registered item is corrected in its source data pool, corrections impacting the Registry data must be reflected in the Global Registry before the updated data can be propagated to the data recipients.</p> <p>4. Delete Catalogue Item: Deletions need to be reflected in the Global Registry.</p> <p>5. Cancel Catalogue Item: Communicates a trade item was never manufactured – this allows an earlier “reuse” of the GTIN i.e. standard retention period. This is achieved through the maintenance (using change function) of the cancel date.</p> <p>6. Removing a Catalogue Item from the supply chain: The permanent removal of a Catalogue Item from the supply chain is achieved through the maintenance of a discontinuation date. This date has to be reflected in the Global Registry. Temporary removals are not reflected in the Global Registry and only handled through the maintenance of the availability period in the data pools.</p>	Primary	
108	Registry requirements for registration are: - Registration can only happen after successful validation. - Registration can only produce errors, no warnings. - Successful Registration of a Catalogue Item is mandatory prior to publication of any hierarchy containing that Catalogue Item. - ItemStatus needs to be included in GTIN data model to reflect	Primary	

		validation and registration status. - Process registration command (for create, update, correct, delete). - Provide registration acknowledgement.		
	118	Changes/corrections applied to the Global Registry are effective immediately.	Secondary	
	119	Future effective changes stored in the data pool are only reflected in the Global Registry when they become effective.	Secondary	
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary	

Figure 4-19 Change Registered Catalogue Item Activity Diagram

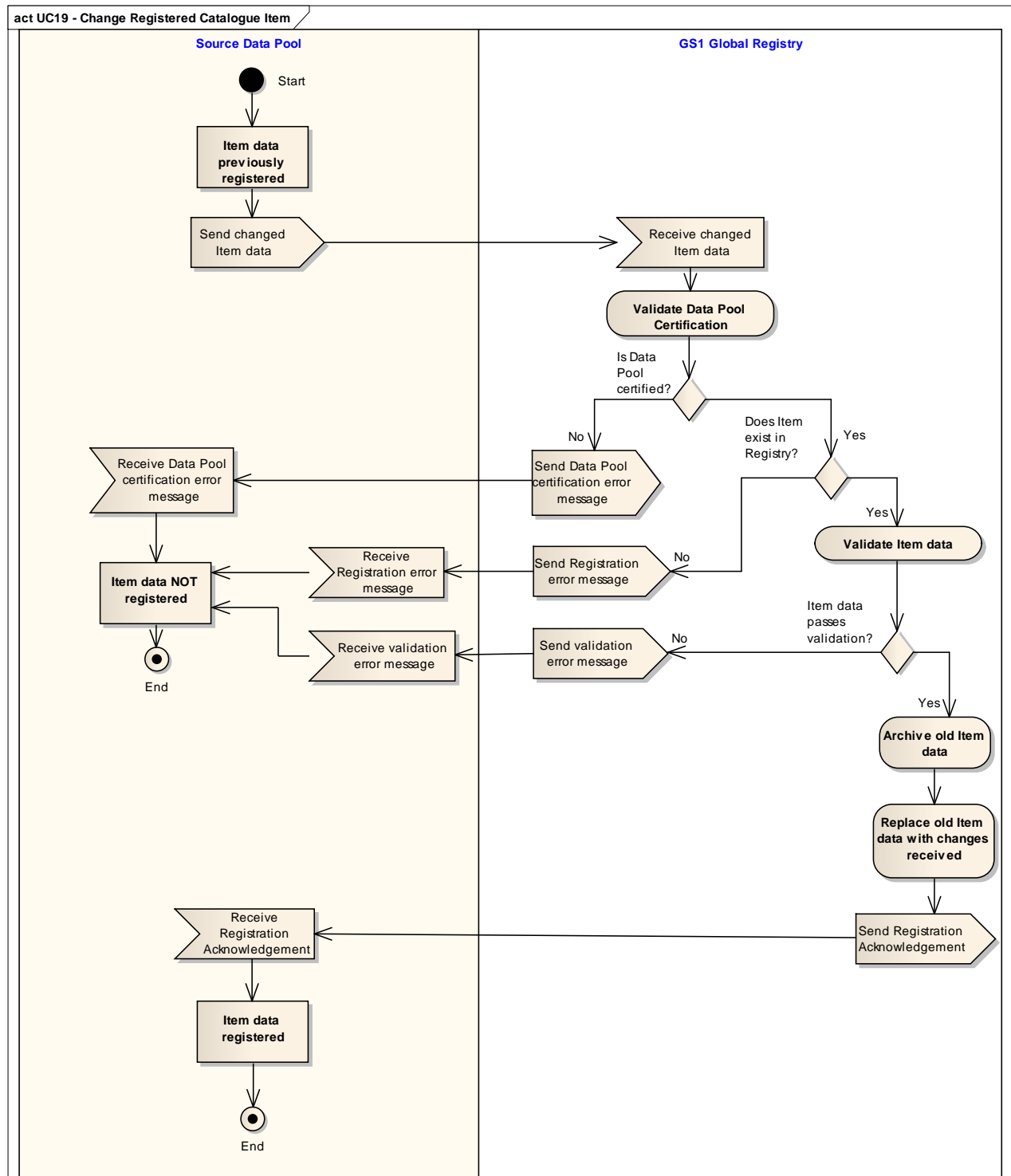
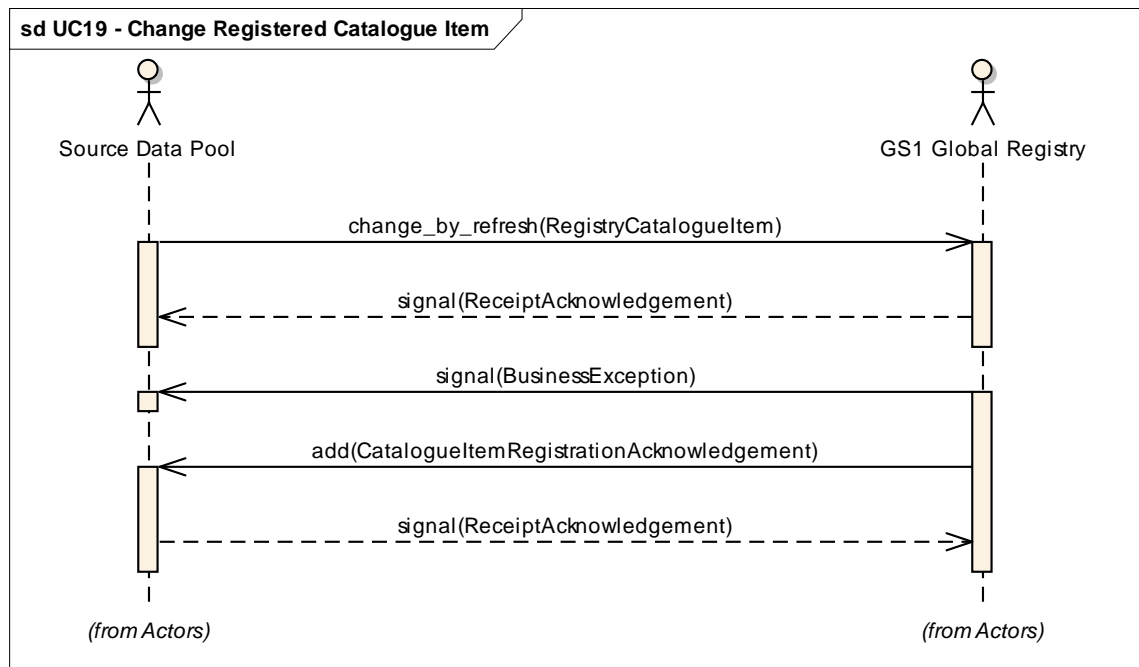
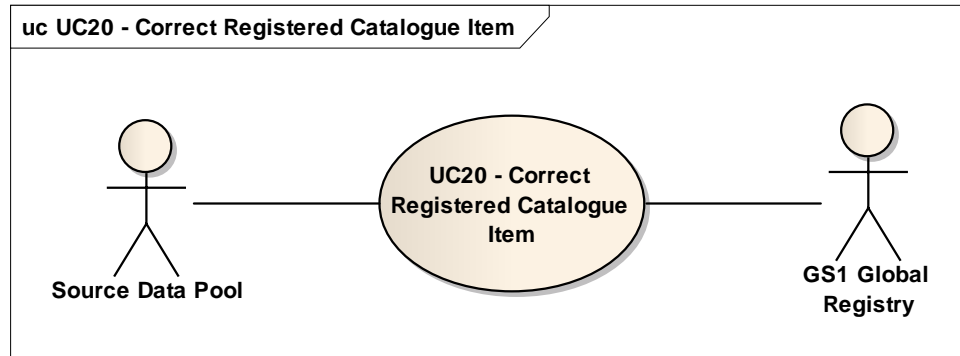


Figure 4-20 Change Registered Catalogue Item Sequence Diagram



4.9. Correct Registered Catalogue Item

Figure 4-21 Correct Registered Catalogue Item Use Case Diagram



Use Case ID	UC-20												
Use Case Name	Correct Registered Catalogue Item												
Use Case Description	<p>All Catalogue Items for trade must be registered in the Global Registry. Prior to registration, the Catalogue Item data must pass a validation at the Source Data Pool and a uniqueness check at the Registry. The Global Registry ensures that valid, unique Catalogue Item data are available worldwide.</p> <p>A correction allows a Data Source to make changes to Catalogue Item data that would not be allowed by validation rules and as such is outside of normal processing. It is intended to provide a means for errors to be corrected and not as an alternative to the Change Registered Catalogue Item process.</p> <p>This process is triggered by the “Correct Hierarchy Data” Use Case. In the event that Catalogue Item Hierarchy data is corrected (see Correct Catalogue Item Hierarchy Use Case) in a Source Data Pool, the changes must be reflected in the Global Registry.</p>												
Actors (Goal)	Source Data Pool (SDP) Global Registry												
Performance Goals	<ul style="list-style-type: none">■ SDP: To correct errors in Catalogue Item data. To have validated, registered Catalogue Item Hierarchy data.■ Global Registry: To ensure valid, unique Catalogue Item data are registered.												
Preconditions	The Source Data Pool is a certified Data Pool whose profile resides in the registry. The Source Data Pool has received a “Correct Catalogue Item Hierarchy” message from the Data Source. The Source Data Pool has validated Catalogue Item data received and has sent that Catalogue Item data to the Global Registry.												
Post conditions	The Catalogue Item data corrections have been applied and retained in the Global Registry.												
Scenario	<p>Begins when... the Global Registry receives a validated Correct Registered Catalogue Item message from a Source Data Pool.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>Global Registry</td><td>Ensures that the Source Data Pool is certified.</td></tr><tr><td>2</td><td>Global Registry</td><td>Ensures that the Catalogue Item data already exists in the Registry.</td></tr><tr><td>3</td><td>Global Registry</td><td>Performs the Source Data Pool validation.</td></tr></table>	Step #	Actor	Activity Step	1	Global Registry	Ensures that the Source Data Pool is certified.	2	Global Registry	Ensures that the Catalogue Item data already exists in the Registry.	3	Global Registry	Performs the Source Data Pool validation.
Step #	Actor	Activity Step											
1	Global Registry	Ensures that the Source Data Pool is certified.											
2	Global Registry	Ensures that the Catalogue Item data already exists in the Registry.											
3	Global Registry	Performs the Source Data Pool validation.											

	4	Global Registry	Removes the old Catalogue Item Data from the Registry.
	5	Global Registry	Stores the Catalogue Item data.
Ends when... The Global Registry sends a registration acknowledgement to the SDP			
Alternative Scenario	Data Pool not certified:		
	Step #	Actor	Activity Step
	1	Global Registry	Sends an error message to the Source Data Pool.
	Ends when... the Source Data Pool receives the error message.		
	The Catalogue Item does not exist in the Registry:		
	Step #	Actor	Activity Step
	1	Global Registry	Sends a registration error message to the SDP.
	2	SDP	Receives the registration error message.
	Ends when... the Source Data Pool receives the registration error message.		
	Catalogue Item data does not pass Data Pool validation:		
	Step #	Actor	Activity Step
	1	Global Registry	Sends a validation error message to the Source Data Pool.
	Ends when... the Source Data Pool receives the validation error message		
Related Requirements			
Related Rules	ID	Rule	Weight
	5	Data Source must be able to correct Catalogue Item data in the Source Data Pool.	Secondary
	8	GS1 standards validation for GTIN and GLN format.	Primary
	9	Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN) – only applies to the occurrence of the key, not to the uniqueness of the information related to it.	Primary
	10	The Catalogue Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique.	Primary
	11	Corrections bypass the standard GTIN/GLN allocation rules.	Secondary
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt- Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary

	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary
	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary
	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process	Primary
	24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
	30	Only Catalogue Items are registered in the Global Registry. Not Catalogue Item Hierarchies.	Primary
	31	Validation acknowledgements are mandatory.	Primary
	32	Acknowledgement Reason codes must be unique.	Primary
	34	ItemLinks are not registered or held within the Global Registry.	Primary
	36	If the Catalogue Item was registered, updates impacting the Registry data must be reflected in the Global Registry.	Primary
	37	Registration of Catalogue Item changes only needs to happen for changes that: - Impact fields stored in the Global Registry. - Are authorised according to the GTIN allocation rules.	Primary
	40	Incorrect core data (i.e. attributes that cannot be updated according to allocation rules) can only be updated through a specific correction functionality.	Primary
	41	Correct Item Hierarchy must: - trigger syntactical and content validation - skip GTIN allocation rules validation - set a flag on the GTIN data record to inform the data recipient of the correction (see data distribution / notification) - the correction will also be reflected in the Global Registry if it impacts Registry data.	Primary
	42	If the correction impacts the hierarchy, then it must be handled by deleting the incorrect ItemLink and adding a new Item Link - Add/Delete Scenarios.	Primary
	43	If the correction does not impact the hierarchy, then ItemLink attributes will be updated through the correction command.	Secondary

	57	A deletion cannot be corrected – only the discontinuation can be reversed.	Primary
	92	“Single Data Source” Principle: - there can only be one official source of the data – the one that is registered - this source is identified by the data source - this is the only valid source for data synchronisation and related processes.	Primary
	100	The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements: - Validation - Registration - Subscription - Global Search.	Primary
	101	Registry Validation includes: - GS1 standards validation for GTIN and GLN formats (i.e. check digit) - Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN), ensuring there is only one occurrence and data source for each data record as identified by the appropriate fields.	Primary
	104	In summary, the registry requirements for validation are: - GS1 standards validation for GTIN/GLN formats - Uniqueness validation for Item, Party and data pool key - Store and maintain GS1 standards - Process validation command - Provide validation acknowledgement.	Primary
	105	Registration is the process, which references all Catalogue Items and Parties published in all certified data pools and on which there is a need to synchronise / retrieve information. This is supported by data storage in accordance with the Registry data scope and rules.	Primary
	106	Registering a Catalogue Item involves a check by the Global Registry for Item uniqueness. The Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique. When an Item is registered, the registry verifies that the combination of this data is unique to that Item.	Primary
	107	The registration process is triggered by the following business cases: 1. Create Catalogue Item: After the physical load and validation of the data, the registry record needs to be created before data can be published. 2. Update Catalogue Item: When a registered Catalogue Item is updated in its source data pool, updates impacting the Registry data must be reflected in the Global Registry, before the updated data can be propagated to the recipients. Registration of Catalogue Item changes only needs to happen for changes that: Impacts fields stored in the Global Registry. Are authorised according to the GTIN allocation rules. 3. Correct Catalogue Item: When a registered item is	Primary

		<p>corrected in its source data pool, corrections impacting the Registry data must be reflected in the Global Registry before the updated data can be propagated to the data recipients.</p> <p>4. Delete Catalogue Item: Deletions need to be reflected in the Global Registry.</p> <p>5. Cancel Catalogue Item: Communicates a trade item was never manufactured – this allows an earlier “reuse” of the GTIN i.e. standard retention period. This is achieved through the maintenance (using change function) of the cancel date.</p> <p>6. Removing a Catalogue Item from the supply chain: The permanent removal of a Catalogue Item from the supply chain is achieved through the maintenance of a discontinuation date. This date has to be reflected in the Global Registry. Temporary removals are not reflected in the Global Registry and only handled through the maintenance of the availability period in the data pools.</p>	
	108	<p>Registry requirements for registration are:</p> <ul style="list-style-type: none"> - Registration can only happen after successful validation. - Registration can only produce errors, no warnings. - Successful Registration of a Catalogue Item is mandatory prior to publication of any hierarchy containing that Catalogue Item. - ItemStatus needs to be included in GTIN data model to reflect validation and registration status. - Process registration command (for create, update, correct, delete). - Provide registration acknowledgement. 	Primary
	118	Changes/corrections applied to the Global Registry are effective immediately.	Primary
	119	Future effective changes stored in the data pool are only reflected in the Global Registry when they become effective.	Primary
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary

Figure 4-22 Correct Registered Catalogue Item Activity Diagram

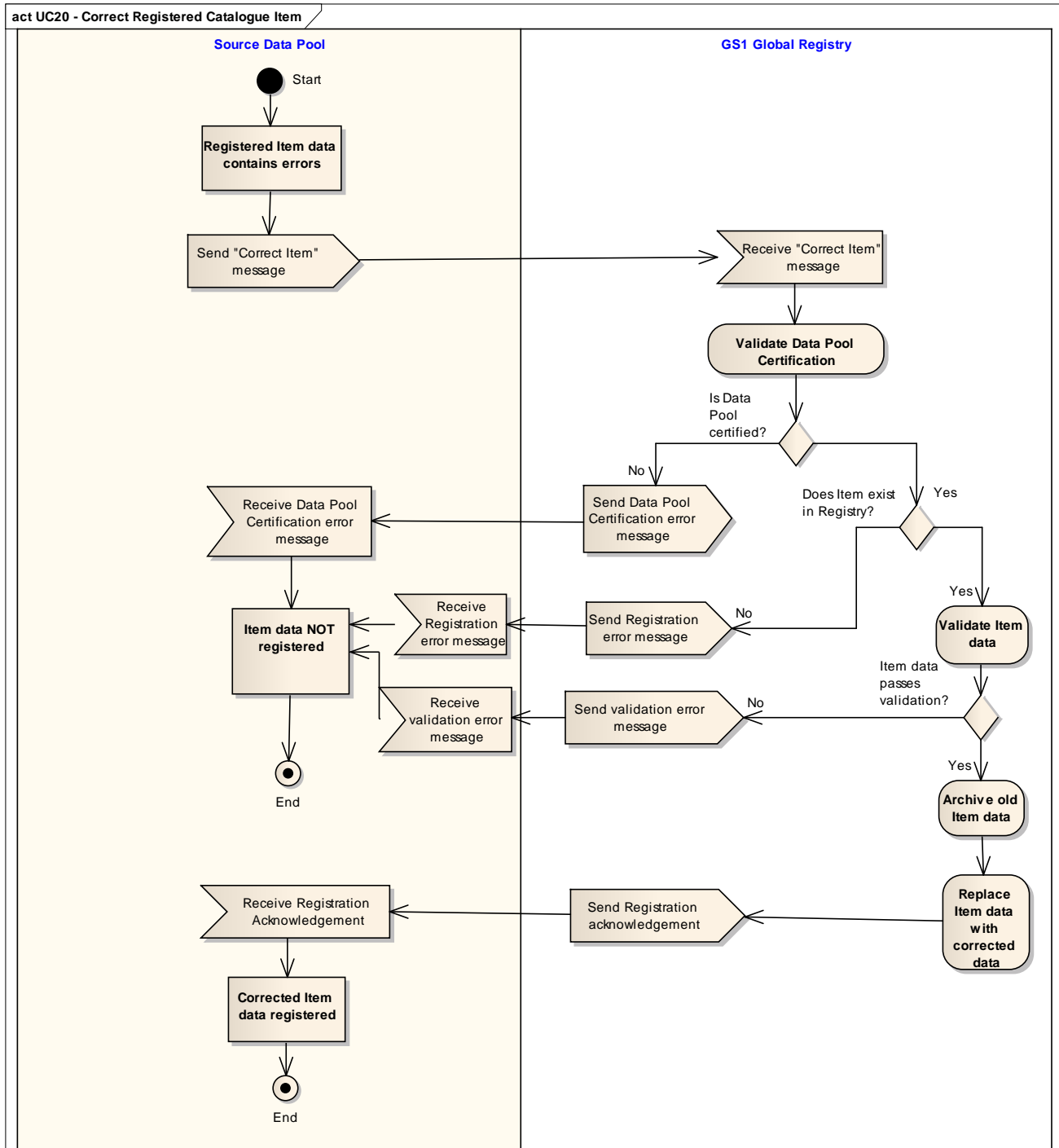
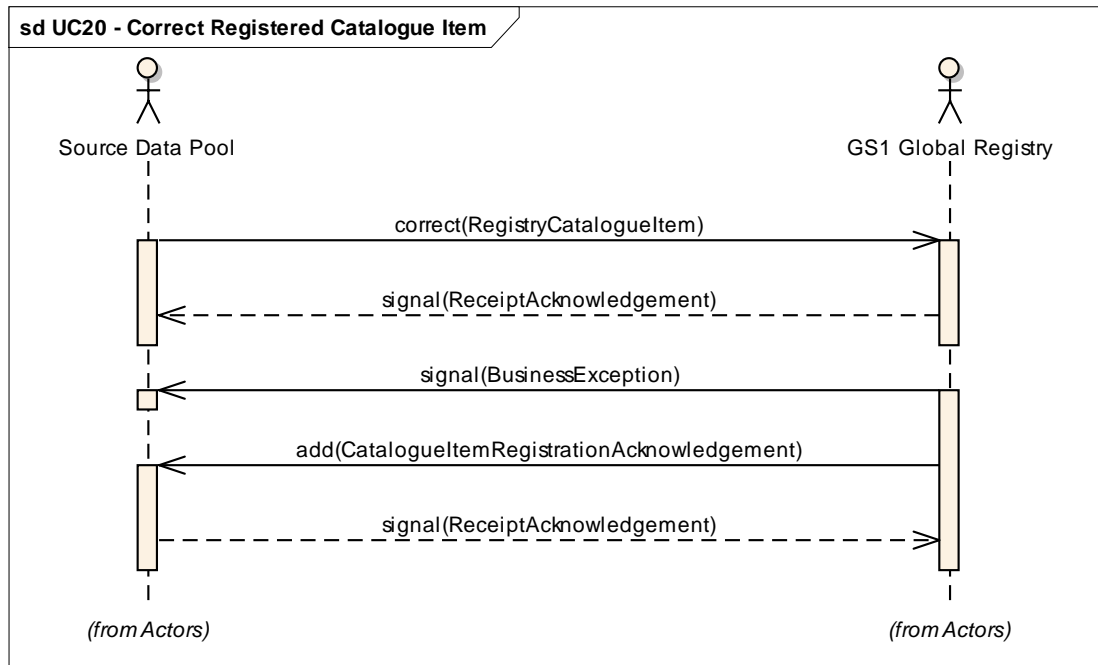
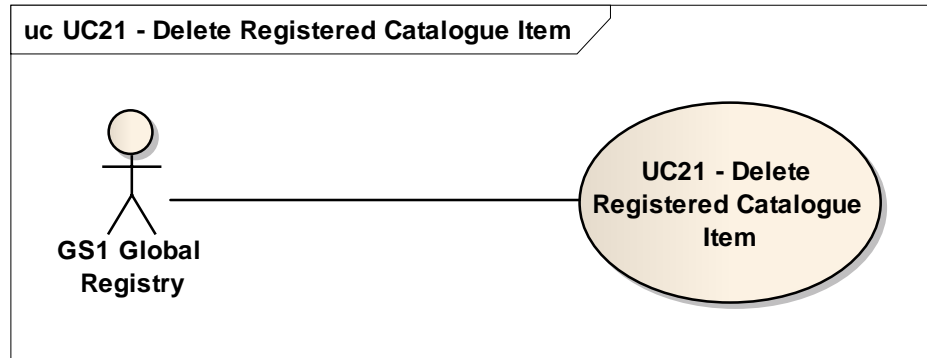


Figure 4-23 Correct Registered Catalogue Item Sequence Diagram



4.10. Delete Registered Catalogue Item

Figure 4-24 Delete Registered Catalogue Item



Use Case ID	UC-21											
Use Case Name	Delete Registered Catalogue Item											
Use Case Description	<p>This use case describes the processes that need to take place for Catalogue Item registered in the Global Registry to be deleted. The process takes place in the Global Registry based upon either a previously set Cancel or Discontinue date.</p> <p>Use Cases Above: UC-46: Manage Catalogue Item Data in Global Registry</p> <p>Use Cases Below: None</p>											
Actors (Goal)	Global Registry											
Performance Goals	Global Registry: To update the registryCatalogueItemState to DELETED.											
Preconditions	<ul style="list-style-type: none">■ Catalogue Item was discontinued by the DS or the Catalogue Item was cancelled by the DS because the DS decided to never manufacture an item that they have already registered.■ The Catalogue Item exists in the Global Registry with a cancelled or discontinued date.											
Post conditions	The Registered Catalogue Item has a state of DELETED in the global registry. The deleted GTIN can be added as a new catalogue item.											
Scenario	<p>Begins when... Global Registry receives a notification from the SDP that the Catalogue Item needs to be deleted from the Global Registry. Note: there is no GDS message for this functionality.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>GS1 GR</td><td>Determines if there is a discontinue date or a cancel date in the RCI.</td></tr><tr><td>2</td><td>GS1 GR</td><td>If a discontinue date or cancel date exists for the Catalogue Item, then the GS1 GR sets the state to DELETED. After the waiting period, the DS can re-register the GTIN with another product using the same key.</td></tr></table> <p>Ends when... The GTIN for the cancelled catalogue item (GTIN+GLN+TM) can be reused.</p>			Step #	Actor	Activity Step	1	GS1 GR	Determines if there is a discontinue date or a cancel date in the RCI.	2	GS1 GR	If a discontinue date or cancel date exists for the Catalogue Item, then the GS1 GR sets the state to DELETED. After the waiting period, the DS can re-register the GTIN with another product using the same key.
Step #	Actor	Activity Step										
1	GS1 GR	Determines if there is a discontinue date or a cancel date in the RCI.										
2	GS1 GR	If a discontinue date or cancel date exists for the Catalogue Item, then the GS1 GR sets the state to DELETED. After the waiting period, the DS can re-register the GTIN with another product using the same key.										
Alternative Scenario	Not Applicable											
Related Rules	ID	Rule	Weight									

	6	Data Source must be able to delete Catalogue Item data in the Source Data Pool.	Secondary
	7	If a Catalogue Item is deleted:- the links pointing down must be deleted- all links above must be deleted- all Items above must be deleted.	Secondary
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt - Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary
	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary
	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process.	Primary
	24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
	30	Only Catalogue Items are registered in the Global Registry. Not Catalogue Item Hierarchies.	Primary
	31	Validation acknowledgements are mandatory.	Primary
	32	Acknowledgement Reason codes must be unique.	Primary
	34	ItemLinks are not registered or held within the Global Registry.	Primary
	36	If the Catalogue Item was registered, updates impacting the Registry data must be reflected in the Global Registry.	Primary
	37	Registration of Catalogue Item changes only needs to happen for changes that: - Impact fields stored in the Global Registry. - Are authorised according to the GTIN	Primary

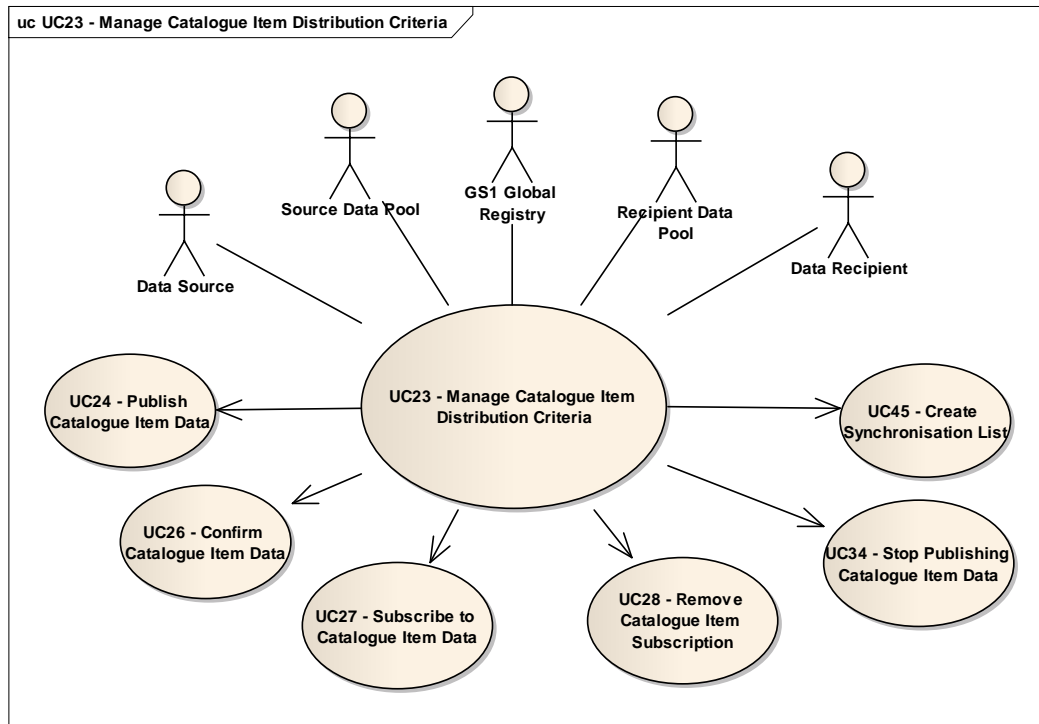
	allocation rules.	
42	If the correction impacts the hierarchy, then it must be handled by deleting the incorrect ItemLink and adding a new ItemLink - Add/Delete Scenarios.	Primary
47	The objective of the "Delete" Function is not to physically remove data from the data pool, but to "Flag for deletion", authorising the deletion of the data.	Secondary
48	The deletion needs to be validated against a number of criteria, e.g. Item is no longer published, item discontinued, retention limit (GS1 specifications).	Primary
50	Deletions need to be reflected in the registry (deletion flag + effective change date = deletion date in the Global Registry).	Secondary
51	To protect data integrity within the data pool, the deletion of a child can only occur after the deletion of the parents.	Secondary
52	Validation for deleted Items ensures the parents have been deleted before the deletion of the child is performed.	Secondary
53	Validation is automatically triggered by the "Delete" command and does not require a specific message flow.	Primary
54	Deletion of a Catalogue Item must trigger the invalidation of any hierarchy links involving that Item, whether that Item is the parent or the child in the link. This is completed by the Refresh.ItemLink message. Ackn.ItemLink will be repeated for every link that was refreshed or invalidated.	Secondary
55	Deletion needs to be validated against : - Publication status - Availability Status (end availability + discontinued Y/N) - Hierarchy : parents have to be deleted before children.	Primary
57	A deletion cannot be corrected – only the discontinuation can be reversed.	Secondary
58	Deletes are not synchronised across data pools.	Secondary
59	ItemLinks can only be deleted: - as the correction of an error - as the result of a delete.Item.	Primary
60	The validity period of an ItemLink is defined by the validity period of the Parent Item and/or the Child Item.	Primary
61	When either parent or child expires, the related ItemLink(s) have to expire as well. This is achieved through the Refresh.ItemLink function.	Primary
92	"Single Data Source" Principle : - there can only be one official source of the data – the one that is registered - this source is identified by the data source - this is the only valid source for data synchronisation and related processes.	Primary

	100	The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements: - Validation - Registration - Subscription - Global Search.	Primary
	101	Registry Validation includes: - GS1 standards validation for GTIN and GLN formats (i.e. check digit) - Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN), ensuring there is only one occurrence and data source for each data record as identified by the appropriate fields.	Primary
	104	In summary, the registry requirements for validation are: - GS1 standards validation for GTIN/GLN formats - Uniqueness validation for Item, Party and data pool key - Store and maintain GS1 standards - Process validation command - Provide validation acknowledgement.	Primary
	105	Registration is the process, which references all Catalogue Items and Parties published in all certified data pools and on which there is a need to synchronise / retrieve information. This is supported by data storage in accordance with the Registry data scope and rules.	Primary
	106	Registering a Catalogue Item involves a check by the Global Registry for Item uniqueness. The Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique. When an Item is registered, the registry verifies that the combination of this data is unique to that Item.	Primary
	107	The registration process is triggered by the following business cases: 1. Create Catalogue Item: After the physical load and validation of the data, the registry record needs to be created before data can be published. 2. Update Catalogue Item: When a registered Catalogue Item is updated in its source data pool, updates impacting the Registry data must be reflected in the Global Registry, before the updated data can be propagated to the recipients. Registration of Catalogue Item changes only needs to happen for changes that: Impacts fields stored in the Global Registry. Are authorised according to the GTIN allocation rules. 3. Correct Catalogue Item: When a registered item is corrected in its source data pool, corrections impacting the Registry data must be reflected in the Global Registry before the updated data can be propagated to the data recipients. 4. Delete Catalogue Item: Deletions need to be reflected in the Global Registry.	Primary

		<p>5. Cancel Catalogue Item: Communicates a trade item was never manufactured – this allows an earlier “reuse” of the GTIN i.e. standard retention period. This is achieved through the maintenance (using change function) of the cancel date.</p> <p>6. Removing a Catalogue Item from the supply chain: The permanent removal of a Catalogue Item from the supply chain is achieved through the maintenance of a discontinuation date. This date has to be reflected in the Global Registry. Temporary removals are not reflected in the Global Registry and only handled through the maintenance of the availability period in the data pools.</p>	
	108	<p>Registry requirements for registration are:</p> <ul style="list-style-type: none"> - Registration can only happen after successful validation. - Registration can only produce errors, no warnings. - Successful Registration of a Catalogue Item is mandatory prior to publication of any hierarchy containing that Catalogue Item. - ItemStatus needs to be included in GTIN data model to reflect validation and registration status. - Process registration command (for create, update, correct, delete). - Provide registration acknowledgement. 	Primary
	118	Changes/corrections applied to the Global Registry are effective immediately.	Primary
	119	Future effective changes stored in the data pool are only reflected in the Global Registry when they become effective.	Primary
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary
	191	When an item has a discontinue date, the state of the item does not get updated until that date becomes current.	Primary
	192	The Global Registry must support a Registry Catalogue Item State of “DELETED”.	Primary

4.11. Manage Catalogue Item Distribution Criteria

Figure 4-25 Manage Catalogue Item Distribution Criteria

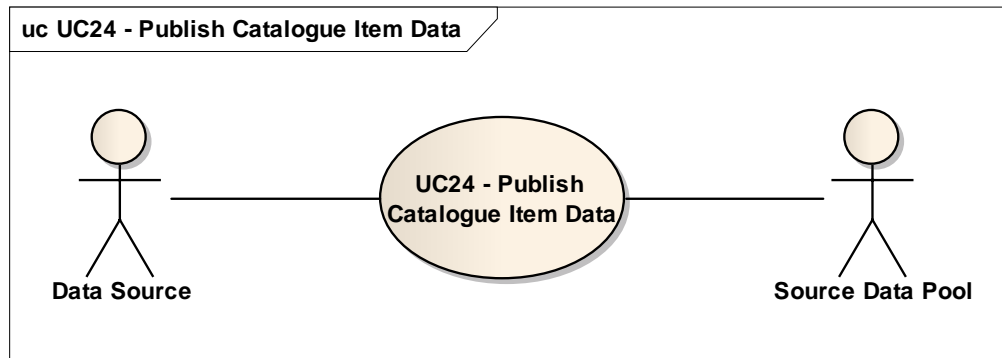


Use Case ID	UC-23
Use Case Name	Manage Catalogue Item Distribution Criteria
Use Case Description	The Manage Catalogue Item Distribution Criteria Use Case describes the process that takes place to allow Data Sources and Data Recipients to define the criteria or circumstances under which they will distribute or receive Catalogue Item data.
Actors (Goal)	Data Source Source Data Pool (SDP) Data Recipient Recipient Data Pool (RDP) Global Registry
Performance Goals	<ul style="list-style-type: none"> Data Source: To inform the Source Data Pool of the criteria under which Catalogue Item Data may be distributed to Data Recipients (Publication). SDP: To obtain the necessary information that will allow the SDP to distribute Catalogue Item Data to the appropriate Recipient Data Pool (Publications, Subscriptions and Confirmations). Data Recipient: To inform the Recipient Data Pool of the criteria under which Catalogue Item Data may be forwarded to the Data Recipient (Subscriptions, Confirmations). Recipient Data Pool: To obtain the necessary information that will allow the RDP to forward Catalogue Item Data to the appropriate Data Recipient (Subscriptions, Confirmations). Global Registry: To provide SDP with Subscriptions and the address of the RDP for a particular Data Recipient.
Preconditions	The Data Source has determined that they would like to distribute Catalogue Item Data. The Data

	Recipient has determined that they would like to receive Catalogue Item Data.
Post conditions	A full set of criteria (Publications, Subscriptions and Confirmations) is specified, enabling the on-going process of distribution of Catalogue Item data. The confirmation is not a pre-requisite to the distribution of data.

4.12. Publish Catalogue Item Data

Figure 4-26 Publish Catalogue Item Data



Use Case ID	UC-24									
Use Case Name	Publish Catalogue Item Data									
Use Case Description	The Publish Catalogue Item Data Use Case describes how a Data Source provides the Source Data Pool with the criteria under which their Catalogue Item Data may be distributed to Data Recipients.									
Actors (Goal)	Data Source Source Data Pool (SDP)									
Performance Goals	<ul style="list-style-type: none">■ Data Source: To inform the Source Data Pool of the criteria (Target Market, Recipient GLN) under which their Catalogue Item Data may be distributed to Data Recipients.■ SDP: To possess the necessary information that will allow the SDP to distribute Catalogue Item Data to the appropriate Recipient Data Pool.									
Preconditions	Each Catalogue Item has been loaded to the Source Data Pool and Registered in the Global Registry.									
Post conditions	Publication data is stored in the Source Data Pool.									
Scenario	<p>Begins when... the Source Data Pool receives a Publication message from a Data Source.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Validates the Publication (valid Target Market, GLN).</td></tr><tr><td>2</td><td>SDP</td><td>Creates or updates the Synchronisation List.</td></tr></table> <p>Ends when... the Synchronisation List is created or updated.</p>	Step #	Actor	Activity Step	1	SDP	Validates the Publication (valid Target Market, GLN).	2	SDP	Creates or updates the Synchronisation List.
Step #	Actor	Activity Step								
1	SDP	Validates the Publication (valid Target Market, GLN).								
2	SDP	Creates or updates the Synchronisation List.								
Alternative Scenario	<p>Data Source has sent invalid data:</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Sends an error message to the Source Data Pool specifying what was invalid.</td></tr></table>	Step #	Actor	Activity Step	1	SDP	Sends an error message to the Source Data Pool specifying what was invalid.			
Step #	Actor	Activity Step								
1	SDP	Sends an error message to the Source Data Pool specifying what was invalid.								

Ends when... the Data Source receives the error message			
Related Rules	ID	Rule	Weight
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt - Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.	Primary
	13	The Data Source grants visibility of item, party and partner profiles including party capabilities data to a given list of parties (identified by their GLNs) or to all parties in a given Target Market.	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary
	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary
	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process.	Primary
	24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
	32	Acknowledgement Reason codes must be unique.	Primary
	66	When product is available again: update start/end availability date.	Primary
	82	Maintaining a publication is granting visibility and access to data.	Secondary
	83	Publications are initiated by the Data Source in the source data pool, they do not need to be synchronised in the Global Data Synchronisation Network (GDSN).	Secondary
	84	The Target Market where product is available is communicated in the product key (GTIN+GLN+TM) – this can be different from the Target Market for publication.	Secondary

	85	Data is either published: - to a Target Market: any GLN in the Target Market has access to the data (only applies to "public" Items) - to specific GLNs: only these GLNs have access to the data (only applies to "private" Items)	Secondary
	87	Notification is triggered by the matching process.	Secondary
	88	The matching process is owned and developed by each source data pool in order to trigger data distribution based on publication and subscription data.	Secondary
	89	The matching process can be triggered either by publication, subscription or as a scheduled event. It is valid for all subscription types (including synchronisation list) and all publication types.	Secondary
	91	For a given publication (create/update) : - the matching process identifies subscriptions with matching criteria (TM, GLN, category, GTIN...) - for each matching subscription, a notification is created including all dependent hierarchies - for a synchronisation list, the hierarchy information included in the notification, will be limited to the GTINs maintained in the Synchronisation list. - The notification sent to home data pool of the data recipient.	Secondary
	93	Although the notification process will physically move the data from one data pool to another, this data should not be stored permanently for the purpose of synchronisation with any other user than the initial subscriber. If stored, access should be limited to the initial data recipient.	Secondary
	109	A Data Recipient requests that it receive a "notification" when a specific event occurs that meets the Recipients criteria (selective on sources, categories, etc). This is subject to the recipient's access to information as controlled by the data source through its source data pool.	Primary
	128	Source Data Pools must send notifications based on matching publications and subscriptions.	Primary
	138	Publication Who : Data Source = source GLN What : Item record, identified by GTIN+GLN+TM Where : TM or GLN (= target GLN).	Secondary
	140	Publication TM does not have to be equal to the GTIN TM (i.e. I can have a product record defined for TM France, but publishing the data to Belgium only for information purposes).	Secondary
	144	Request for publication (subscription) resets the reject flag if catalogue Item has been previously rejected and reactivate the subscription.	Secondary
	145	The request for publication subscription is only executed once.	Secondary
	146	Subscriptions are passed from global Registry to data pools just once. The Global Registry passes along to the source data pool matching subscriptions in the entirety, rather than replicating for each GTIN registered.	Primary
	147	Request for notification publication (subscription) resets the reject flag if the Catalogue Item has been previously rejected and reactivates the subscription.	Primary

	149	Upon execution of an item data notification, the source data pool will pass along the value of this attribute within the message for the recipient to properly route the inbound message.	Primary
	151	The team wanted to reiterate the fact that new subscriptions received by a source data pool would be executed immediately a single time.	Primary
	152	The ability to set up a subscription and not get an initial full load of data. She wants to only receive the changes, adds, deletes and new items that match her subscription. (This is the same as a regular subscription with the exception of not getting the initial load).	Primary
	154	The Global Registry shall send only once a subscription to a Source Data Pool.	Primary
	156	Subscription matches are performed at any level of the hierarchy. The data recipient is sent all hierarchies that match.	Secondary
	155	Data Sources will publish trade items at the highest level of the hierarchy.	Primary
	158	Top of hierarchy is assumed to be the largest available unit determined by the data source. Defined as the GTIN of the highest published item in the hierarchy.	Primary
	159	Multiple independent hierarchies can co-exist at the data-pool for an item for example hierarchy 1 = case A – each A hierarchy 2 = pallet A – case A –each A.	Primary
	166	A Request for Catalogue Item Notification with the isReload set to false will result in items being re-sent whether they were previously rejected or not. The Sync List will be reset. This is only valid for items that have previously been sent to the data recipient. The CIN response will have the following values: documentStatus= Original isReload = False Command= Add.	Primary
	167	A Request for Catalogue Item Notification with the isReload set to true will result in only items not previously rejected being re-sent. The Sync List is not reset. The CIN response will have the following values: documentStatus= Copy isReload = True Command= Add.	Primary
	168	The Document Status of the RFCIN command is ignored for the purposes of determining its impact on the sync list and the status of the CIN that is generated.	Primary
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 Response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary
	219	The Source Data Pool must pass the product context used to determine the validations to the Recipient Data Pool to help determine the set of validations that were performed on the trade item.	Primary

	208	The product context associated with a trade item has no impact on the Registry Catalogue Item data and has no effect on the registration of a trade item.	Primary
	253	For purposes of matching validation rules with product contexts, Source Data Pools must be able to map between the GPC brick in the Catalogue Item and the GPC level associated with the product context in the standard.	Primary

Figure 4-27 Publish Catalogue Item Data Activity Diagram

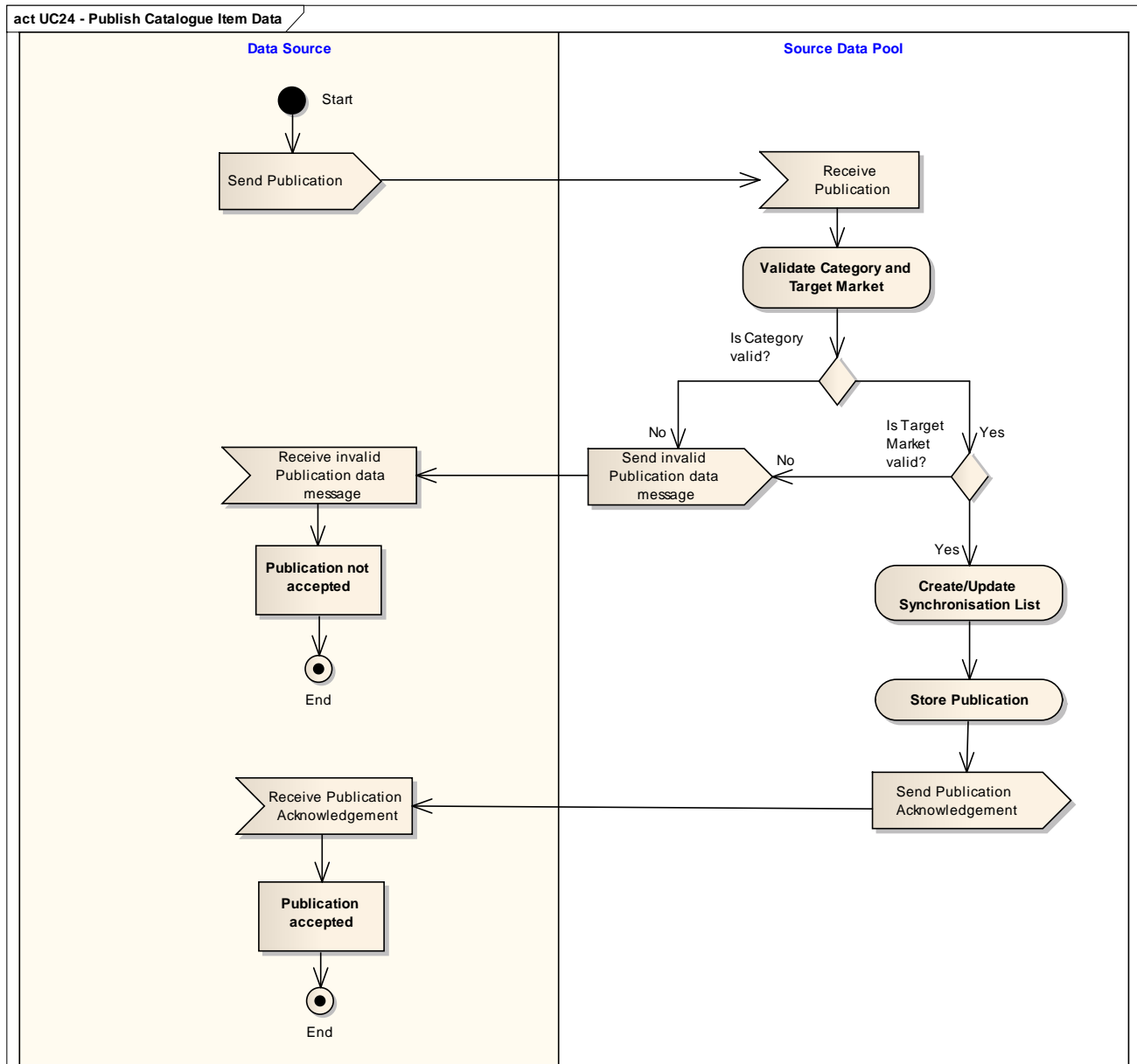
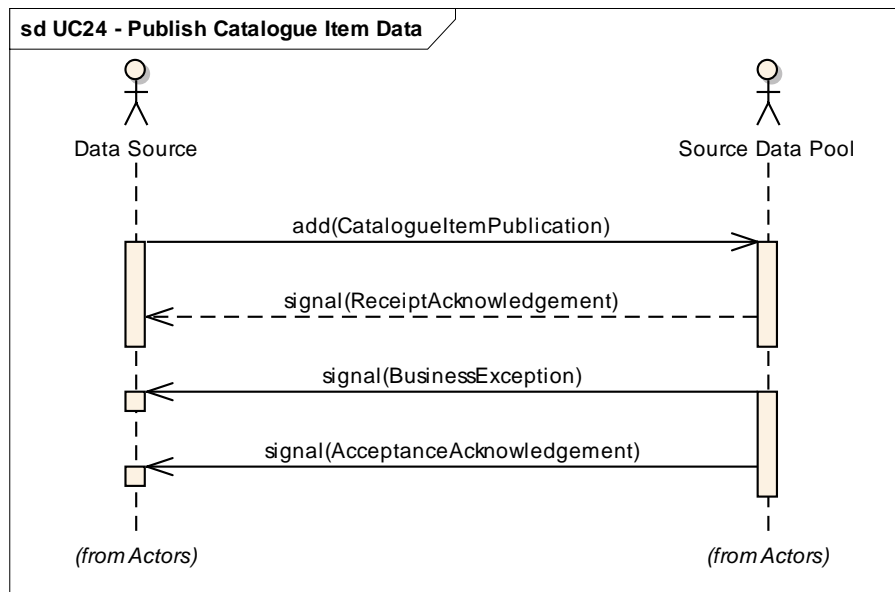
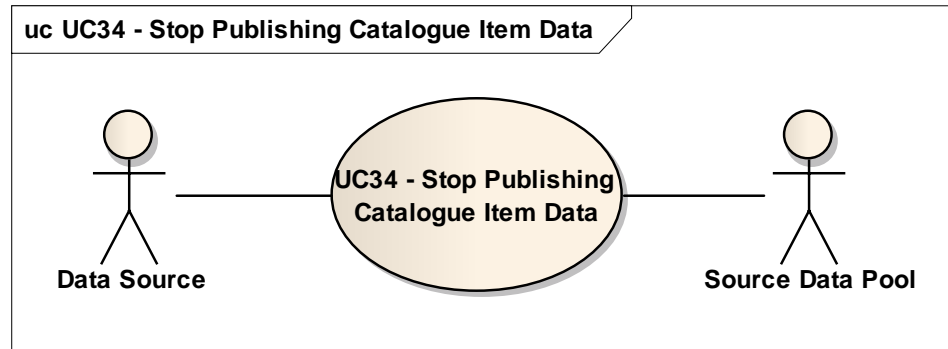


Figure 4-28 Publish Catalogue Item Data Sequence Diagram

4.13. Stop Publishing Catalogue Item Data

Figure 4-29 Stop Publishing Catalogue Item Data Use Case Diagram



Use Case ID	UC-34												
Use Case Name	Stop Publishing Catalogue Item Data												
Use Case Description	The Stop Publishing Catalogue Item Data Use Case describes how a Data Source informs the Source Data Pool to delete the criteria under which their Catalogue Item Data may be distributed to Data Recipients. The Source Data Pool will not be able to distribute the Catalogue Item Data prescribed by the criteria.												
Actors (Goal)	Data Source Source Data Pool (SDP)												
Performance Goals	<ul style="list-style-type: none">■ Data Source: To inform the Source Data Pool to delete a Publication and stop distributing Catalogue Item Data.■ SDP: To possess the necessary information that will allow the SDP to distribute Catalogue Item Data to the appropriate Recipient Data Pool.												
Preconditions	<ul style="list-style-type: none">■ The Publication exists in the Source Data Pool.■ A message is sent to delete a publication from a Data Source												
Post conditions	The Source Data Pool is unable to distribute the Catalogue Item Data that was specified in the deleted publication.												
Scenario	<p>Begins when... the Source Data Pool receives a message to delete a publication from a Data Source.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Validates that the Publication exists.</td></tr><tr><td>2</td><td>SDP</td><td>Removes the entry from the Synchronisation List.</td></tr><tr><td>3</td><td>SDP</td><td>Deletes the Publication.</td></tr></table>	Step #	Actor	Activity Step	1	SDP	Validates that the Publication exists.	2	SDP	Removes the entry from the Synchronisation List.	3	SDP	Deletes the Publication.
Step #	Actor	Activity Step											
1	SDP	Validates that the Publication exists.											
2	SDP	Removes the entry from the Synchronisation List.											
3	SDP	Deletes the Publication.											

	<table><tr><td>4</td><td>SDP</td><td>The SDP sends the Catalogue Item Hierarchical Withdrawal message (with a Document Command of Delete and a Catalogue Item State which equals the current catalogue item state in the Global Registry) and a HierarchyDeletionReasonCode of PUBLICATION_WITHDRAWAL to the recipient data pool and on to the data recipient informing them that the publication has been stopped (break in synchronisation). Note: None of the item dates are updated in this transaction. In release 2.8, the same function was performed by sending the Catalogue Item Notification message with command DELETE. The 2.8 method, while available in the 3.1 is discouraged and should be avoided.</td></tr></table>	4	SDP	The SDP sends the Catalogue Item Hierarchical Withdrawal message (with a Document Command of Delete and a Catalogue Item State which equals the current catalogue item state in the Global Registry) and a HierarchyDeletionReasonCode of PUBLICATION_WITHDRAWAL to the recipient data pool and on to the data recipient informing them that the publication has been stopped (break in synchronisation). Note: None of the item dates are updated in this transaction. In release 2.8, the same function was performed by sending the Catalogue Item Notification message with command DELETE. The 2.8 method, while available in the 3.1 is discouraged and should be avoided.																					
4	SDP	The SDP sends the Catalogue Item Hierarchical Withdrawal message (with a Document Command of Delete and a Catalogue Item State which equals the current catalogue item state in the Global Registry) and a HierarchyDeletionReasonCode of PUBLICATION_WITHDRAWAL to the recipient data pool and on to the data recipient informing them that the publication has been stopped (break in synchronisation). Note: None of the item dates are updated in this transaction. In release 2.8, the same function was performed by sending the Catalogue Item Notification message with command DELETE. The 2.8 method, while available in the 3.1 is discouraged and should be avoided.																							
	<p>Ends when... ... the Data Recipient receives Catalogue Item Hierarchical Withdrawal message (with a Document Command of Delete and a Catalogue Item State which equals the current catalogue item state in the Global Registry) and a HierarchyDeletionReasonCode of PUBLICATION_WITHDRAWAL.</p>																								
Alternative Scenario	<p>The Publication does not exist at the Source Data Pool:</p> <p>Begins when... the Source Data Pool receives a message to delete a publication from a Data Source.</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Finds that the Publication does not exist</td></tr><tr><td>2</td><td>SDP</td><td>Sends an error message to the Data Source specifying that the Publication does not exist.</td></tr></table> <p>Ends when.....the Data Source receives the error message</p>	Step #	Actor	Activity Step	1	SDP	Finds that the Publication does not exist	2	SDP	Sends an error message to the Data Source specifying that the Publication does not exist.															
	Step #	Actor	Activity Step																						
	1	SDP	Finds that the Publication does not exist																						
	2	SDP	Sends an error message to the Data Source specifying that the Publication does not exist.																						
Related Rules	<table><tr><th>ID</th><th>Rules</th><th>Weight</th></tr><tr><td>12</td><td>Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt - Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.</td><td>Primary</td></tr><tr><td>13</td><td>The Data Source grants visibility of item, party and partner profiles including party capabilities data to a given list of parties (identified by their GLNs) or to all parties in a given Target Market.</td><td>Primary</td></tr><tr><td>16</td><td>Subscription remains valid until it is deleted. Hence, it cannot be updated.</td><td>Primary</td></tr><tr><td>20</td><td>Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.</td><td>Primary</td></tr><tr><td>21</td><td>If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.</td><td>Primary</td></tr><tr><td>22</td><td>Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.</td><td>Primary</td></tr><tr><td>23</td><td>Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile</td><td>Primary</td></tr></table>	ID	Rules	Weight	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt - Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.	Primary	13	The Data Source grants visibility of item, party and partner profiles including party capabilities data to a given list of parties (identified by their GLNs) or to all parties in a given Target Market.	Primary	16	Subscription remains valid until it is deleted. Hence, it cannot be updated.	Primary	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile	Primary
	ID	Rules	Weight																						
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt - Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.	Primary																						
	13	The Data Source grants visibility of item, party and partner profiles including party capabilities data to a given list of parties (identified by their GLNs) or to all parties in a given Target Market.	Primary																						
	16	Subscription remains valid until it is deleted. Hence, it cannot be updated.	Primary																						
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary																						
	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary																						
	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary																						
23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile	Primary																							

		<ul style="list-style-type: none"> - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process 	
	24	<p>Notifications must NOT be sent in the following cases since data is not yet public and validated information:</p> <ul style="list-style-type: none"> - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item. 	Primary
	32	Acknowledgement Reason codes must be unique.	Primary
	65	Communicate that product is no longer available: maintain end availability date.	Primary
	66	When product is available again: update start/end availability date.	Primary
	82	Maintaining a publication is granting visibility and access to data.	Primary
	83	Publications are initiated by the Data Source in the source data pool, they do not need to be synchronised in the Global Data Synchronisation Network (GDSN).	Primary
	84	The Target Market where product is available is communicated in the product key (GTIN+GLN+TM) – this can be different from the Target Market for publication.	Primary
	85	<p>Data is either published:</p> <ul style="list-style-type: none"> - to a Target Market: any GLN in the Target Market has access to the data (only applies to “public” Items) - to specific GLNs: only these GLNs have access to the data (only applies to “private” Items). 	Primary
	87	Notification is triggered by the matching process.	Primary
	88	The matching process is owned and developed by each source data pool in order to trigger data distribution based on publication and subscription data.	Primary
	89	The matching process can be triggered either by publication, subscription or as a scheduled event. It is valid for all subscription types (including synchronisation list) and all publication types.	Primary
	91	<p>For a given publication (create/update) :</p> <ul style="list-style-type: none"> - the matching process identifies subscriptions with matching criteria (TM, GLN, category, GTIN...) - for each matching subscription, a notification is created including all dependent hierarchies - for a synchronisation list, the hierarchy information included in the notification, will be limited to the GTINs maintained in the Synchronisation list. - The notification is sent to the home data pool of the data recipient. 	Primary
	93	Although the notification process will physically move the data from one data pool to another, this data should not be stored permanently for the purpose of synchronisation with any other	Primary

		user than the initial subscriber. If stored, access should be limited to the initial data recipient.	
109		A Data Recipient requests that it receive a "notification" when a specific event occurs that meets the Recipients criteria (selective on sources, categories, etc). This is subject to the recipient's access to information as controlled by the data source through its source data pool.	Primary
128		Source Data Pools must send notifications based on matching publications and subscriptions.	Primary
138		Publication Who : Data Source = source GLN What : Item record, identified by GTIN+GLN+TM Where : TM or GLN (= target GLN).	Primary
140		Publication TM does not have to be equal to the GTIN TM (i.e. I can have a product record defined for TM France, but publishing the data to Belgium only for information purposes).	Primary
144		Request for publication (subscription) resets the reject flag if catalogue Item has been previously rejected and reactivate the subscription.	Primary
145		The request for publication subscription is only executed once.	Primary
146		Subscriptions are passed from global Registry to data pools just once. The Global Registry passes along to the source data pool matching subscriptions in the entirety, rather than replicating for each GTIN registered.	Primary
147		Request for notification publication (subscription) resets the reject flag if the Catalogue Item has been previously rejected and reactivates the subscription.	Primary
149		Upon execution of an item data notification, the source data pool will pass along the value of this attribute within the message for the recipient to properly route the inbound message.	Primary
151		The team wanted to reiterate the fact that new subscriptions received by a source data pool would be executed immediately a single time.	Primary
152		The ability to set up a subscription and not get an initial full load of data. She wants to only receive the changes, adds, deletes and new items that match her subscription. (This is the same as a regular subscription with the exception of not getting the initial load).	Primary
154		The Global Registry shall send only once a subscription to a Source Data Pool.	Primary
155		Data Sources will publish trade items at the highest level of the hierarchy.	Primary
158		Top of hierarchy is assumed to be the largest available unit determined by the data source. Defined as the GTIN of the highest published item in the hierarchy.	Primary
159		Multiple independent hierarchies can co-exist at the data-pool for an item for example hierarchy 1 = case A – each A hierarchy 2 = pallet A – case A –each A.	Primary

	162	To stop the publication of a hierarchy to data recipient, a CIN (with a Document Command of Delete and a CIN Catalogue Item State which equals the current catalogue item state in the Global Registry) will be sent from the source data pool to the recipient data pool and on to the data recipient.	Primary
	165	Publication deletes must be done at highest level of the published item hierarchy.	Primary
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 Response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary
	226	To stop the publication of a hierarchy to data recipient, a Catalogue Item Hierarchical Withdrawal message (with a Document Command of Delete, a Catalogue Item State which equals the current catalogue item state in the Global Registry and a HierarchyDeletionReasonCode of PUBLICATION_WITHDRAWAL) will be sent from the source data pool to the recipient data pool and on to the data recipient(depending on data recipient interface). In release 2.8, the same function was performed by sending the Catalogue Item Notification message, with command DELETE. The 2.8 method, while available in the 3.1 is discouraged and should be avoided.	Primary
	227	The Catalogue Item Hierarchical Withdrawal message can only be sent at the highest level of the published hierarchy.	Primary
	228	The trade item which is being deleted from the hierarchy must have been previously registered.	Primary
	229	The only valid Document Command for the "Catalogue Item Hierarchical Withdrawal Message" is DELETE. (new validation).	Primary

Figure 4-30 Stop Publishing Catalogue Item Data Activity Diagram

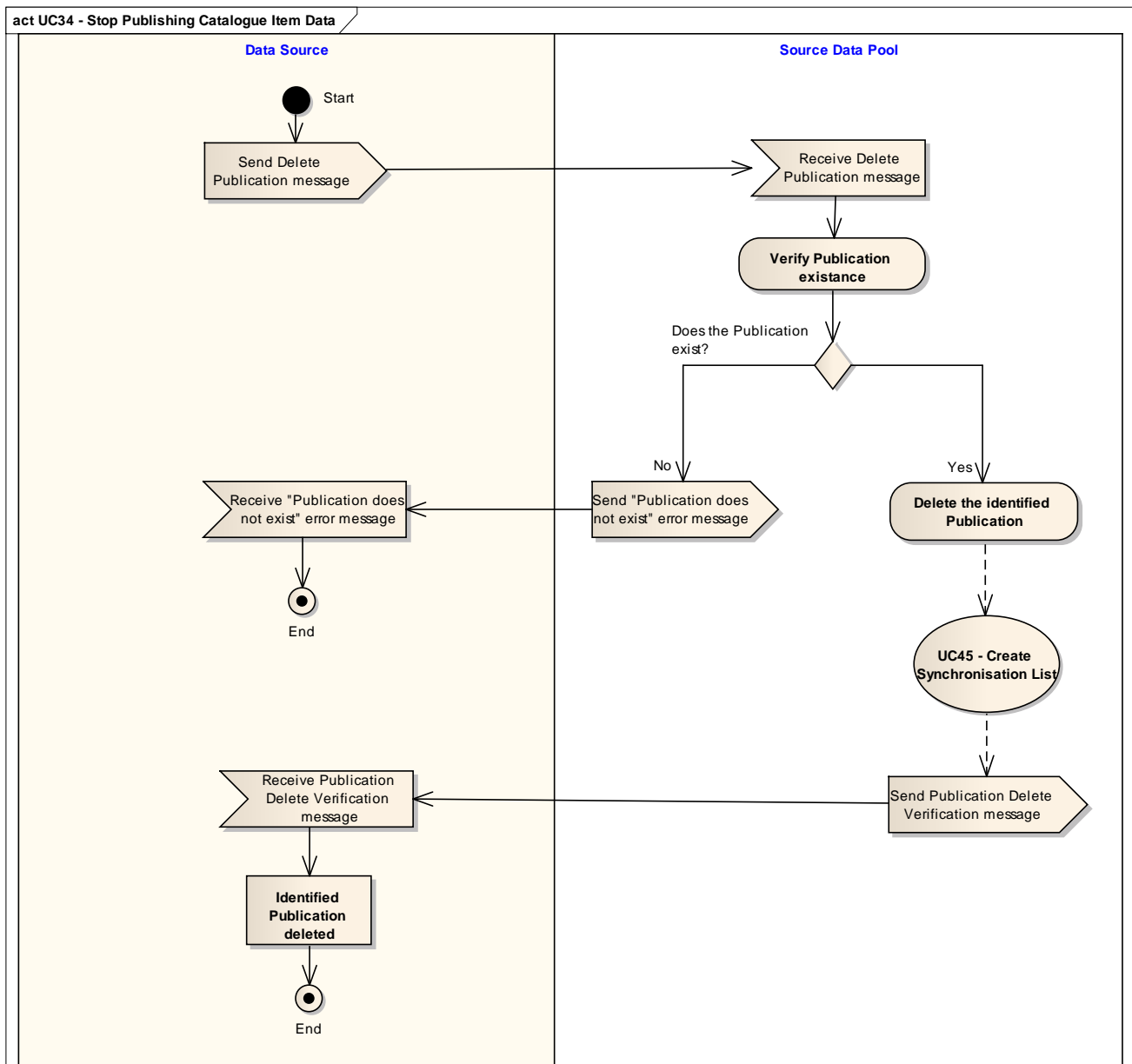
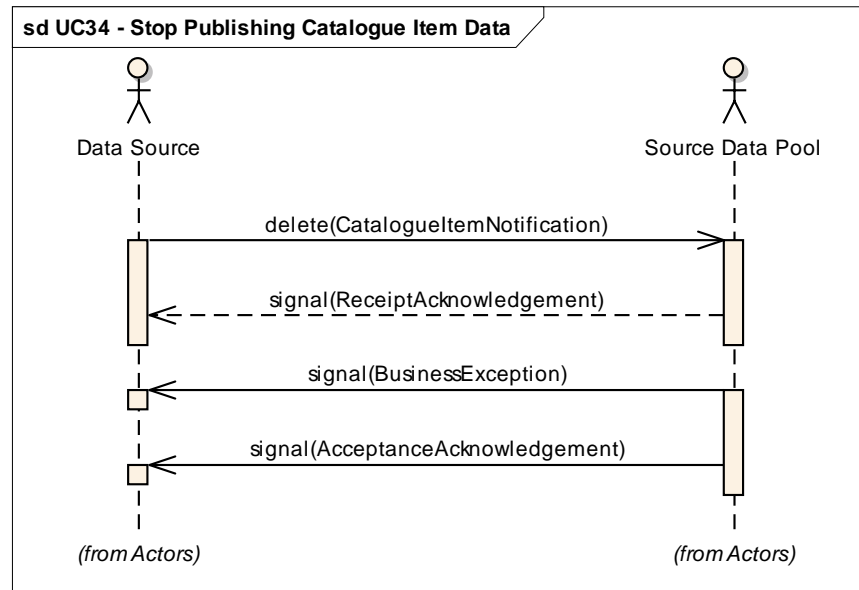
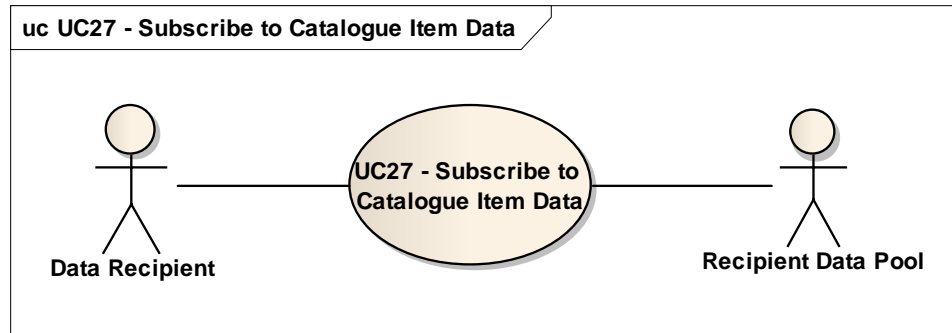


Figure 4-31 Stop Publishing Catalogue Item Data Sequence Diagram



4.14. Subscribe to Catalogue Item Data

Figure 4-32 Subscribe to Catalogue Item Data Use Case Diagram



Use Case ID	UC-27												
Use Case Name	Subscribe to Catalogue Item Data												
Use Case Description	The Subscribe to Catalogue Item Data Use Case describes how a Data Recipient informs the Recipient Data Pool with the criteria under which Catalogue Item Data may be distributed to the Data Recipient. Once the Subscription is created, the Recipient Data Pool will forward it to the Global Registry which, in turn, will forward it to appropriate Source Data Pools (see UC-35 Distribute Subscription Data).												
Actors (Goal)	Data Recipient Recipient Data Pool (RDP)												
Performance Goals	Data Recipient: To inform the Recipient Data Pool of the criteria by which Catalogue Item Data may be forwarded to the Recipient. RDP: To possess the necessary information that will allow the RDP to send subscriptions to the Global Registry.												
Preconditions													
Post conditions	The Recipient Data Pool has a Subscription that can be shared with the Global Registry.												
Scenario	<p>Begins when... the Recipient Data Pool receives a Subscription Publication message from a Data Recipient.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>RDP</td><td>Sends a message acknowledgement to the Data Recipient.</td></tr><tr><td>2</td><td>RDP</td><td>Validates the Subscription criteria (GTIN, GLN of data owner, Target Market or Category).</td></tr><tr><td>3</td><td>RDP</td><td>Sends a Subscription Verification to the Data Recipient.</td></tr></table> <p>Ends when... the Data Recipient acknowledges the Subscription Verification message.</p>	Step #	Actor	Activity Step	1	RDP	Sends a message acknowledgement to the Data Recipient.	2	RDP	Validates the Subscription criteria (GTIN, GLN of data owner, Target Market or Category).	3	RDP	Sends a Subscription Verification to the Data Recipient.
Step #	Actor	Activity Step											
1	RDP	Sends a message acknowledgement to the Data Recipient.											
2	RDP	Validates the Subscription criteria (GTIN, GLN of data owner, Target Market or Category).											
3	RDP	Sends a Subscription Verification to the Data Recipient.											
Alternative Scenario	<p>The Subscription already exists:</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>RDP</td><td>Sends an error message to the Data Recipient specifying that the Subscription exists.</td></tr></table>	Step #	Actor	Activity Step	1	RDP	Sends an error message to the Data Recipient specifying that the Subscription exists.						
Step #	Actor	Activity Step											
1	RDP	Sends an error message to the Data Recipient specifying that the Subscription exists.											

	Ends when... the Data Recipient receives the error message		
	The validation fails:		
	Step #	Actor	Activity Step
	1	RDP	Sends an error message to the Data Recipient specifying the field in error.
	Ends when... the Data Recipient receives the error message		
Related Rules	ID	Rule	Weight
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the inter-operable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt - Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure.	Primary
	14	A subscription must be able to be maintained on the following levels: - GTIN - GLN of Data Source - Target Market - Lowest level of GS1 Classification or any combination of these 4 elements.	Secondary
	15	With the set up of a subscription, a Data Recipient sets a profile to receive ongoing updates of the matching data (including all hierarchies, independently from the level subscribed on).	Secondary
	16	Subscription remains valid until it is deleted. Hence, it cannot be updated.	Primary
	17	Subscriptions must be created by data recipients in their Recipients Data Pool and sent to the Global Registry.	Secondary
	19	The system must maintain detailed subscription lists.	Secondary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary
	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary
	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process.	Primary

	24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
	29	The confirmation process must take place in the home data pool of the data recipient.	Primary
	32	Acknowledgement Reason codes must be unique.	Primary
	69	Data recipient maintains subscription.	Secondary
	70	Data recipient will continue to receive updates until he rejects the data.	Primary
	72	Reject is optional: in the absence of confirmation & reject, the data recipient would still receive updates.	Primary
	73	Confirmed GTIN: - subscription: go to synchronisation list - synchronisation list: no action required.	Secondary
	74	Only new products matching the initial subscription will be distributed to avoid resending data that was previously rejected.	Primary
	78	Subscription: for every matching GTIN, independently from its level, all hierarchies will be returned.	Secondary
	79	Synchronisation list: - Includes every GTIN id (GTIN+GLN+TM) that needs to be synchronised - Can be a result of the Confirmation process - All GTINs equal or lower in the hierarchy than the GTIN confirmed will be returned.	Primary
	81	Synchronisation List is only synchronised between the involved source and recipient data pools for applicable data: synchronisation list is built based on confirmation received by a source data pool and nothing else.	Primary
	88	The matching process is owned and developed by each source data pool in order to trigger data distribution based on publication and subscription data.	Primary
	89	The matching process can be triggered either by publication, subscription or as a scheduled event. It is valid for all subscription types (including synchronisation list) and all publication types.	Primary
	90	For a given subscription (create/update): - the matching process identifies Items published to the GLN or TM of the subscription owner. - for each item, a notification is created including all dependent hierarchies. - for a synchronisation list, the hierarchy information included in the notification, will be limited to the GTINs maintained in the Synchronisation list. - The notification is sent to the home data pool of the data recipient.	Secondary
	100	The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements: - Validation - Registration - Subscription	Primary

		- Global Search.	
	109	A Data Recipient requests that it receive a "notification" when a specific event occurs that meets the Recipients criteria (selective on sources, categories, etc.). This is subject to the recipient's access to information as controlled by the data source through its source data pool.	Primary
	110	After a Subscription is created, the Global Registry will then disseminate relevant subscriptions to appropriate Source Data Pools (current and future new data pools).	Secondary
	111	Registry requirements for subscription are: - Receive and store subscriptions - Provide subscription acknowledgement - Matching process of subscriptions with Source Data Pools - Forward subscriptions.	Secondary
	123	Recipient maintains a subscription, including the "Reload" flag.	Secondary
	124	The notification triggered by a subscription must also carry the "Reload" flag value.	Secondary
	126	If a new Reload is needed, the Recipient must delete the previous Reload Subscription, then create a new Subscription with the "Reload" flag set.	Secondary
	128	Source Data Pools must send notifications based on matching publications and subscriptions.	Primary
	129	GTIN and Category are mutually exclusive subscription criteria as the Category is uniquely defined for a given GTIN, independently from the GLN and from the TM.	Secondary
	132	The events that can trigger the distribution of a subscription are: - new/updated registration: check existing subscriptions, if new data pools are found : distribute subscriptions - new subscription: check existing registrations, if new data pools are found: distribute subscriptions - delete subscriptions: distribute "delete" to source data pools where subscription had been sent.	Primary
	133	Subscriptions cannot be updated, they are created or deleted.	Primary
	134	Subscriptions must be stored in the recipient's data pool.	Primary
	135	For every subscription, the Registry must store the GLN of the Source Data Pool to which the subscription was sent and when it was sent.	Primary
	137	Match new subscriptions with registered Catalogue Items and forward the subscription to the Source Data Pool.	Primary
	139	Subscription Who: Data Recipient = target GLN. What: Any combination of GTIN, GLN, TM and Category.	Primary
	141	Deletion of a Subscription stops New Catalogue Items from being sent to RDP, but, doesn't stop Catalogue Items already in the Synchronisation List from being updated.	Primary
	142	Request for Notification is not retained in the Global Registry and acts like a Subscription that is applied to the Synchronisation List, then deleted (no New Catalogue Item data will be sent).	Primary

	143	"Reload" flag is passed through to Recipient.	Primary
	144	Request for publication (subscription) resets the reject flag if catalogue Item has been previously rejected and reactivate the subscription.	Primary
	145	The request for publication subscription is only executed once.	Primary
	146	Subscriptions are passed from global Registry to data pools just once. The Global Registry passes along to the source data pool matching subscriptions in the entirety, rather than replicating for each GTIN registered.	Primary
	147	Request for notification publication (subscription) resets the reject flag if the Catalogue Item has been previously rejected and reactivates the subscription.	Primary
	149	Upon execution of an item data notification, the source data pool will pass along the value of this attribute within the message for the recipient to properly route the inbound message.	Primary
	151	The team wanted to reiterate the fact that new subscriptions received by a source data pool would be executed immediately a single time.	Primary
	152	The ability to set up a subscription and not get an initial full load of data. She wants to only receive the changes, adds, deletes and new items that match her subscription. (This is the same as a regular subscription with the exception of not getting the initial load).	Primary
	154	The Global Registry shall send only once a subscription to a Source Data Pool.	Primary
	156	Subscription matches are performed at any level of the hierarchy. The data recipient is sent all hierarchies that match.	Primary
	159	Multiple independent hierarchies can co-exist at the data-pool for an item for example hierarchy 1 = case A – each A hierarchy 2 = pallet A – case A –each A.	Primary
	169	The Global Registry shall retain and persist all Catalogue Item Subscriptions that are received that contain a GTIN or GLN that is not found in the Global Registry.	Primary
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 Response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary
	194	If the GLN is not found in the party registry, the subscription is still persisted. The GLN must still pass all syntactic validations.	Primary
	195	If the GTIN is not found in the item registry, the subscription is still persisted. The GTIN must still pass all syntactic validations.	Primary
	196	If the Target Market is not found in the code list of valid target markets in the global registry, the subscription fails.	Primary
	197	If the GPC is not found in the code list of valid GPCs in the global registry, the subscription fails. If a subscription, after passing validations fails to match any items in the global registry, the subscription is still persisted.	Primary

Figure 4-33 Subscribe to Catalogue Item Data Activity Diagram

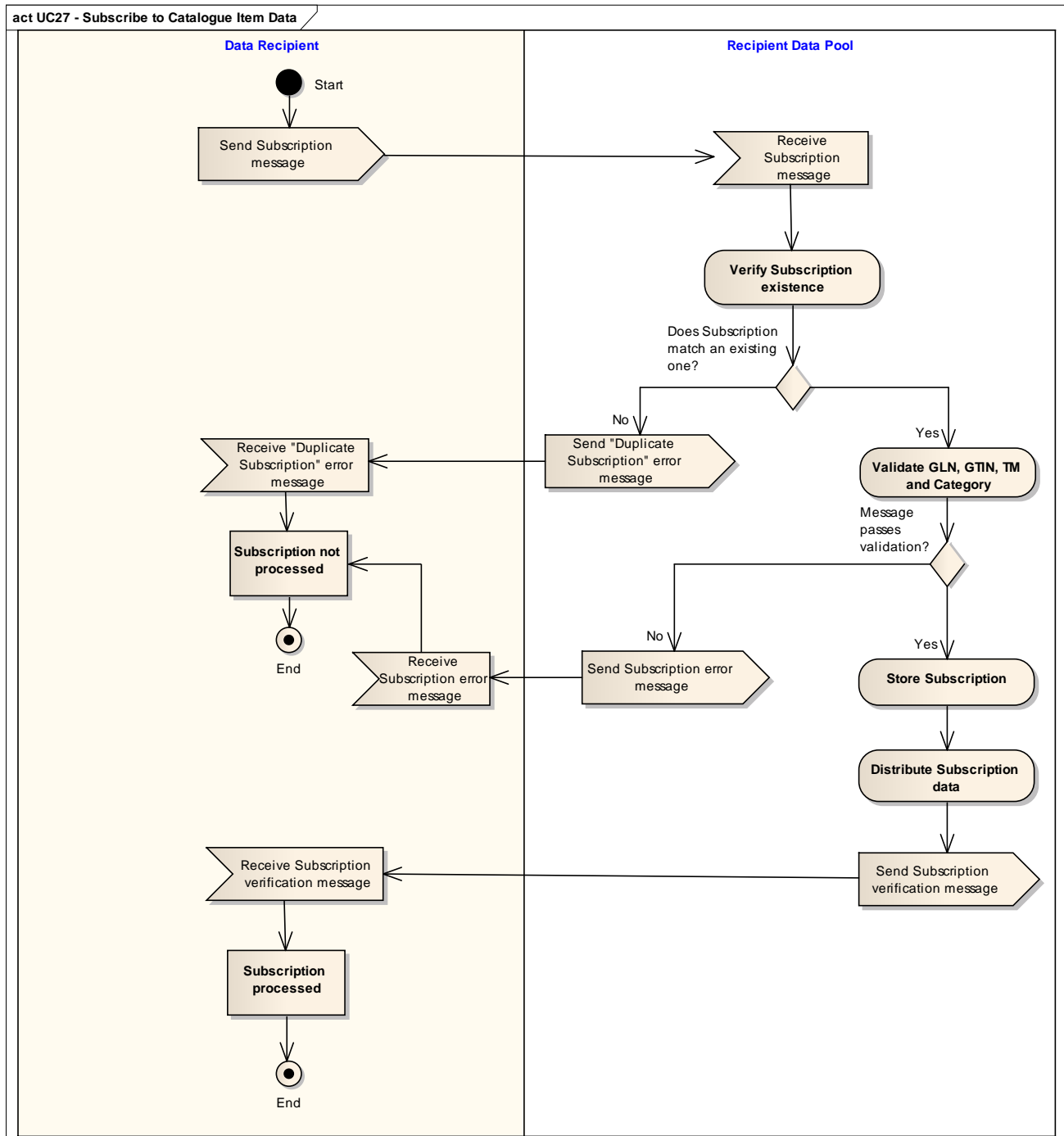
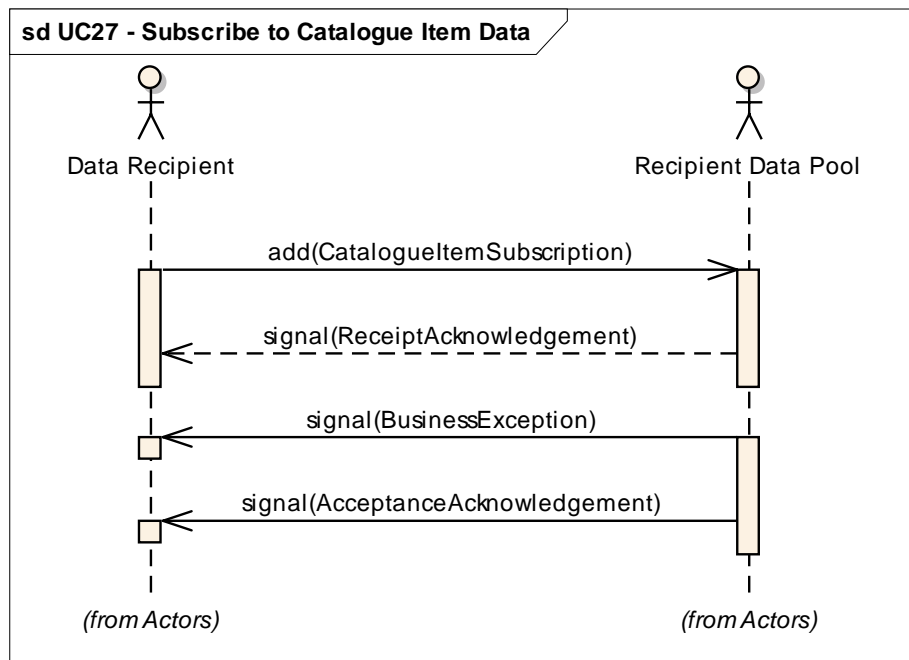
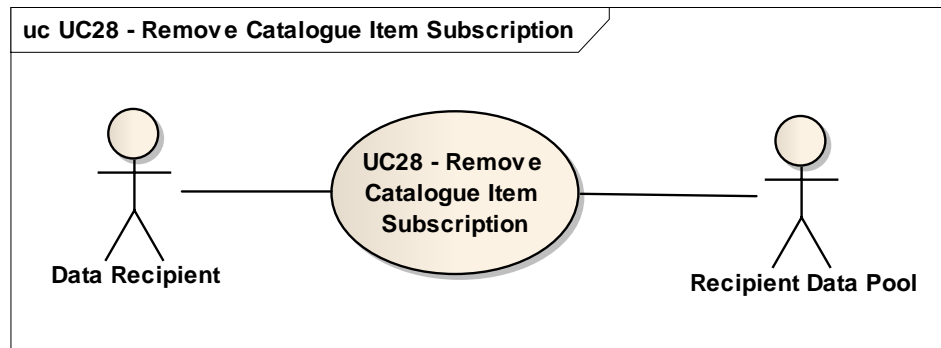


Figure 4-34 Subscribe to Catalogue Item Data Sequence Diagram

4.15. Remove Catalogue Item Subscription

Figure 4-35 Remove Catalogue Item Subscription Use Case Diagram

Use Case ID	UC-28
Use Case Name	Remove Catalogue Item Subscription
Use Case Description	<p>The Remove Catalogue Item Subscription Use Case describes how a Data Recipient informs the Recipient Data Pool to delete a subscription.</p> <p>Once the Subscription is removed, the Recipient Data Pool will forward the removal information to the Global Registry which, in turn, will forward it to appropriate Source Data Pools (see UC-35 Distribute Subscription Data).</p> <p>The Source Data Pools will remove the subscription. Thereafter, the Source Data Pools will not send new Catalogue Item data to the Data Recipient (via their Recipient Data Pool). The removal of a subscription does not affect the Synchronisation list held by the Source Data pool. The Data Recipient will continue to receive changes, corrections and deletions based on the Synchronisation List.</p>
Actors (Goal)	Data Recipient Recipient Data Pool (RDP)

Performance Goals	<ul style="list-style-type: none">■ Data Recipient: To inform the Recipient Data Pool of the removal of a subscription. Essentially (via the Distribute Subscription Use Case) stopping new Catalogue Item data from being forwarded.■ RDP: To posses the necessary information that will allow the RDP and appropriate Source Data Pools to distribute Catalogue Item Data to the Recipient.		
Preconditions	The Data recipient has a Subscription held by the Recipient Data Pool.		
Post conditions	The Subscription no longer exists in the Recipient Data Pool or (via the Distribute Subscription Use Case) the Registry and Source Data Pools.		
Scenario	Begins when... the Recipient Data Pool receives a Delete Subscription message from a Data Recipient.		
	Continues with...		
	Step #	Actor	Activity Step
	1	RDP	Sends a message acknowledgement to the Data Recipient.
	2	RDP	Validates that the Subscription exists.
	3	RDP	Sends a Subscription Verification to the Data Recipient.
	Ends when... the Data Recipient acknowledges the Subscription Verification message.		
Alternative Scenario	The Subscription does not exist:		
	Step #	Actor	Activity Step
	1	RDP	Sends an error message to the Data Recipient specifying that the Subscription does not exist.
Ends when... the Data Recipient receives the error message.			
Related Rules	ID	Rule	Weight
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the interoperable network, acknowledgement messages are standardised and may contain the following information: <ul style="list-style-type: none">- Confirmation of message receipt- Success / Failure of processing (syntax and content)- Reason for failure, with a code number and text message unique assigned to each failure.	Primary
	14	A subscription must be able to be maintained on the following levels: <ul style="list-style-type: none">- GTIN- GLN of Data Source- Target Market- Lowest level of GS1 Classification or any combination of these 4 elements.	Primary
	15	With the set up of a subscription, a Data Recipient sets a profile to receive ongoing updates of the matching data (including all hierarchies, independently from the level subscribed on).	Primary
	16	Subscription remains valid until it is deleted. Hence, it cannot be updated.	Secondary
	19	The system must maintain detailed subscription lists.	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	21	If a Catalogue Item is "Confirmed of Synchronisation" then all	Primary

	Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	
22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary
23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process.	Primary
24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
29	The confirmation process must take place in the home data pool of the data recipient.	Primary
32	Acknowledgement Reason codes must be unique.	Primary
70	Data recipient will continue to receive updates until he rejects the data.	Secondary
72	Reject is optional: in the absence of confirmation & reject, the data recipient would still receive updates.	Secondary
77	Filtering out rejected data is a source data pool responsibility.	Primary
78	Subscription: for every matching GTIN, independently from its level, all hierarchies will be returned.	Primary
79	Synchronisation list: - Includes every GTIN id (GTIN+GLN+TM) that needs to be synchronised - Can be a result of the Confirmation process - All GTINs equal or lower in the hierarchy than the GTIN confirmed will be returned.	Primary
80	Rejection at the highest level of a hierarchy will trigger the rejection of all GTINs in the hierarchy of the rejected GTIN.	Primary
81	Synchronisation List is only synchronised between the involved source and recipient data pools for applicable data: synchronisation list is built based on confirmation received by a source data pool and nothing else.	Primary
88	The matching process is owned and developed by each source data pool in order to trigger data distribution based on publication and subscription data.	Primary
89	The matching process can be triggered either by publication, subscription or as a scheduled event. It is valid for all subscription types (including synchronisation list) and all	Primary

	publication types.	
90	For a given subscription (create/update): - the matching process identifies Items published to the GLN or TM of the subscription owner. - for each item, a notification is created including all dependent hierarchies. - for a synchronisation list, the hierarchy information included in the notification, will be limited to the GTINs maintained in the Synchronisation list. - The notification is sent to the home data pool of the data recipient.	Primary
98	Note: rejection should not remove data previously authorised, for instance in a different hierarchy.	Primary
100	The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements: - Validation - Registration - Subscription - Global Search.	Primary
109	A Data Recipient requests that it receive a "notification" when a specific event occurs that meets the Recipients criteria (selective on sources, categories, etc). This is subject to the recipient's access to information as controlled by the data source through its source data pool.	Primary
110	After a Subscription is created, the Global Registry will then disseminate relevant subscriptions to appropriate Source Data Pools (current and future new data pools).	Primary
111	Registry requirements for subscription are: - Receive and store subscriptions - Provide subscription acknowledgement - Matching process of subscriptions with Source Data Pools - Forward subscriptions.	Primary
123	Recipient maintains a subscription, including the "Reload" flag.	Primary
124	The notification triggered by a subscription must also carry the "Reload" flag value.	Primary
126	If a new Reload is needed, the Recipient must delete the previous Reload Subscription, then create a new Subscription with the "Reload" flag set.	Primary
128	Source Data Pools must send notifications based on matching publications and subscriptions.	Primary
129	GTIN and Category are mutually exclusive subscription criteria as the Category is uniquely defined for a given GTIN, independently from the GLN and from the TM.	Primary
132	The events that can trigger the distribution of a subscription are: - new/updated registration: check existing subscriptions, if new data pools are found : distribute subscriptions - new subscription: check existing registrations, if new data pools are found: distribute subscriptions - delete subscriptions: distribute "delete" to source data pools where subscription	Primary

		had been sent	
133		Subscriptions cannot be updated, they are created or deleted.	Secondary
134		Subscriptions must be stored in the recipient's data pool.	Primary
135		For every subscription, the Registry must store the GLN of the Source Data Pool to which the subscription was sent and when it was sent.	Primary
137		Match new subscriptions with registered Catalogue Items and forward the subscription to the Source Data Pool.	Primary
139		Subscription Who : Data Recipient = target GLN What : Any combination of GTIN, GLN, TM and Category.	Primary
141		Deletion of a Subscription stops New Catalogue Items from being sent to RDP, but, doesn't stop Catalogue Items already in the Synchronisation List from being updated.	Secondary
142		Request for Notification is not retained in the Global Registry and acts like a Subscription that is applied to the Synchronisation List, then deleted (no New Catalogue Item data will be sent).	Primary
143		"Reload" flag is passed through to Recipient.	Primary
144		Request for publication (subscription) resets the reject flag if catalogue Item has been previously rejected and reactivate the subscription.	Primary
145		The request for publication subscription is only executed once.	Primary
146		Subscriptions are passed from global Registry to data pools just once. The Global Registry passes along to the source data pool matching subscriptions in the entirety, rather than replicating for each GTIN registered.	Primary
147		Request for notification publication (subscription) resets the reject flag if the Catalogue Item has been previously rejected and reactivates the subscription.	Primary
149		Upon execution of an item data notification, the source data pool will pass along the value of this attribute within the message for the recipient to properly route the inbound message.	Primary
151		The team wanted to reiterate the fact that new subscriptions received by a source data pool would be executed immediately a single time.	Primary
152		The ability to set up a subscription and not get an initial full load of data. She wants to only receive the changes, adds, deletes and new items that match her subscription. (This is the same as a regular subscription with the exception of not getting the initial load).	Primary
154		The Global Registry shall send only once a subscription to a Source Data Pool.	Primary
156		Subscription matches are performed at any level of the hierarchy. The data recipient is sent all hierarchies that match.	Primary
159		Multiple independent hierarchies can co-exist at the data-	Primary

		pool for an item for example hierarchy 1 = case A – each A hierarchy 2 = pallet A – case A –each A.	
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary

Figure 4-36 Remove Catalogue Item Subscription Activity Diagram

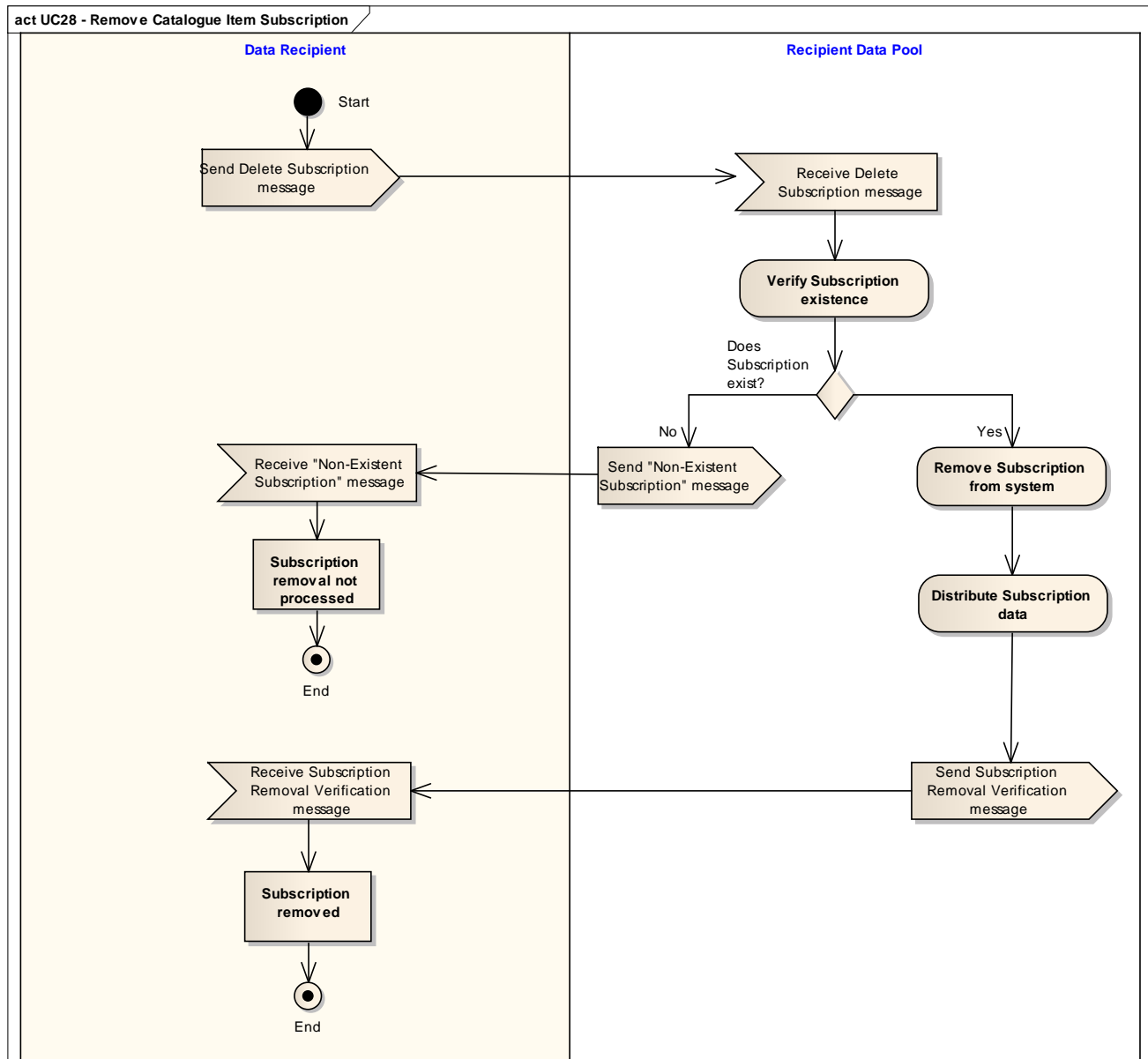
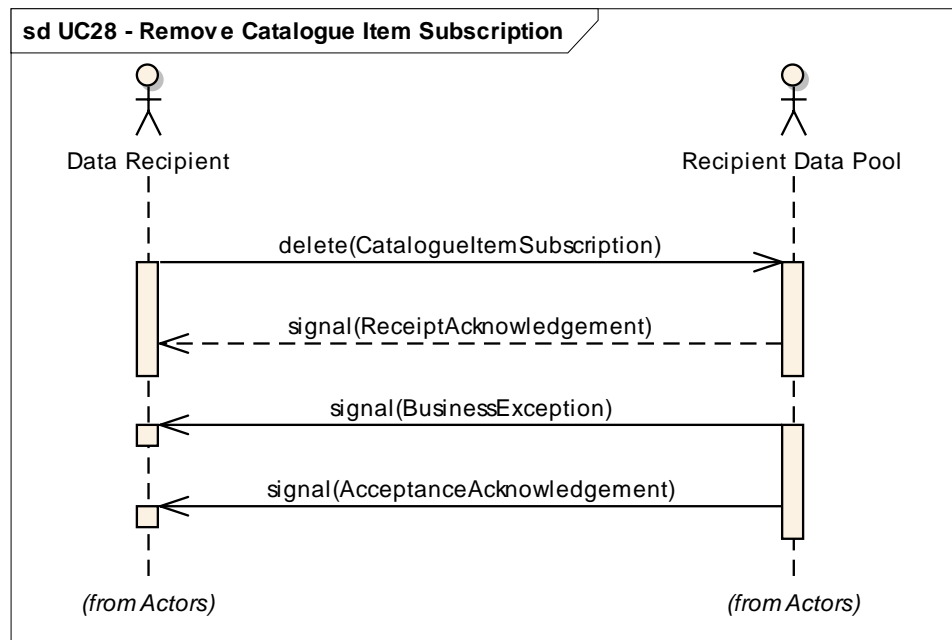
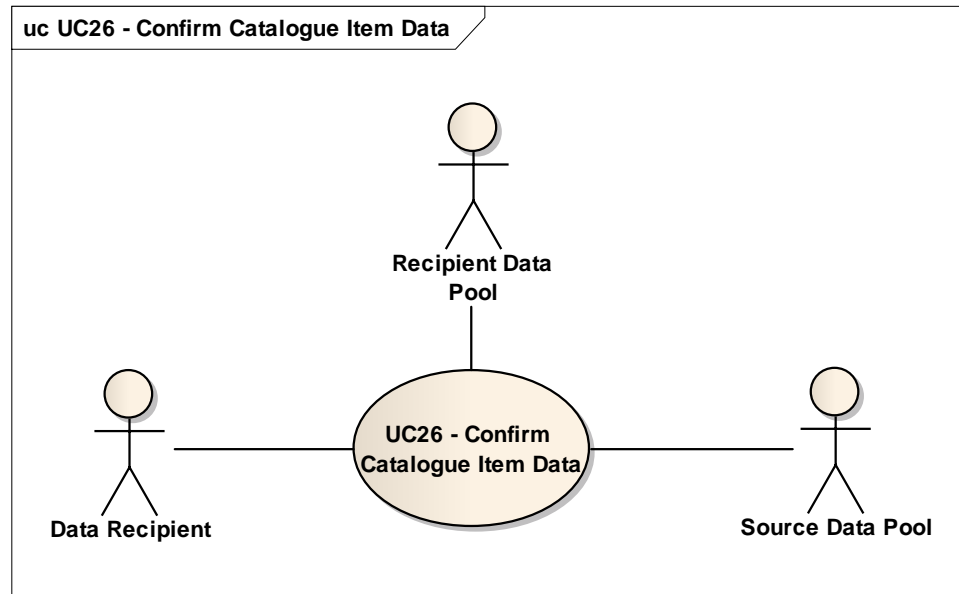


Figure 4-37 Remove Subscription Sequence Diagram

4.16. Confirm Catalogue Item Data

Figure 4-38 Confirm Catalogue Item Data



Use Case ID	UC-26
Use Case Name	Confirm Catalogue Item Data
Use Case Description	<p>The Confirm Catalogue Item Data Use Case describes how a Data Recipient informs the Source Data Pool of its intentions regarding the Catalogue Item.</p> <p>The four states that can be communicated are Received, Synchronised, Rejected, or Review. Only a CIC communicated with the status of Rejected will stop the Source Data Pool from sending updates to the Recipient Data Pool. In the absence of a confirmation, the Source Data Pool will continue to send updates to the Recipient Data Pool. Only a CIC communicated with the status of Rejected will stop the Source Data Pool from sending updates to the Recipient Data Pool. In the absence of a confirmation, the Source Data Pool will continue to send updates to the Recipient Data Pool.</p> <p>In the case that the status of the "Catalogue Confirmation State List" is set to either "Review" or "Rejected" the Catalogue Item Confirmation (CIC) Message can include additional information about the Confirmation back to the Supplier (Data Source).</p>
Actors (Goal)	Data Recipient Recipient Data Pool (RDP) Source Data Pool (SDP)
Performance Goals	<ul style="list-style-type: none"> ■ Data Recipient: To inform the Source Data Pool of its intentions regarding the Catalogue Item ■ RDP: To possess the necessary information that will allow the RDP and appropriate Source Data Pools to distribute Catalogue Item Data to the Recipient. ■ SDP: To identify Data Recipients that are actively using Synchronised Item data.
Preconditions	The Data recipient has received Catalogue Item data.

Post conditions	The RDP and SDP are aware of the Data Recipient’s intentions regarding a specific Catalogue Item. In the case of a reject, the SDP knows not to continue sending updates on the particular Item. In the event of a CIC Status of Review or Rejected, the Data Source optionally receives the confirmation code, description and the comment and understands what action they need to take to resolve the current situation.																	
Scenario	Begins when... the Data Recipient sends a Catalogue Item Confirmation to the RDP. Continues with... <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>RDP</td><td>Sends a message acknowledgement to the Data Recipient.</td></tr><tr><td>2</td><td>RDP</td><td>Validates the Confirmation message.</td></tr><tr><td>3</td><td>RDP</td><td>Sends an acknowledgement to the Data Recipient.</td></tr><tr><td>4</td><td>RDP</td><td>Sends the Catalogue Item Confirmation to the SDP.</td></tr></table> Ends when... the SDP receives the Catalogue Item Confirmation.			Step #	Actor	Activity Step	1	RDP	Sends a message acknowledgement to the Data Recipient.	2	RDP	Validates the Confirmation message.	3	RDP	Sends an acknowledgement to the Data Recipient.	4	RDP	Sends the Catalogue Item Confirmation to the SDP.
Step #	Actor	Activity Step																
1	RDP	Sends a message acknowledgement to the Data Recipient.																
2	RDP	Validates the Confirmation message.																
3	RDP	Sends an acknowledgement to the Data Recipient.																
4	RDP	Sends the Catalogue Item Confirmation to the SDP.																
Alternative Scenario	The Confirmation message is invalid: <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>RDP</td><td>Sends an error message to the Data Recipient specifying the errors in the Confirmation message.</td></tr></table> Ends when... the Data Recipient receives the error message			Step #	Actor	Activity Step	1	RDP	Sends an error message to the Data Recipient specifying the errors in the Confirmation message.									
Step #	Actor	Activity Step																
1	RDP	Sends an error message to the Data Recipient specifying the errors in the Confirmation message.																
Related Rules	<table><tr><th>ID</th><th>Rule</th><th>Weight</th></tr><tr><td>172</td><td>When the status of the “Catalogue Confirmation State List” is set to either “Review” or “Rejected”, there may be additional information in the CIC message such as the confirmation code, description, and the comment and understands what action they need to take to resolve the current situation.</td><td>Primary</td></tr><tr><td>174</td><td>The CIC message can include multiple Catalogue Item References (GTIN + GLN + Target Market) to establish the relationship between the information communicated and the actual Catalogue Item being referenced.</td><td>Primary</td></tr><tr><td>222</td><td>Confirmations may include a Catalogue Item Confirmation Status Code for Incorrect Product Context. This is to inform the data source and the source data pool that the trade item data published to the Data Recipient was validated against an incorrect product context.</td><td>Primary</td></tr></table>	ID	Rule	Weight	172	When the status of the “Catalogue Confirmation State List” is set to either “Review” or “Rejected”, there may be additional information in the CIC message such as the confirmation code, description, and the comment and understands what action they need to take to resolve the current situation.	Primary	174	The CIC message can include multiple Catalogue Item References (GTIN + GLN + Target Market) to establish the relationship between the information communicated and the actual Catalogue Item being referenced.	Primary	222	Confirmations may include a Catalogue Item Confirmation Status Code for Incorrect Product Context. This is to inform the data source and the source data pool that the trade item data published to the Data Recipient was validated against an incorrect product context.	Primary					
ID	Rule	Weight																
172	When the status of the “Catalogue Confirmation State List” is set to either “Review” or “Rejected”, there may be additional information in the CIC message such as the confirmation code, description, and the comment and understands what action they need to take to resolve the current situation.	Primary																
174	The CIC message can include multiple Catalogue Item References (GTIN + GLN + Target Market) to establish the relationship between the information communicated and the actual Catalogue Item being referenced.	Primary																
222	Confirmations may include a Catalogue Item Confirmation Status Code for Incorrect Product Context. This is to inform the data source and the source data pool that the trade item data published to the Data Recipient was validated against an incorrect product context.	Primary																

Figure 4-39 Confirm Catalogue Item Data Activity Diagram

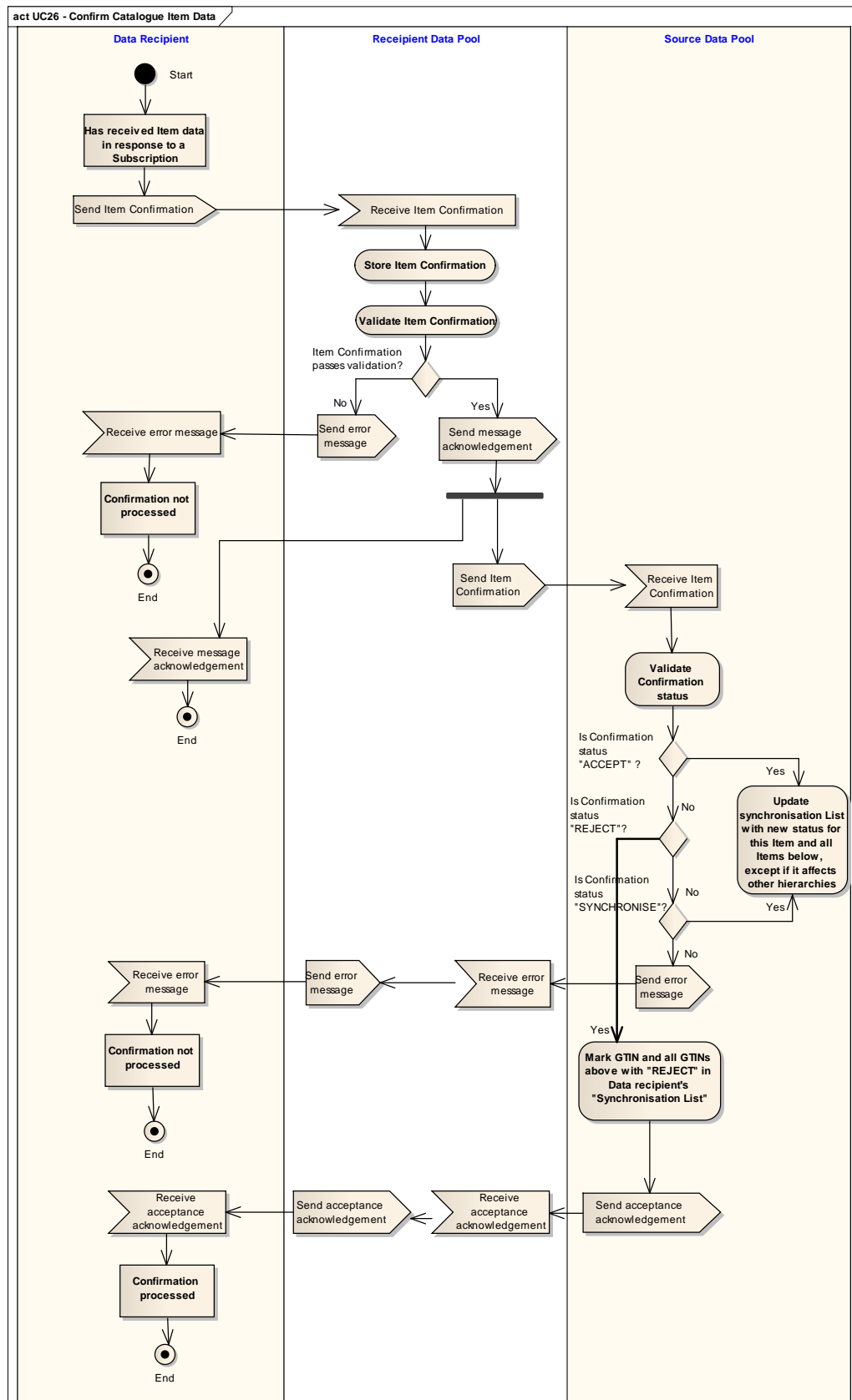
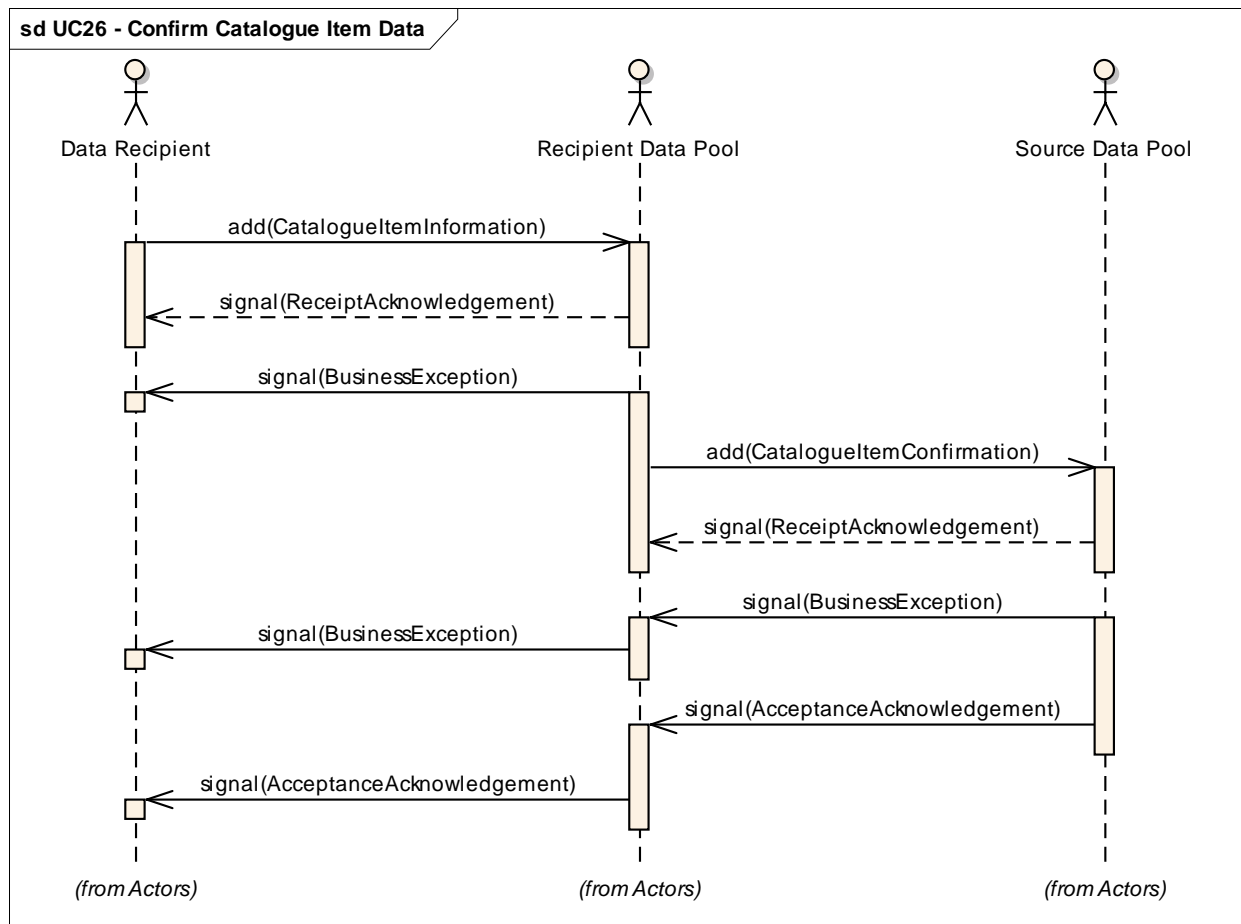
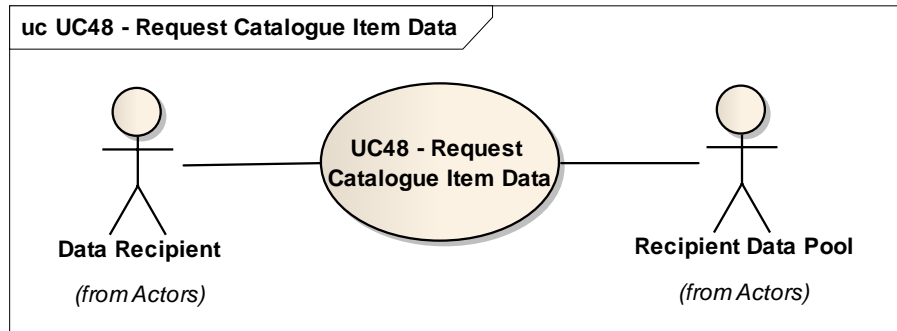


Figure 4-40 Confirm Catalogue Item Data Sequence Diagram

4.17. Request Catalogue Item Data

Figure 4-41 Request Catalogue Item Data



Use Case ID	UC-48												
Use Case Name	Request Catalogue Item Data												
Use Case Description	<p>The Request Catalogue Item Data Use Case describes how a Data Recipient informs the Source Data Pool to resend certain Catalogue Item data. This Use Case makes use of the Request for Catalogue Item Notification message.</p> <p>This request is identical to a subscription with the difference being that the Global Registry will not retain the message once all relevant Source Data Pools receive the message. A special case of the Request is when the Data Recipient includes the “reload” flag in the message. This flag is attached to the resultant Catalogue Item Notification.</p> <p>Use Cases Above: UC-23: Manage Catalogue Item Distribution Criteria</p>												
Actors (Goal)	Data Recipient Recipient Data Pool (RDP)												
Performance Goals	Data Recipient: To inform the Source Data Pool that it Would like certain Catalogue Item data to be resent. RDP: To posses the necessary information that will allow the RDP and appropriate Source Data Pools to distribute Catalogue Item Data to the Recipient.												
Preconditions	The Data recipient has received Catalogue Item data.												
Post conditions	The RDP is aware that certain Catalogue Item data is to be resent to the Data Recipient.												
Scenario	<p>Begins when... the Data Recipient sends a RequestForCatalogueItemNotification to the RDP.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>RDP</td><td>Sends a message acknowledgement to the Data Recipient.</td></tr><tr><td>2</td><td>RDP</td><td>Validates the request message.</td></tr><tr><td>3</td><td>RDP</td><td>Sends an acknowledgement to the Data Recipient.</td></tr></table> <p>Ends when... the Data Recipient receives the acknowledgement.</p>	Step #	Actor	Activity Step	1	RDP	Sends a message acknowledgement to the Data Recipient.	2	RDP	Validates the request message.	3	RDP	Sends an acknowledgement to the Data Recipient.
Step #	Actor	Activity Step											
1	RDP	Sends a message acknowledgement to the Data Recipient.											
2	RDP	Validates the request message.											
3	RDP	Sends an acknowledgement to the Data Recipient.											
Alternative Scenario	<p>The request message is invalid:</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr></table>	Step #	Actor	Activity Step									
Step #	Actor	Activity Step											

Related Rules	1	RDP	Sends an error message to the Data Recipient specifying the errors in the original message.
	Ends when...the Data Recipient receives the error message		
	ID	Rules	Weight
	166	A Request for Catalogue Item Notification with the isReload set to false will result in items being re-sent whether they were previously rejected or not. The Sync List will be reset. This is only valid for items that have previously been sent to the data recipient. The CIN response will have the following values: <ul style="list-style-type: none"> documentStatus= Original isReload = False Command= Add. 	Primary
	167	A Request for Catalogue Item Notification with the isReload set to true will result in only items not previously rejected being re-sent. The Sync List is not reset. The CIN response will have the following values: <ul style="list-style-type: none"> documentStatus= Copy isReload = True Command= Add 	Primary
	168	The Document Status of the RFCIN command is ignored for the purposes of determining its impact on the sync list and the status of the CIN that is generated.	Primary
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 Response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary

Figure 4-42 Request Catalogue Item Data Activity Diagram

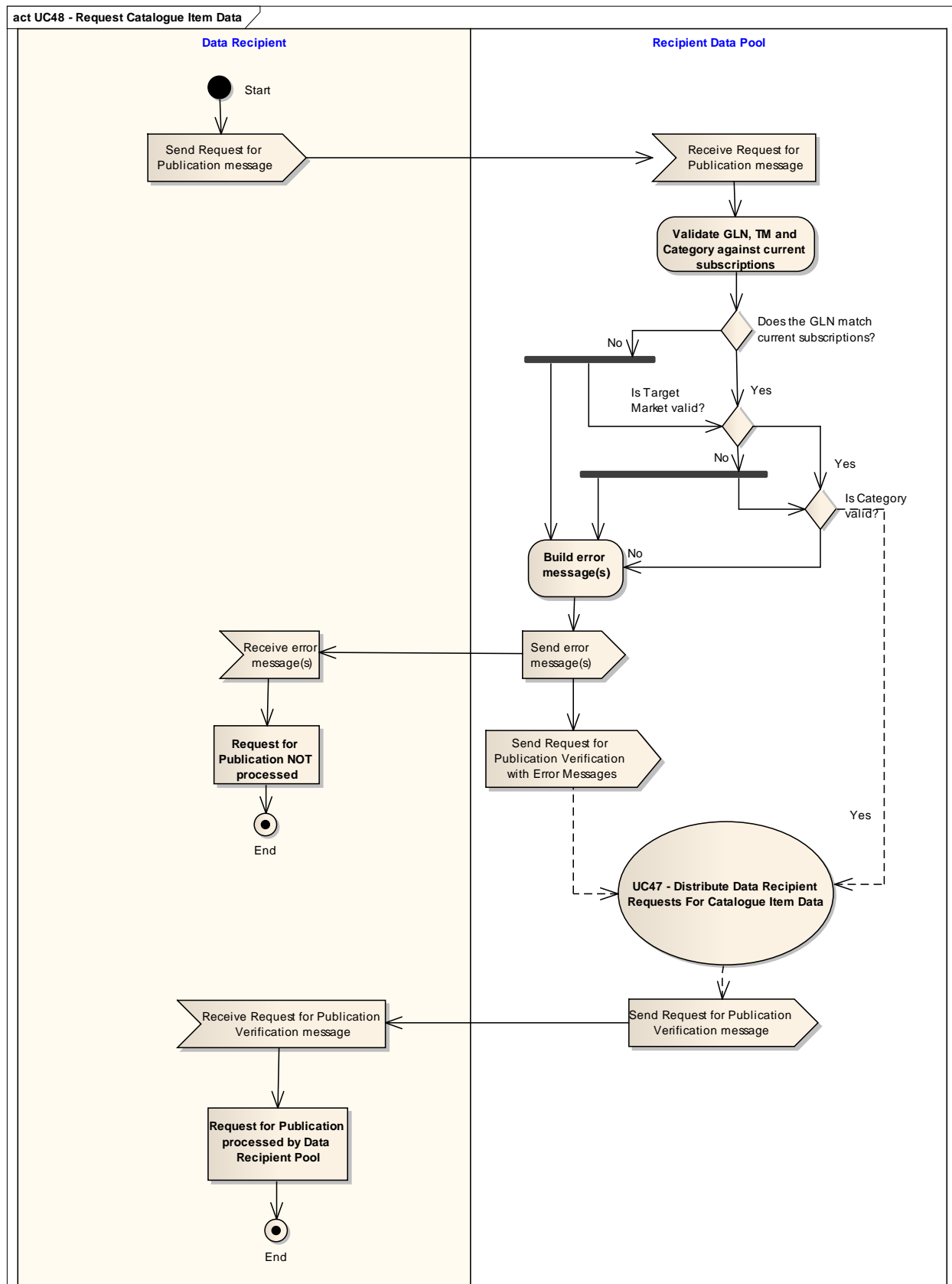
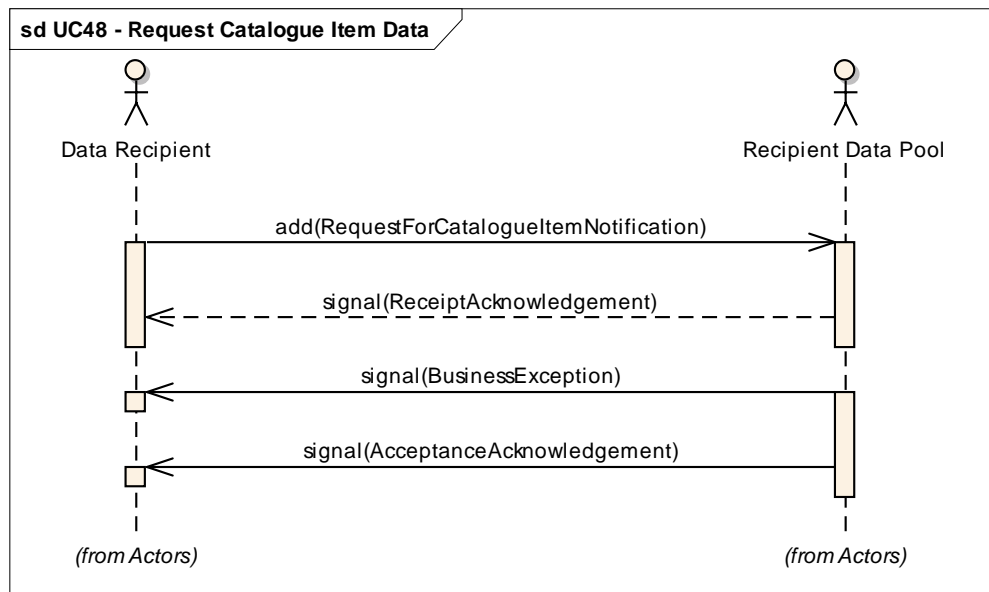
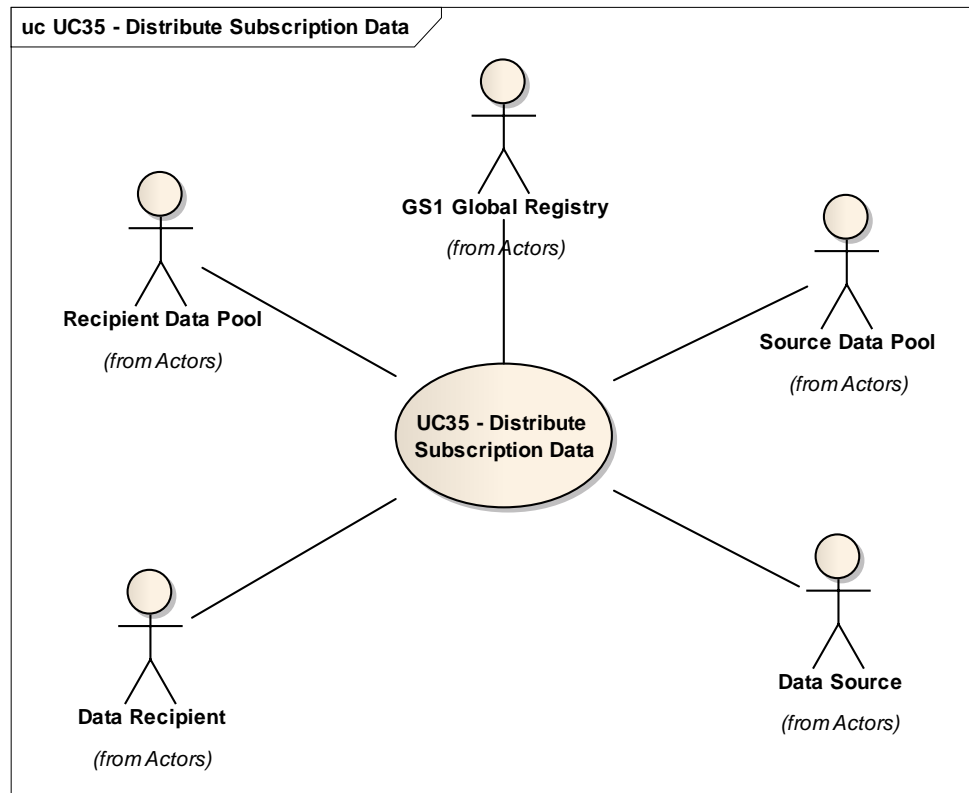


Figure 4-43 Request Catalogue Item Data Sequence Diagram

4.18. Distribute Subscription Data

Figure 4-44 Distribute Subscription Data Use Case



Use Case ID	UC-35
Use Case Name	Distribute Subscription Data
Use Case Description	<p>The Distribute Subscription Data Use Case describes how new and Delete Subscription messages are propagated throughout the Data Synchronisation system.</p> <p>Use Cases Above: UC-23: Manage Catalogue Item Distribution Criteria</p>
Actors (Goal)	Data Recipient Recipient Data Pool (RDP) Global Registry Source Data Pool (SDP) Data Source
Performance Goals	<ul style="list-style-type: none"> ■ Data Recipient: To share Subscriptions and removal of Subscriptions with the appropriate Source Data Pools and Data Sources. ■ RDP: To possess the necessary information that will allow the RDP and appropriate Source Data Pools to distribute Catalogue Item Data to the Recipient. ■ Global Registry: To propagate Subscriptions to appropriate Data Pools. ■ SDP: To possess the necessary information that will allow the SDP to distribute Catalogue Item Data to the Recipient (via their RDP). ■ Data Source: To keep track of current and potential customer's usage of Catalogue Item Data.
Preconditions	The Data recipient has either created or deleted a Subscription in their Recipient Data Pool.

Post conditions	The Subscription or delete subscription message is propagated to the Registry and proper Source Data Pools and Data Sources.																							
Scenario	<p>Begins when... the Recipient Data Pool receives a Subscription or Delete Subscription message from a Data Recipient and has validated it.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>RDP</td><td>Sends the Add/Delete Subscription to the Global Registry.</td></tr><tr><td>2</td><td>Global Registry</td><td>Validates the message.</td></tr><tr><td>3</td><td>Global Registry</td><td>Matches the subscription to Catalogue Item data in the Registry.</td></tr><tr><td>4</td><td>Global Registry</td><td>Sends the Add/Delete Subscription to the matching SDP.</td></tr><tr><td>5</td><td>SDP</td><td>Sends the Add/Delete Subscription to the appropriate Data Source.</td></tr></table> <p>Ends when... the Data Source acknowledges the Subscription message.</p>			Step #	Actor	Activity Step	1	RDP	Sends the Add/Delete Subscription to the Global Registry.	2	Global Registry	Validates the message.	3	Global Registry	Matches the subscription to Catalogue Item data in the Registry.	4	Global Registry	Sends the Add/Delete Subscription to the matching SDP.	5	SDP	Sends the Add/Delete Subscription to the appropriate Data Source.			
Step #	Actor	Activity Step																						
1	RDP	Sends the Add/Delete Subscription to the Global Registry.																						
2	Global Registry	Validates the message.																						
3	Global Registry	Matches the subscription to Catalogue Item data in the Registry.																						
4	Global Registry	Sends the Add/Delete Subscription to the matching SDP.																						
5	SDP	Sends the Add/Delete Subscription to the appropriate Data Source.																						
Alternative Scenario	<p>A new Catalogue Item is added to the Registry:</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>Global Registry</td><td>Matches the new Catalogue Item against existing Subscriptions.</td></tr><tr><td>2</td><td>Global Registry</td><td>Sends all matching Subscriptions to the SDP of the new Catalogue Item.</td></tr><tr><td>3</td><td>SDP</td><td>Forwards the Subscription to the Data Source that Published the Catalogue Item.</td></tr></table> <p>Ends when...the Data Source sends an acknowledgement of the Subscription.</p> <p>The Subscription fails validation at the Registry:</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>Global Registry</td><td>Sends an error message to the RDP.</td></tr><tr><td>2</td><td>RDP</td><td>Sends an error message to the Data Recipient.</td></tr></table> <p>Ends when...the Data Recipient receives the error message.</p>			Step #	Actor	Activity Step	1	Global Registry	Matches the new Catalogue Item against existing Subscriptions.	2	Global Registry	Sends all matching Subscriptions to the SDP of the new Catalogue Item.	3	SDP	Forwards the Subscription to the Data Source that Published the Catalogue Item.	Step #	Actor	Activity Step	1	Global Registry	Sends an error message to the RDP.	2	RDP	Sends an error message to the Data Recipient.
Step #	Actor	Activity Step																						
1	Global Registry	Matches the new Catalogue Item against existing Subscriptions.																						
2	Global Registry	Sends all matching Subscriptions to the SDP of the new Catalogue Item.																						
3	SDP	Forwards the Subscription to the Data Source that Published the Catalogue Item.																						
Step #	Actor	Activity Step																						
1	Global Registry	Sends an error message to the RDP.																						
2	RDP	Sends an error message to the Data Recipient.																						
Related Requirements																								
Related Rules	<table><tr><th>ID</th><th>Rules</th><th>Weight</th></tr><tr><td>12</td><td>Every command needs a response and is handled according to the agreement between the parties involved. In the inter-operable network, acknowledgement messages are standardised and may contain the following information:<ul style="list-style-type: none">- Confirmation of message receipt- Success / Failure of processing (syntax and content)- Reason for failure, with a code number and text message unique assigned to each failure.</td><td>Primary</td></tr></table>	ID	Rules	Weight	12	Every command needs a response and is handled according to the agreement between the parties involved. In the inter-operable network, acknowledgement messages are standardised and may contain the following information: <ul style="list-style-type: none">- Confirmation of message receipt- Success / Failure of processing (syntax and content)- Reason for failure, with a code number and text message unique assigned to each failure.	Primary																	
ID	Rules	Weight																						
12	Every command needs a response and is handled according to the agreement between the parties involved. In the inter-operable network, acknowledgement messages are standardised and may contain the following information: <ul style="list-style-type: none">- Confirmation of message receipt- Success / Failure of processing (syntax and content)- Reason for failure, with a code number and text message unique assigned to each failure.	Primary																						

	14	A subscription must be able to be maintained on the following levels: - GTIN - GLN of Data Source - Target Market - Lowest level of GS1 Classification or any combination of these 4 elements.	Primary
	15	With the set up of a subscription, a Data Recipient sets a profile to receive ongoing updates of the matching data (including all hierarchies, independently from the level subscribed on).	Primary
	17	Subscriptions must be created by data recipients in their Recipients Data Pool and sent to the Global Registry.	Primary
	18	A new Source Data Pool will get their relevant subscriptions as soon as they start registering their GTINs.	Secondary
	19	The system must maintain detailed subscription lists.	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary
	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary
	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process.	Primary
	24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
	25	The Data Distribution, which is the movement of data from one entity to another, must be handled through a specific notification type.	Primary
	29	The confirmation process must take place in the home data pool of the data recipient.	Primary
	32	Acknowledgement Reason codes must be unique.	Primary
	69	Data recipient maintains subscription.	Primary
	70	Data recipient will continue to receive updates until he rejects the data.	Primary
	72	Reject is optional: in the absence of confirmation & reject, the data recipient would still receive updates.	Primary

	73	Confirmed GTIN: - subscription: go to synchronisation list - synchronisation list: no action required.	Primary
	74	Only new products matching the initial subscription will be distributed to avoid resending data that was previously rejected.	Secondary
	78	Subscription: for every matching GTIN, independently from its level, all hierarchies will be returned.	Primary
	79	Synchronisation list: - Includes every GTIN id (GTIN+GLN+TM) that needs to be synchronised - Can be a result of the Confirmation process - All GTINs equal or lower in the hierarchy than the GTIN confirmed will be returned.	Primary
	80	Rejection at the highest level of a hierarchy will trigger the rejection of all GTINs in the hierarchy of the rejected GTIN.	Primary
	81	Synchronisation List is only synchronised between the involved source and recipient data pools for applicable data: synchronisation list is built based on confirmation received by a source data pool and nothing else.	Primary
	88	The matching process is owned and developed by each source data pool in order to trigger data distribution based on publication and subscription data.	Primary
	89	The matching process can be triggered either by publication, subscription or as a scheduled event. It is valid for all subscription types (including synchronisation list) and all publication types.	Primary
	90	For a given subscription (create/update): - the matching process identifies Items published to the GLN or TM of the subscription owner. - for each item, a notification is created including all dependent hierarchies. - for a synchronisation list, the hierarchy information included in the notification, will be limited to the GTINs maintained in the Synchronisation list. - The notification is sent to the home data pool of the data recipient.	Primary
	100	The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements: - Validation - Registration - Subscription - Global Search.	Primary
	109	A Data Recipient requests that it receive a "notification" when a specific event occurs that meets the Recipients criteria (selective on sources, categories, etc). This is subject to the recipient's access to information as controlled by the data source through its source data pool.	Primary
	110	After a Subscription is created, the Global Registry will then disseminate relevant subscriptions to appropriate Source Data Pools (current and future new data pools).	Primary
	111	Registry requirements for subscription are: - Receive and store subscriptions - Provide subscription acknowledgement - Matching process of subscriptions with Source Data Pools - Forward subscriptions	Primary

	127	The Global Registry must distribute Subscriptions only to relevant Source Data Pools.	Secondary
	129	GTIN and Category are mutually exclusive subscription criteria as the Category is uniquely defined for a given GTIN, independently from the GLN and from the TM.	Primary
	130	GTIN, GLN (of Data Source), Target Market and Classification must be stored in the Global Registry, and are linked to the Source Data Pool(s) where the data can be found. For instance, if given a GTIN, the Global Registry will be able to return all the data pools where data can be found on that GTIN, independently from the GLN of the Data Source, the Target Market or the Category.	Secondary
	131	The distribution of subscriptions is either a scheduled event or is triggered by another event.	Secondary
	132	The events that can trigger the distribution of a subscription are: - new/updated registration: check existing subscriptions, if new data pools are found : distribute subscriptions - new subscription: check existing registrations, if new data pools are found: distribute subscriptions - delete subscriptions: distribute "delete" to source data pools where subscription had been sent.	Secondary
	133	Subscriptions cannot be updated, they are created or deleted.	Primary
	134	Subscriptions must be stored in the recipient's data pool.	Secondary
	135	For every subscription, the Registry must store the GLN of the Source Data Pool to which the subscription was sent and when it was sent.	Secondary
	137	Match new subscriptions with registered Catalogue Items and forward the subscription to the Source Data Pool.	Secondary
	139	Subscription Who : Data Recipient = target GLN What : Any combination of GTIN, GLN, TM and Category.	Secondary
	141	Deletion of a Subscription stops New Catalogue Items from being sent to RDP, but, doesn't stop Catalogue Items already in the Synchronisation List from being updated.	Primary
	142	Request for Notification is not retained in the Global Registry and acts like a Subscription that is applied to the Synchronisation List, then deleted (no New Catalogue Item data will be sent).	Secondary
	143	"Reload" flag is passed through to Recipient.	Primary
	144	Request for publication (subscription) resets the reject flag if catalogue Item has been previously rejected and reactivate the subscription.	Primary
	145	The request for publication subscription is only executed once.	Primary
	146	Subscriptions are passed from global Registry to data pools just once. The Global Registry passes along to the source data pool matching subscriptions in the entirety, rather than replicating for each GTIN registered.	Secondary
	147	Request for notification publication (subscription) resets the reject flag if the Catalogue Item has been previously rejected and reactivates the subscription.	Secondary
	149	Upon execution of an item data notification, the source data pool will pass along the value of this attribute within the message for the recipient to properly route the inbound message.	Secondary

	151	The team wanted to reiterate the fact that new subscriptions received by a source data pool would be executed immediately a single time.	Secondary
	152	The ability to set up a subscription and not get an initial full load of data. She wants to only receive the changes, adds, deletes and new items that match her subscription. (This is the same as a regular subscription with the exception of not getting the initial load).	Secondary
	154	The Global Registry shall send only once a subscription to a Source Data Pool.	Secondary
	156	Subscription matches are performed at any level of the hierarchy. The data recipient is sent all hierarchies that match.	Primary
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 Response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary

Figure 4-45 Distribute Subscription Data Activity Diagram

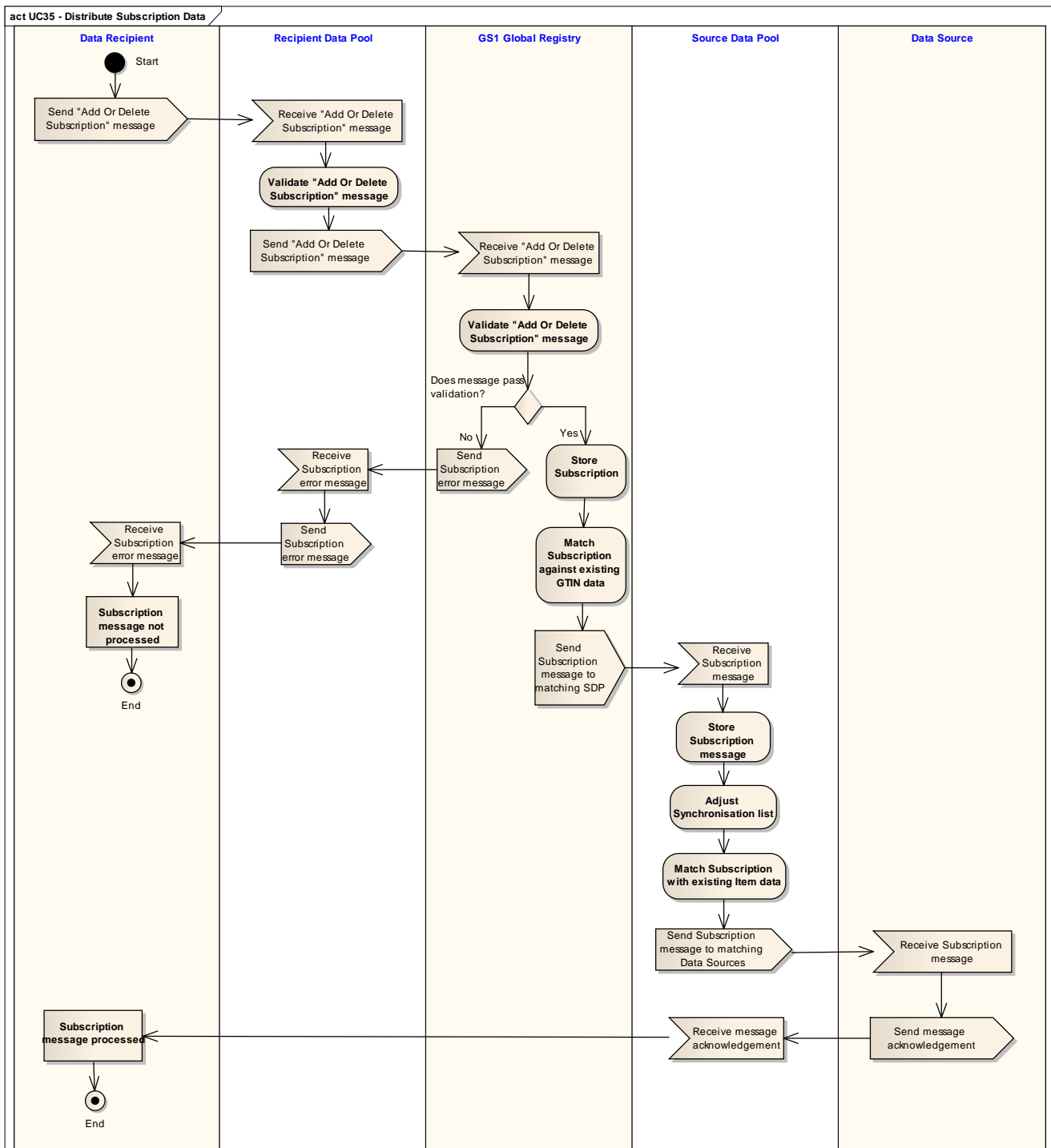
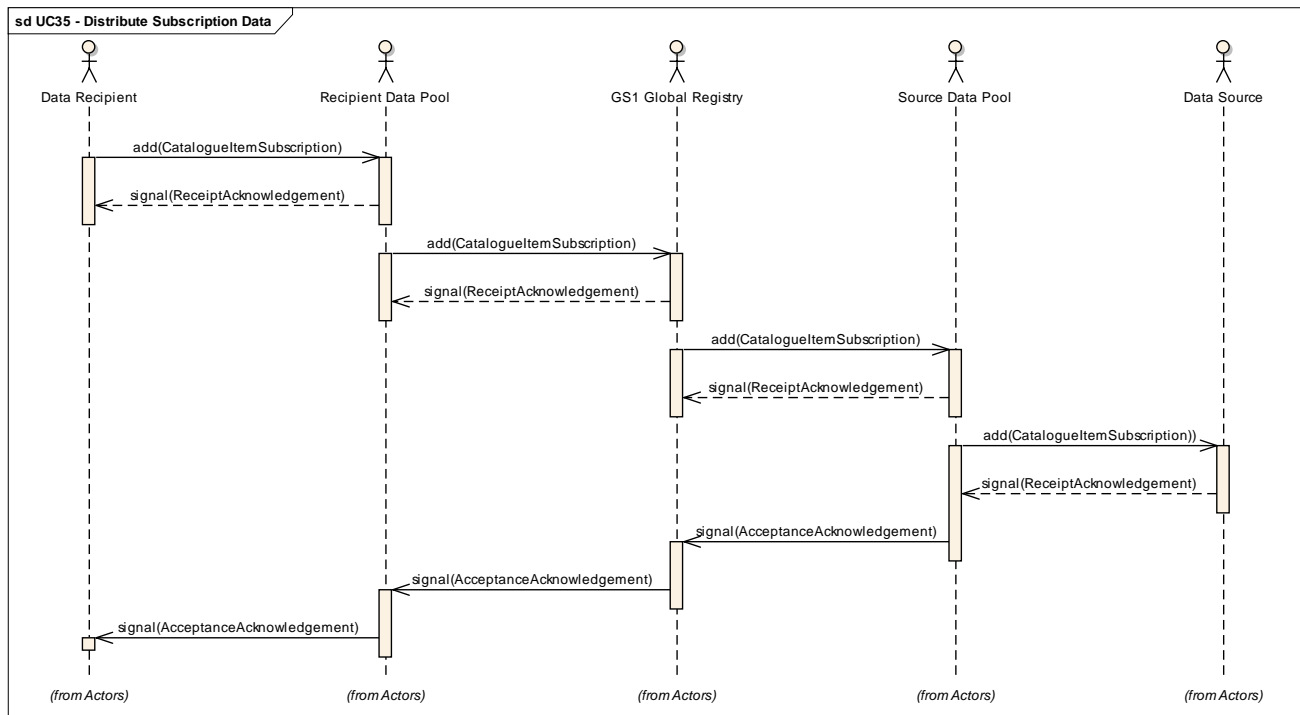
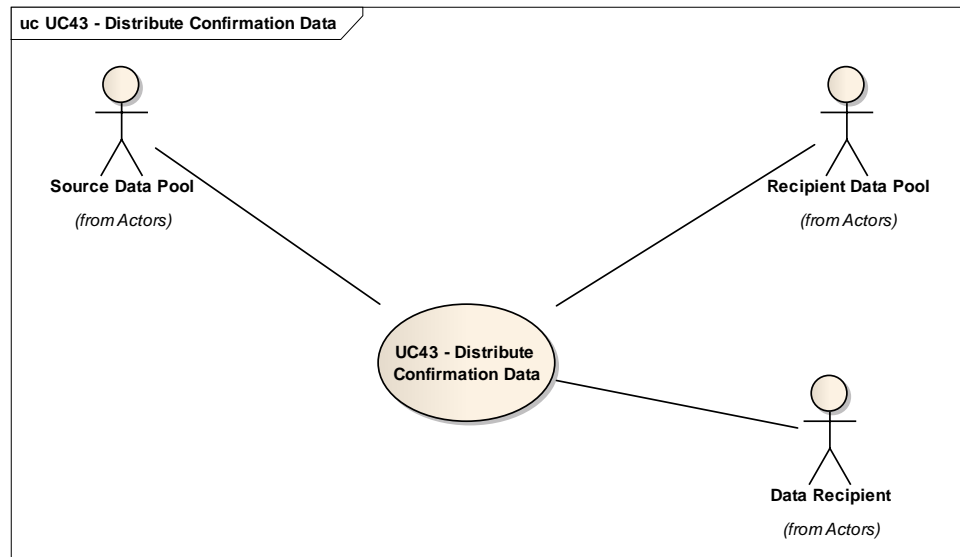


Figure 4-46 Distribute Subscription Data Sequence Diagram



4.19. Distribute Confirmation Data

Figure 4-47 Distribute Confirmation Data Use Case Diagram



Use Case ID	UC-43
Use Case Name	Distribute Confirmation Data
Use Case Description	<p>The Distribute Confirmation Data Use Case describes how the Data Recipient informs the Source Data pool of the status of an individual Catalogue Item Data synchronisation that was the result of a Publication / Subscription match. Valid values for the status are: "no value" (continue to send updates), "Accept" (Data Recipient signals that they are interested in the Catalogue Item, continue to send updates), "Synchronised" (Data Recipient signals that they intend to keep their database synchronised, continue to send updates) and "Reject" (Data Recipient signals that they are not interested in the Catalogue Item, do not continue to send updates).</p> <p>Confirmations are passed to the Source Data Pool from the Recipient Data Pool.</p> <p>In the case that the status of the "Catalogue Confirmation State List" is set to either "Review" or "Rejected" the Catalogue Item Confirmation (CIC) Message can include additional information about the Confirmation back to the Supplier (Data Source).</p> <p>Use Cases Above: UC-47: Distribute Data Recipient Requests for Catalogue Item Data</p>
Actors (Goal)	Data Recipient Recipient Data Pool (RDP) Source Data Pool (SDP)
Performance Goals	<ul style="list-style-type: none"> ■ Data Recipient: To prohibit future synchronisations of specific Catalogue Item Data, or, to notify the Source Data Pool of the Data Recipient's intentions regarding the Catalogue Item data. ■ RDP: To possess the necessary information that will allow the RDP and appropriate Source Data Pools to distribute Catalogue Item Data to the Recipient. ■ SDP: To possess the necessary information that will allow the SDP to distribute Catalogue Item Data to the Recipient (via their RDP).
Preconditions	The Data recipient has either created a Subscription in their Recipient Data Pool and has received Catalogue Item data.
Post conditions	In the case of a "Rejection", the Data Recipient no longer receives updates to the specific Catalogue Item. For all other authorizations, the Source Data Pool is aware of the Data Recipient's intentions

	regarding the Catalogue Item data. In the event of a CIC Status of Review or Rejected, the Data Source optionally receives the confirmation code, description, and the comment and understands what action they need to take to resolve the current situation.		
Scenario	Begins when... the Data Recipient sends a Confirmation message to the Recipient Data Pool.		
	Continues with...		
	Step #	Actor	Activity Step
	1	RDP	Sends the Confirmation to the SDP.
	2	SDP	Validates the message.
	3	SDP	Matches the Confirmation with the Recipient's Synchronisation List. A "Reject" Confirmation will stop future publications of the whole hierarchy.
	4	SDP	Applies the change to the Data Recipient Synchronisation List.
	5	SDP	Sends the Confirmation to the Data Source.
	6	SDP	Sends a Confirmation Acknowledgement to the RDP.
	7	RDP	Forwards the Confirmation Acknowledgement to the Data Recipient.
	Ends when... the Data Recipient sends an acknowledgement of the Recipient Data Pool's message.		
Alternative Scenario	The Confirmation message does not pass validation:		
	Step #	Actor	Activity Step
	1	SDP	Sends a Confirmation Error message to the RDP.
	2	RDP	Forwards the Confirmation Error message to the Data Recipient.
		Ends when... the Data Recipient sends an acknowledgement of the error message.	
Related Rules	ID	Rules	Weight
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the inter-operable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt- Success / Failure of processing (syntax and content)- Reason for failure, with a code number and text message unique assigned to each failure.	Primary
	17	Subscriptions must be created by data recipients in their Recipients Data Pool and sent to the Global Registry.	Primary
	18	A new Source Data Pool will get their relevant subscriptions as soon as they start registering their GTINs.	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary
	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary

	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process.	Primary
	24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
	25	The Data Distribution, which is the movement of data from one entity to another, must be handled through a specific notification type.	Primary
	29	The confirmation process must take place in the home data pool of the data recipient.	Secondary
	32	Acknowledgement Reason codes must be unique.	Primary
	75	Updates for confirmed products will be distributed based on the synchronisation list.	Secondary
	76	Confirmation (accept or synchronised) will indicate the data recipient's commitment to synchronise the data in its internal systems.	Secondary
	77	Filtering out rejected data is a source data pool responsibility.	Secondary
	78	Subscription: for every matching GTIN, independently from its level, all hierarchies will be returned.	Primary
	79	Synchronisation list: - Includes every GTIN id (GTIN+GLN+TM) that needs to be synchronised - Can be a result of the Confirmation process - All GTINs equal or lower in the hierarchy than the GTIN confirmed will be returned.	Secondary
	80	Rejection at the highest level of a hierarchy will trigger the rejection of all GTINs in the hierarchy of the rejected GTIN.	Secondary
	81	Synchronisation List is only synchronised between the involved source and recipient data pools for applicable data: synchronisation list is built based on confirmation received by a source data pool and nothing else.	Primary
	88	The matching process is owned and developed by each source data pool in order to trigger data distribution based on publication and subscription data.	Primary
	89	The matching process can be triggered either by publication, subscription or as a scheduled event. It is valid for all subscription types (including synchronisation list) and all publication types.	Primary
	90	For a given subscription (create/update): - the matching process identifies Items published to the GLN or TM of the subscription owner. - for each item, a notification is created including all dependent hierarchies. - for a synchronisation list, the hierarchy information included in the notification, will be limited to the GTINs maintained in the Synchronisation list. - The notification is sent to the home data pool of the data recipient.	Primary
	94	Confirmation is not mandatory and can provide 4 outcomes: 1. Synchronised: data is integrated, in synch 2. Accept: Data has been received by the data recipient, but no business decision has been made on the data. 3. Reject: data will no longer be synchronised or updates will no longer be provided.	Secondary

		<p>4. Review: request to the data source to review their data and take action (applies to adds & changes) because the data recipient has received discrepant data which they cannot synchronise.</p> <p>If no confirmation is sent, data updates will continue to be provided until the data recipient accepts, rejects or updates the subscription, or until the data source changes the publication. For a new Catalogue Item the same confirmation can be used.</p>	
	95	The list of authorised values for the confirmation message does not imply a sequence in which the message has to be used.	Secondary
	96	The same “confirmation” message can be used to stop synchronising a Catalogue Item. In that case, the “Reject” status will be used.	Secondary
	97	“Synchronised” status is sent once – parties are assumed to be in synch unless a reject/review status is exchanged.	Secondary
	98	Note: rejection should not remove data previously authorised, for instance in a different hierarchy.	Secondary
	100	The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements: - Validation - Registration - Subscription - Global Search.	Primary
	109	A Data Recipient requests that it receive a “notification” when a specific event occurs that meets the Recipients criteria (selective on sources, categories, etc). This is subject to the recipient’s access to information as controlled by the data source through its source data pool.	Primary
	110	After a Subscription is created, the Global Registry will then disseminate relevant subscriptions to appropriate Source Data Pools (current and future new data pools).	Primary
	111	Registry requirements for subscription are: - Receive and store subscriptions - Provide subscription acknowledgement - Matching process of subscriptions with Source Data Pools - Forward subscriptions.	Primary
	127	The Global Registry must distribute Subscriptions only to relevant Source Data Pools.	Primary
	129	GTIN and Category are mutually exclusive subscription criteria as the Category is uniquely defined for a given GTIN, independently from the GLN and from the TM.	Primary
	130	GTIN, GLN (of Data Source), Target Market and Classification must be stored in the Global Registry, and are linked to the Source Data Pool(s) where the data can be found. For instance, if given a GTIN, the Global Registry will be able to return all the data pools where data can be found on that GTIN, independently from the GLN of the Data Source, the Target Market or the Category.	Primary
	131	The distribution of subscriptions is either a scheduled event or is triggered by another event.	Primary
	132	The events that can trigger the distribution of a subscription are: - new/updated registration: check existing subscriptions, if new data pools are found : distribute subscriptions - new subscription: check existing registrations, if new data pools are found: distribute subscriptions - delete subscriptions: distribute “delete” to source data pools where subscription had been sent.	Primary
	133	Subscriptions cannot be updated, they are created or deleted.	Primary

	134	Subscriptions must be stored in the recipient's data pool.	Primary
	135	For every subscription, the Registry must store the GLN of the Source Data Pool to which the subscription was sent and when it was sent.	Primary
	137	Match new subscriptions with registered Catalogue Items and forward the subscription to the Source Data Pool.	Primary
	139	Subscription Who : Data Recipient = target GLN What : Any combination of GTIN, GLN, TM and Category.	Primary
	141	Deletion of a Subscription stops New Catalogue Items from being sent to RDP, but, doesn't stop Catalogue Items already in the Synchronisation List from being updated.	Primary
	142	Request for Notification is not retained in the Global Registry and acts like a Subscription that is applied to the Synchronisation List, then deleted (no New Catalogue Item data will be sent).	Primary
	143	"Reload" flag is passed through to Recipient.	Primary
	144	Request for publication (subscription) resets the reject flag if catalogue Item has been previously rejected and reactivate the subscription.	Primary
	145	The request for publication subscription is only executed once.	Primary
	146	Subscriptions are passed from global Registry to data pools just once. The Global Registry passes along to the source data pool matching subscriptions in the entirety, rather than replicating for each GTIN registered.	Primary
	147	Request for notification publication (subscription) resets the reject flag if the Catalogue Item has been previously rejected and reactivates the subscription.	Primary
	149	Upon execution of an item data notification, the source data pool will pass along the value of this attribute within the message for the recipient to properly route the inbound message.	Primary
	151	The team wanted to reiterate the fact that new subscriptions received by a source data pool would be executed immediately a single time.	Primary
	152	The ability to set up a subscription and not get an initial full load of data. She wants to only receive the changes, adds, deletes and new items that match her subscription. (This is the same as a regular subscription with the exception of not getting the initial load).	Primary
	154	The Global Registry shall send only once a subscription to a Source Data Pool.	Primary
	156	Subscription matches are performed at any level of the hierarchy. The data recipient is sent all hierarchies that match.	Primary
	157	Confirmations will be done at the highest level of the published trade item hierarchy.	Primary
	158	Top of hierarchy is assumed to be the largest available unit determined by the data source. Defined as the GTIN of the highest published item in the hierarchy.	Primary
	160	Catalogue Item Confirmations (CIC) for the item at the top level of the hierarchy with a status of reject will stop publications of the whole hierarchy.	Primary

	161	A CIC with a status of Rejected, Received, Review or Synchronised sent for an item below the highest level of the published item hierarchy will result in a CIC failure.	Primary
	171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 Response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary
	172	When the status of the "Catalogue Confirmation State List" is set to either "Review" or "Rejected", there may be additional information in the CIC message such as the confirmation code, description, and the comment and understands what action they need to take to resolve the current situation.	Primary
	173	This Confirmation Code and Description are joined as a pair.	Primary
	174	The CIC message can include multiple Catalogue Item References (GTIN + GLN + Target Market) to establish the relationship between the information communicated and the actual Catalogue Item being referenced.	Primary
	222	Confirmations may include a Catalogue Item Confirmation Status Code of Incorrect product context. This is to inform the data source that the Trade Item data published to the Data Recipient does not have a correct associated context. This confirmation status is optional and the Data Recipient may accept the Trade Item.	Primary

Figure 4-48 Distribute Confirmation Data Activity Diagram

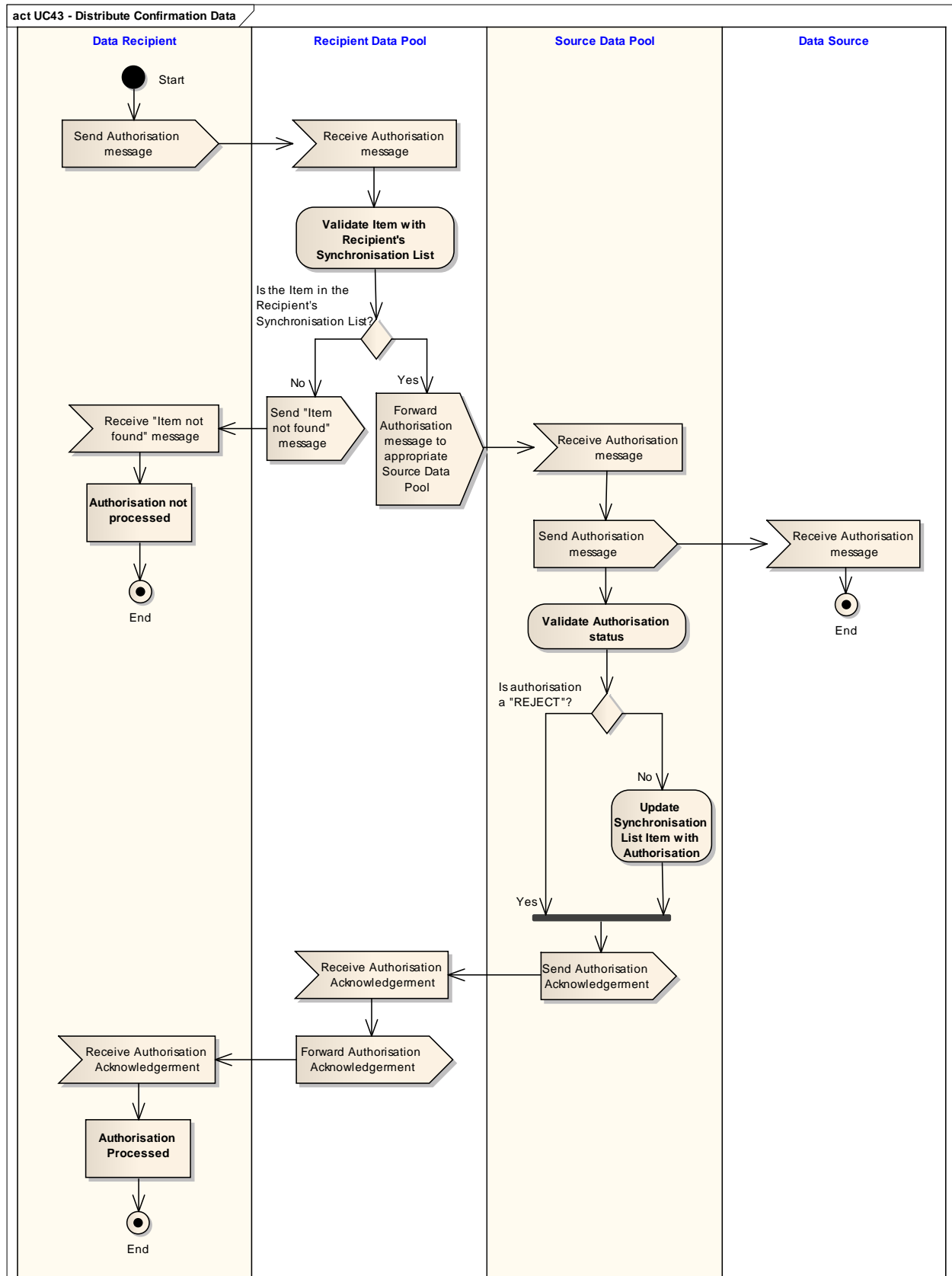
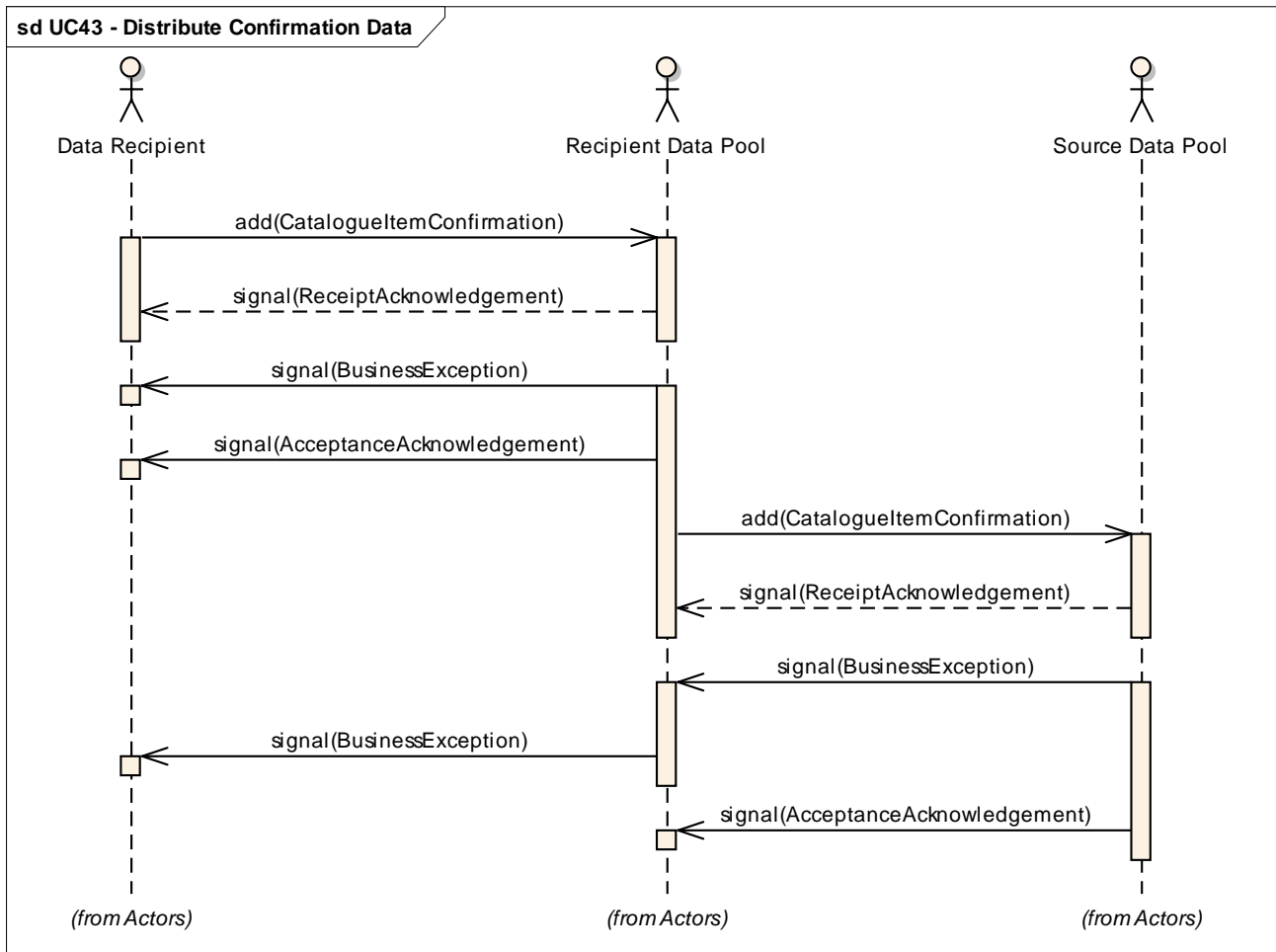
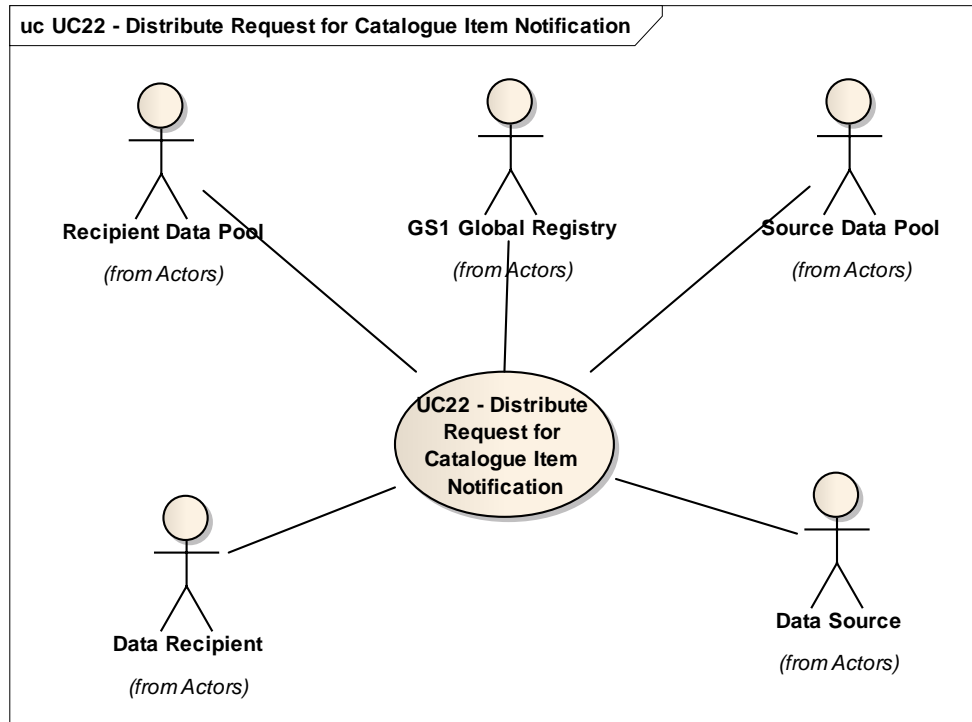


Figure 4-49 Distribute Catalogue Item Confirmation Sequence Diagram

4.20. Distribute Request for Catalogue Item Notification

Figure 4-50 Distribute Request for Catalogue Item Notification Use Case Diagram



Use Case ID	UC-22
Use Case Name	Distribute Request for Catalogue Item Notification
Use Case Description	<p>The Distribute Request for Catalogue Item Notification Use Case describes how the message is passed from Data Recipient through to the Source Data Pool and Data Source.</p> <p>This Use Case makes use of the RequestForCatalogueItemNotification message. This message is identical to the CatalogueItemSubscription with the addition of a "reload" flag. This reload flag is later attached to the resultant CatalogueItemNotification message to allow the Data Recipient to process it differently than a normal notification. The RequestForCatalogueItemNotification message is also different from a Subscription in that it is not retained in the Global Registry after the Source Data Pools have received it.</p> <p>Uses Cases Above: UC-47: Distribute Data Recipient Requests for Catalogue Item Data</p>
Actors (Goal)	Data Recipient Recipient Data Pool (RDP) Global Registry Source Data Pool (SDP) Data Source
Performance Goals	<ul style="list-style-type: none"> ■ Data Recipient: To request that previously sent Catalogue Item data be resent. ■ RDP: To possess the necessary information that will allow the RDP and appropriate Source Data Pools to distribute Catalogue Item Data to the Recipient. ■ Global Registry: To forward to appropriate Source Data Pools all requests from Data Recipients. ■ SDP: To possess the necessary information that will allow the SDP to distribute Catalogue Item Data to the Recipient (via their RDP).

	<div>■ Data Source: To be aware of all usages of supplied data.</div>		
Preconditions	The Data Recipient has created a Subscription in their Recipient Data Pool and has received Catalogue Item data.		
Post conditions	The request is passed to the Global Registry, appropriate Source Data pools and the Data Source.		
Scenario	Begins when... the Data Recipient sends a Request message to the Recipient Data Pool.		
	Continues with...		
	Step #	Actor	Activity Step
	1	RDP	Sends the Request to the Global Registry.
	2	Global Registry	Matches the Request with a list of Source Data Pools.
	3	Global Registry	Sends the request to the appropriate Source Data Pool.
	4	Source Data Pool	Sends a copy of the request to the Data Source.
Alternative Scenario	Not Applicable		
Related Rules	Not Applicable		

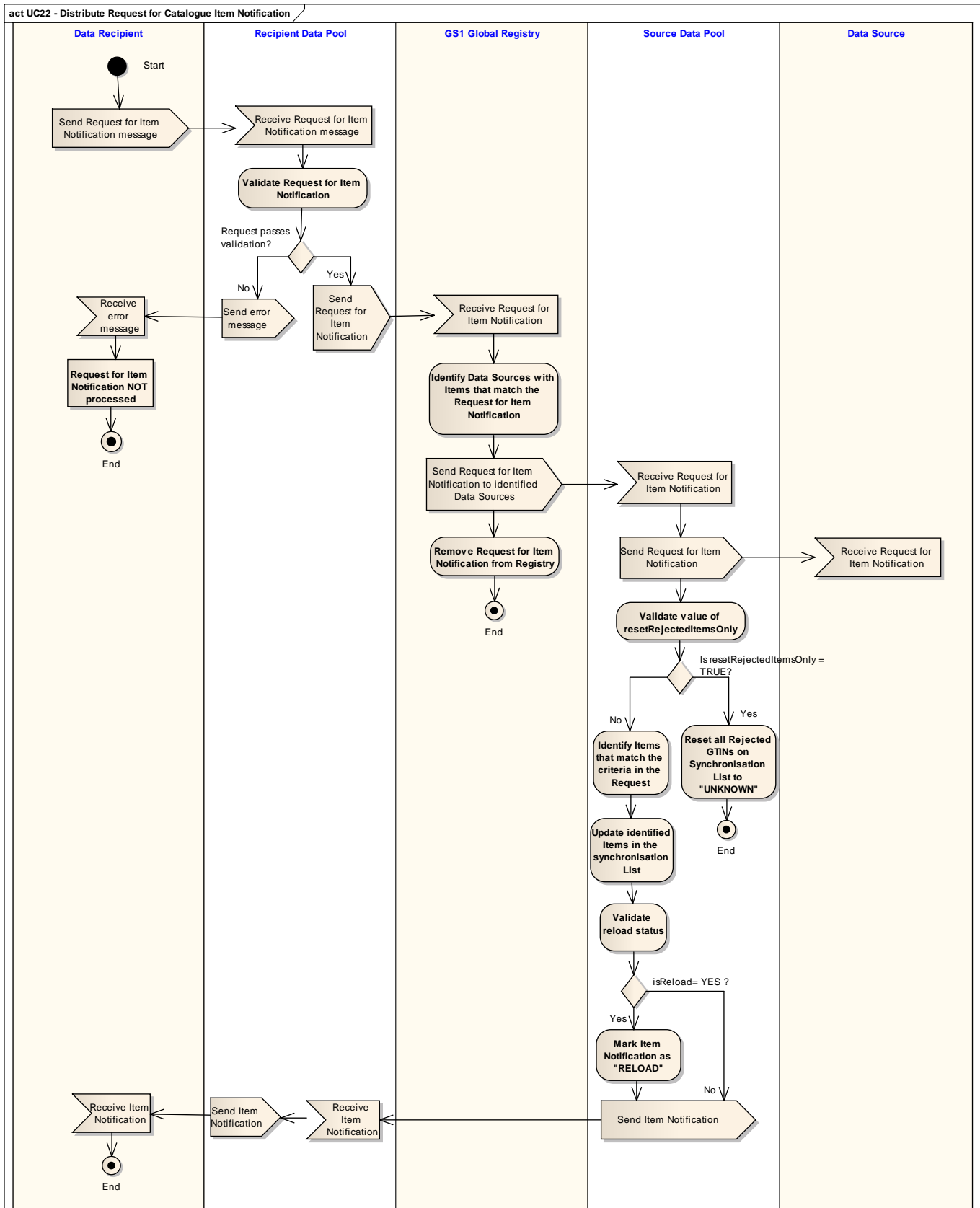
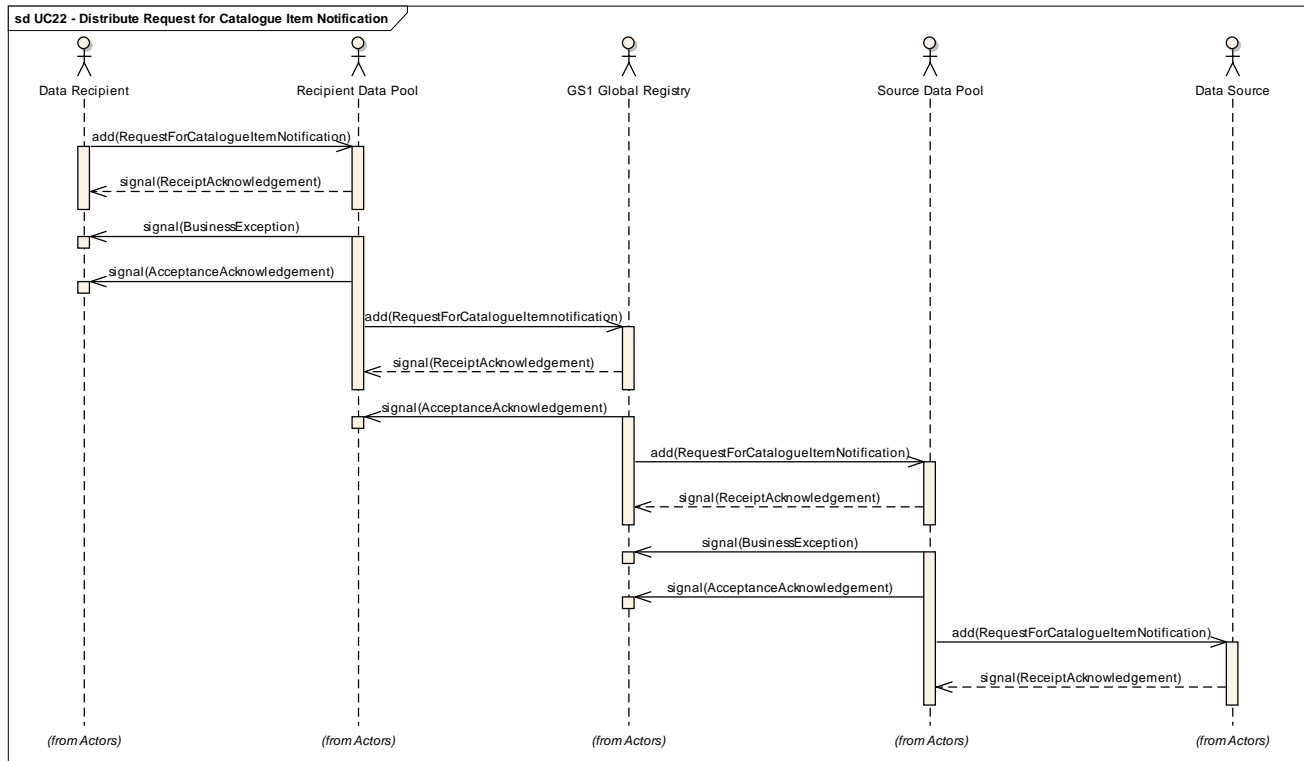
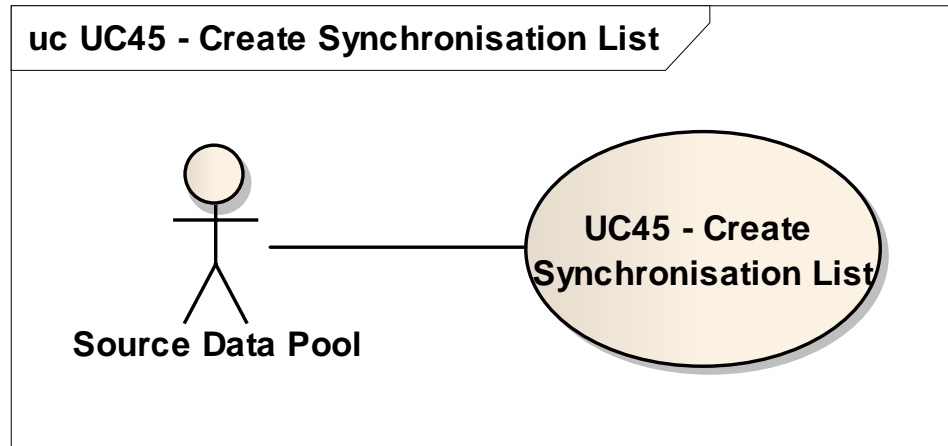
Figure 4-51 Distribute Request for Catalogue Item Notification

Figure 4-52 Distribute Request for Catalogue Item Notification Sequence Diagram



4.21. Create Synchronisation List

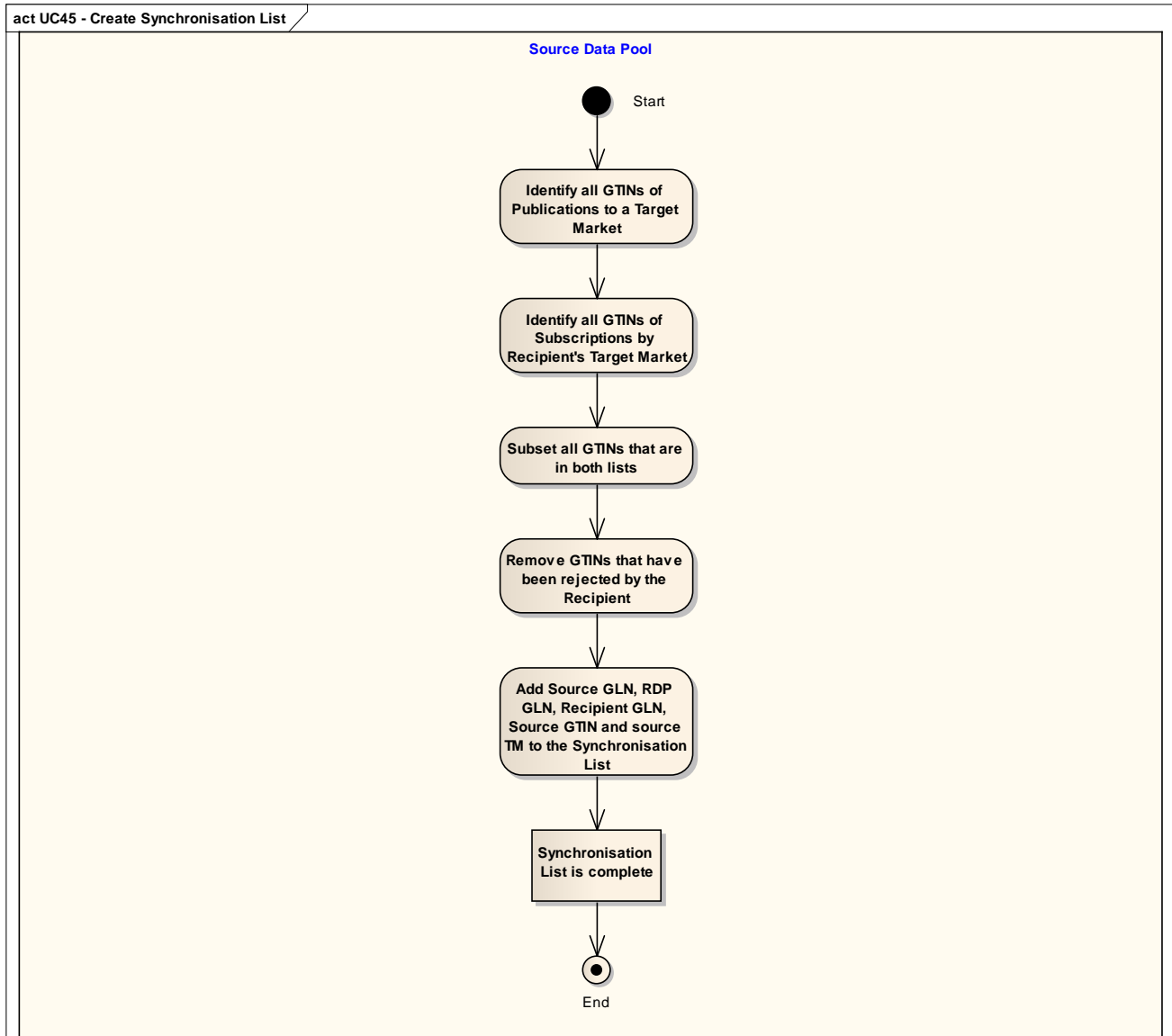
Figure 4-53 Create Synchronisation List



Use Case ID	UC-45												
Use Case Name	Create Synchronisation List												
Use Case Description	<p>The Synchronisation list is the sole means by which a Source Data Pool determines the Catalogue Item Data that is to be sent to a Data Recipient (via the Recipient's Recipient Data Pool).</p> <p>The Synchronisation list is created based on Publications, Subscriptions and Confirmations. Each one of these pares down the matches between Catalogue Item and Recipient. The delta or net positive matches are placed into the Synchronisation List, which is used by the "Distribute Catalogue Item Data from SDP to RDP" (UC-37) and "Distribute Catalogue Item Data from RDP to Data Recipient" (UC-38) Use Cases.</p> <p>UC-37 will use the Synchronisation List to send Recipient bound Catalogue Item Data to the Recipient Data Pool. UC-38 will then pass all appropriate Catalogue Item data to the Recipient.</p>												
Actors (Goal)	Source Data Pool (SDP)												
Performance Goals	SDP: To determine which Recipient should be sent what Catalogue Item Hierarchy data.												
Preconditions	Publications, Subscriptions and Confirmations exist in the Source Data Pool.												
Post conditions	The Synchronisation List is created and able to be used to direct the Source Data Pool in moving appropriate Catalogue Item data to Recipient Data Pools.												
Scenario	<p>Begins when... the Source Data Pool receives an add or delete of a Publication, an Add of a Subscription, Confirmation ,or a Add, Change, Correct of an Catalogue Item Hierarchy message.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Identifies all GTINs of publications based on publication criteria.</td></tr><tr><td>2</td><td>SDP</td><td>Identifies all GTINs of subscriptions according to subscription criteria.</td></tr><tr><td>3</td><td>SDP</td><td>Creates a subset all GTINs that are in both lists</td></tr></table>	Step #	Actor	Activity Step	1	SDP	Identifies all GTINs of publications based on publication criteria.	2	SDP	Identifies all GTINs of subscriptions according to subscription criteria.	3	SDP	Creates a subset all GTINs that are in both lists
Step #	Actor	Activity Step											
1	SDP	Identifies all GTINs of publications based on publication criteria.											
2	SDP	Identifies all GTINs of subscriptions according to subscription criteria.											
3	SDP	Creates a subset all GTINs that are in both lists											

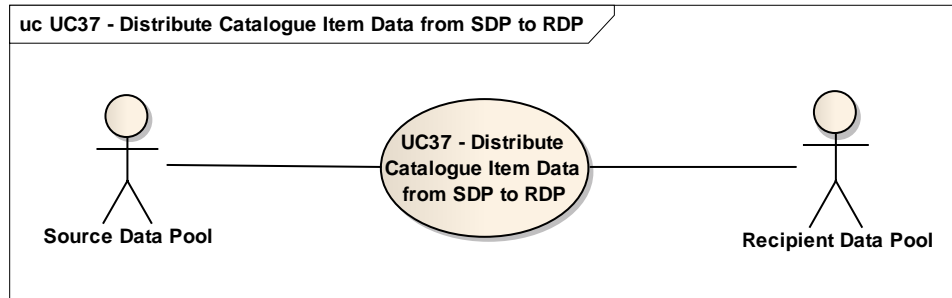
	4	SDP	Removes GTINs that have been rejected by the Recipient.
	5	SDP	Adds Source GLN, RDP GLN, Recipient GLN, Source GTIN and Source TM to the Synchronisation List
Ends when... Synchronisation Listed is complete.			
Alternative Scenario	Not Applicable		
Related Rules	Not Applicable		

Figure 4-54 Create Synchronisation List



4.22. Distribute Catalogue Item Data from SDP to RDP

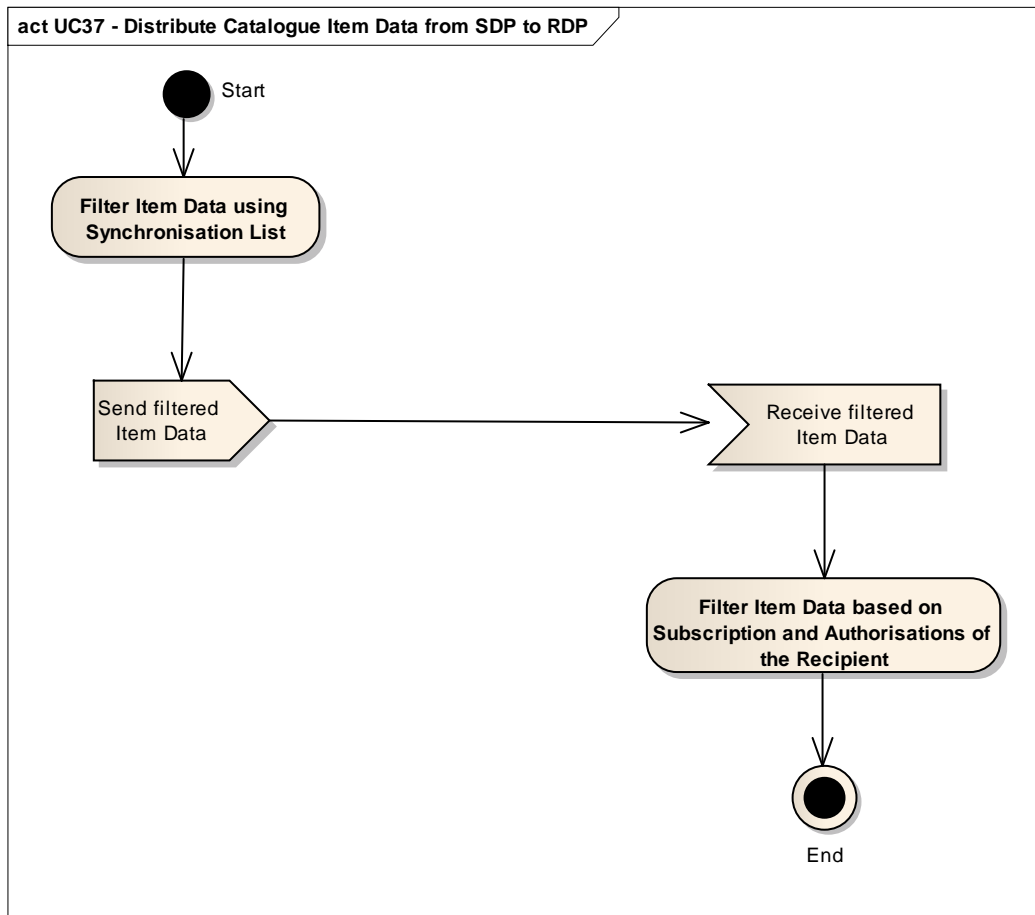
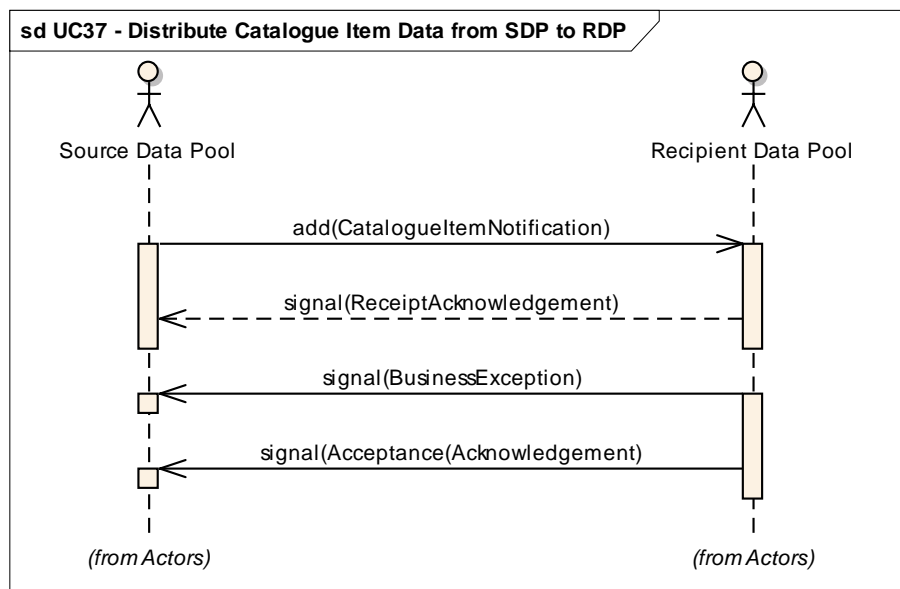
Figure 4-55 Distribute Catalogue Item Data from SDP to RDP Use Case Diagram



Use Case ID	UC-37									
Use Case Name	Distribute Catalogue Item Data from SDP to RDP									
Use Case Description	Using the Distribution Criteria, the Catalogue Item Data are distributed from SDP to RDP.									
Actors (Goal)	Source Data Pool (SDP) Recipient Data Pool (RDP)									
Performance Goals	<ul style="list-style-type: none">SDP: Distribute Catalogue Item Data to the RDP based on the Distribution Criteria.RDP: To receive Catalogue Item Data that complies with the Distribution Criteria.									
Preconditions	<ul style="list-style-type: none">Publications are available at the SDP.Subscriptions are communicated to the SDP. The SDP has the updated Synchronisation list based on the subscriptions and Confirmations received.The SDP knows which RDP needs to receive Catalogue Item Data for each Recipient.The DR has registered contexts that they support if required by the DR.									
Post conditions	RDP has received Catalogue Item Data that comply with the Distribution Criteria and are valid according to the validation rules of the associated product context.									
Scenario	<p>Begins when... the SDP filters the Catalogue Item Data using the Synchronisation list.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Sends filtered Catalogue Item Data to the RDP.</td></tr><tr><td>2</td><td>RDP</td><td>Receives the Catalogue Item Data.</td></tr></table> <p>Ends when... the RDP uses the Subscription and Confirmations of the recipient to filter the Catalogue Item Data to identify any Catalogue Items that should not have been sent.</p>	Step #	Actor	Activity Step	1	SDP	Sends filtered Catalogue Item Data to the RDP.	2	RDP	Receives the Catalogue Item Data.
Step #	Actor	Activity Step								
1	SDP	Sends filtered Catalogue Item Data to the RDP.								
2	RDP	Receives the Catalogue Item Data.								
Alternative Scenario	<p>Begins when... the SDP filters the Catalogue Item Data using the Synchronisation list..</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Discovers that the context associated with CIN Item is not among the context versions registered for the DR at the Global Registry.</td></tr><tr><td>2</td><td>SDP</td><td>Sends error message to DS</td></tr></table>	Step #	Actor	Activity Step	1	SDP	Discovers that the context associated with CIN Item is not among the context versions registered for the DR at the Global Registry.	2	SDP	Sends error message to DS
Step #	Actor	Activity Step								
1	SDP	Discovers that the context associated with CIN Item is not among the context versions registered for the DR at the Global Registry.								
2	SDP	Sends error message to DS								

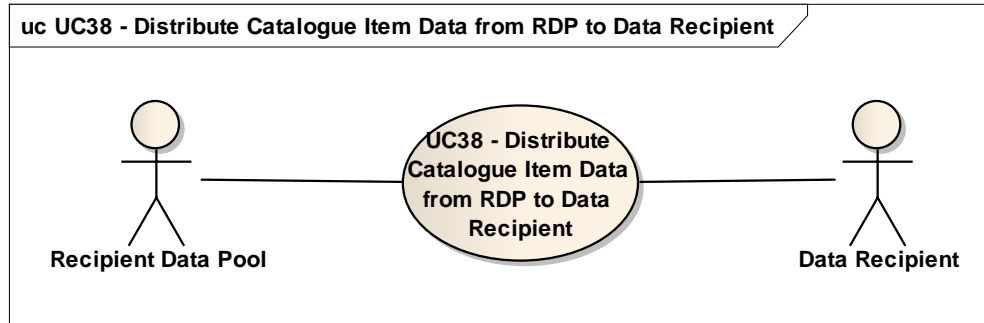
	3	SDP	Sends filtered Catalogue Item Data to the RDP with context the Catalogue Item was validated against.
	4	RDP	Receives the Catalogue Item Data.
Ends when... the DS receives the error message and RDP receives Catalogue Item Data.			
Related Rules	ID	Rules	Weight
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the inter-operable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt- Success / Failure of processing (syntax and content)- Reason for failure, with a code number and text message unique assigned to each failure.	Primary
	13	The Data Source grants visibility of item, party and partner profiles including party capabilities data to a given list of parties (identified by their GLNs) or to all parties in a given Target Market.	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the inter-operable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt- Success / Failure of processing (syntax and content)- Reason for failure, with a code number and text message unique assigned to each failure.	Primary
	22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary
	23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process	Primary
	24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
	25	The Data Distribution, which is the movement of data from one entity to another, must be handled through a specific notification type.	Secondary
	26	Notification to the data recipient will always include the entire hierarchy. (applies to add & update by adding a higher level).	Secondary
	27	In case of an ItemLink correction, the entire hierarchy will be indicated as corrected in the notification.	Primary
	28	The updated hierarchy always fully replaces the current hierarchy. This action is called "Full Refresh".	Primary
	32	Acknowledgement Reason codes must be unique.	Primary
	58	Deletes are not synchronised across data pools.	Primary
	81	Synchronisation List is only synchronised between the involved source and recipient data pools for applicable data: synchronisation list is built based on confirmation received by a source data pool and	Secondary

		nothing else.	
88	The matching process is owned and developed by each source data pool in order to trigger data distribution based on publication and subscription data.	Primary	
89	The matching process can be triggered either by publication, subscription or as a scheduled event. It is valid for all subscription types (including synchronisation list) and all publication types.	Primary	
93	Although the notification process will physically move the data from one data pool to another, this data should not be stored permanently for the purpose of synchronisation with any other user than the initial subscriber. If stored, access should be limited to the initial data recipient.	Primary	
109	A Data Recipient requests that it receive a “notification” when a specific event occurs that meets the Recipients criteria (selective on sources, categories, etc). This is subject to the recipient’s access to information as controlled by the data source through its source data pool.	Primary	
125	The Source Data Pool is responsible to reset the "Reload" flag once it sends all requested data.	Secondary	
126	If a new Reload is needed, the Recipient must delete the previous Reload Subscription, then create a new Subscription with the "Reload" flag set.	Secondary	
143	"Reload" flag is passed through to Recipient.	Primary	
159	Multiple independent hierarchies can co-exist at the data-pool for an item for example hierarchy 1 = case A – each A and hierarchy 2 = pallet A – case A –each A.	Primary	
166	A Request for Catalogue Item Notification with the isReload set to false will result in items being re-sent whether they were previously rejected or not. The Sync List will be reset. This is only valid for items that have previously been sent to the data recipient. The CIN response will have the following values: documentStatus= Original isReload = False Command= Add.	Primary	
167	A Request for Catalogue Item Notification with the isReload set to true will result in only items not previously rejected being re-sent. The Sync List is not reset. The CIN response will have the following values: documentStatus= Copy isReload = True Command= Add.	Primary	
168	The Document Status of the RFCIN command is ignored for the purposes of determining its impact on the sync list and the status of the CIN that is generated.	Primary	
171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 Response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary	

Figure 4-56 Distribute Catalogue Item Data from SDP to RDP Activity Diagram

Figure 4-57 Distribute Catalogue Item Data from SDP to RDP Sequence Diagram


4.23. Distribute Catalogue Item Data from RDP to Recipient

Figure 4-58 Distribute Catalogue Item Data from RDP to Recipient Use Case Diagram



Use Case ID	UC-38		
Use Case Name	Distribute Catalogue Item Data from RDP to Recipient		
Use Case Description	Catalogue Item Data are distributed from RDP to the Data Recipient.		
Actors (Goal)	Recipient Data Pool (RDP) Data Recipient		
Performance Goals	<ul style="list-style-type: none"> ■ RDP: Distribute Catalogue Item Data to the Recipient based on the Subscriptions and Confirmations. ■ Data Recipient: To receive Catalogue Item Data that complies with their Subscriptions and Confirmations. 		
Preconditions	<ul style="list-style-type: none"> ■ Publications, Subscriptions and Confirmations have been defined. ■ The Catalogue Item Data are filtered by the RDP 		
Post conditions	Data Recipient has received Catalogue Item Data that comply with their Subscriptions and Confirmations.		
Scenario	Begins when... the RDP sends the filtered Catalogue Item Data to the Data recipient. Ends when... the Data Recipient receives the Catalogue Item Data from its RDP.		
Alternative Scenario	None at this summary level		
Related Rules	ID	Rules	Weight
	12	Every command needs a response and is handled according to the agreement between the parties involved. In the inter-operable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt- Success / Failure of processing (syntax and content)- Reason for failure, with a code number and text message unique assigned to each failure	Primary
	20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.	Primary
	21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.	Primary

22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.	Primary
23	Events that can trigger notifications are: - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process.	Primary
24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item.	Primary
25	The Data Distribution, which is the movement of data from one entity to another, must be handled through a specific notification type.	Primary
26	Notification to the data recipient will always include the entire hierarchy. (applies to add & update by adding a higher level).	Primary
27	In case of an ItemLink correction, the entire hierarchy will be indicated as corrected in the notification.	Primary
28	The updated hierarchy always fully replaces the current hierarchy. This action is called "Full Refresh".	Primary
32	Acknowledgement Reason codes must be unique.	Primary
109	A Data Recipient requests that it receive a "notification" when a specific event occurs that meets the Recipients criteria (selective on sources, categories, etc). This is subject to the recipient's access to information as controlled by the data source through its source data pool.	Secondary
143	"Reload" flag is passed through to Recipient.	Secondary
159	Multiple independent hierarchies can co-exist at the data-pool for an item for example hierarchy 1 = case A – each A and hierarchy 2 = pallet A – case A –each A.	Primary
171	The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 Response must equal the DocumentIdentification: instanceIdentifier of the original message.	Primary

Figure 4-59 Distribute Catalogue Item Data from RDP to Recipient Activity Diagram

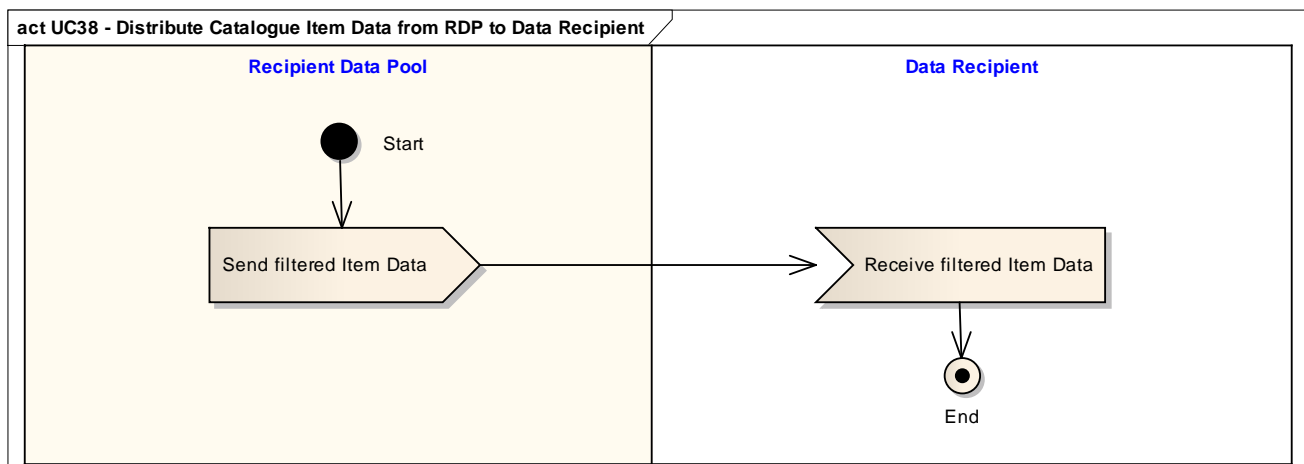
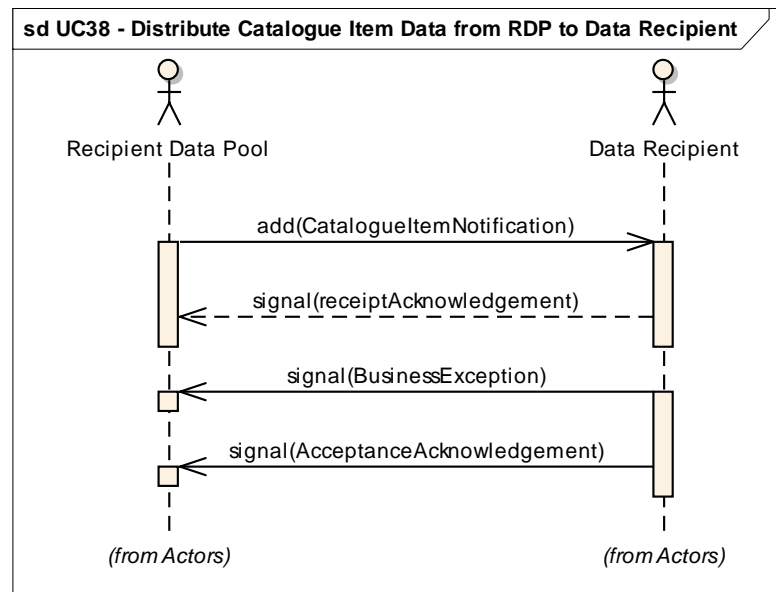
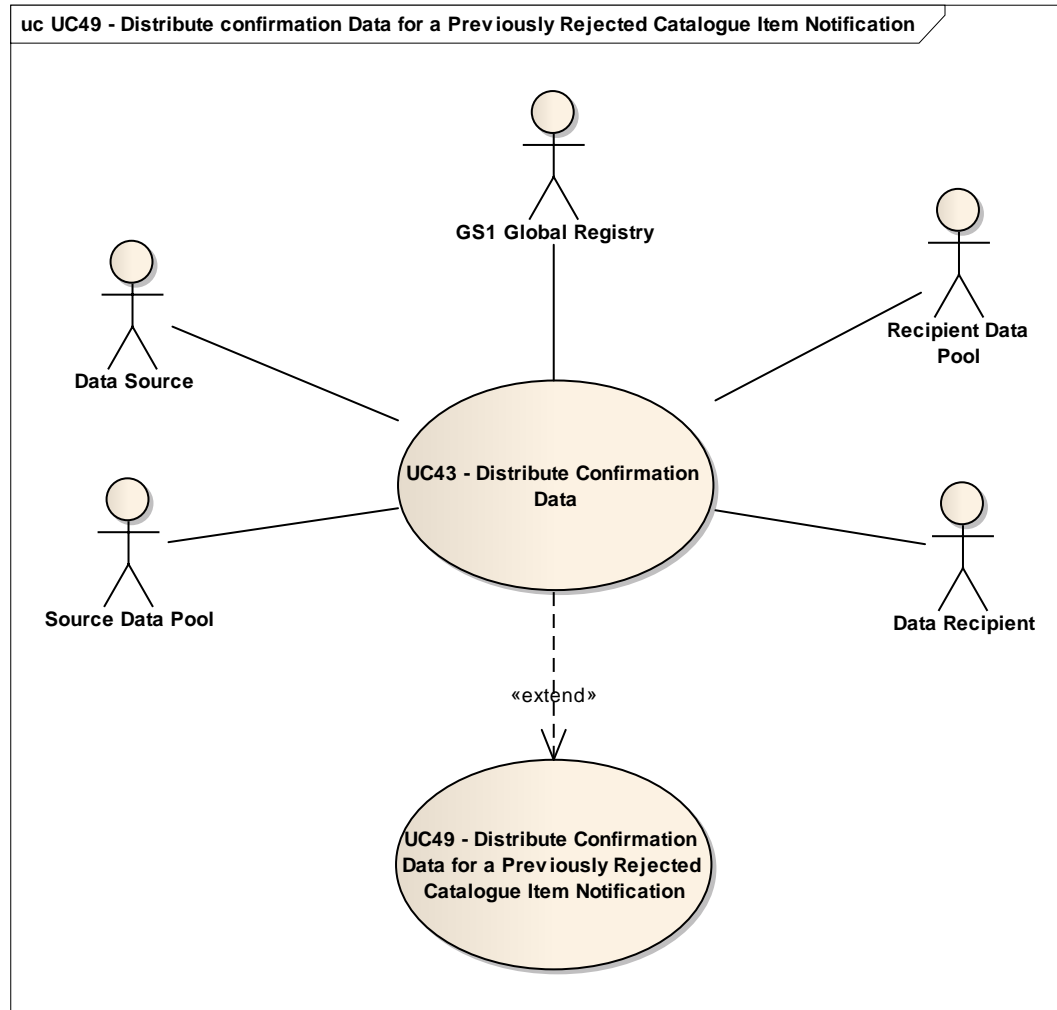


Figure 4-60 Distribute Catalogue Item Data from RDP to Recipient Sequence Diagram



4.24. Distribute Confirmation Data for a Previously Rejected Catalogue Item Notification

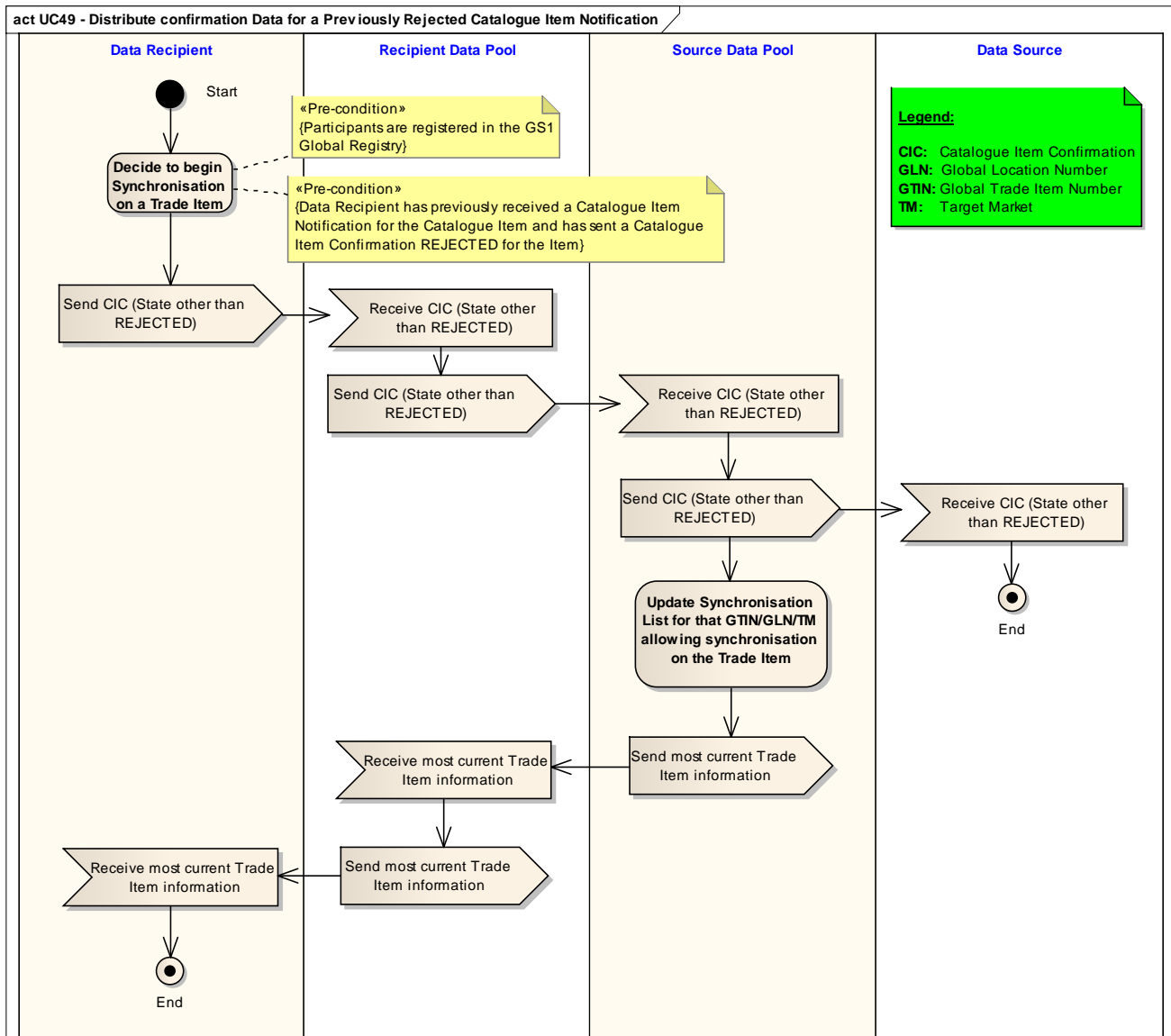
Figure 4-61 Distribute Confirmation Data for a previously rejected Catalogue Item Notification Use Case Diagram



Use Case ID	UC-49
Use Case Name	Distribute Confirmation Data for a Previously Rejected Catalogue Item Notification
Use Case Description	<p>A Data Recipient sends a CIC with a status of RECEIVED, REVIEW, SYNCHRONISED after previously sending a CIC REJECTED.</p> <p>Use Cases Above: UC-47: Distribute Data Recipient Requests for Catalogue Item Data</p>
Actors (Goal)	<ul style="list-style-type: none"> ■ Data Source: The Supplier (Data Source) communicates the trade item information as necessary – initial published information or a change to the trade item information. ■ GS1 Global Registry (GR): The GS1 GR registers the trade item. ■ Data Recipient: The Retailer (Data Recipient) is the trading partner who receives the communication about the trade item and responds to it. ■ Recipient Data Pool (RDP): The Data Pool that receives the communication of the trade item from the Source Data Pool and delivers it to the Data Recipient and handles the response.

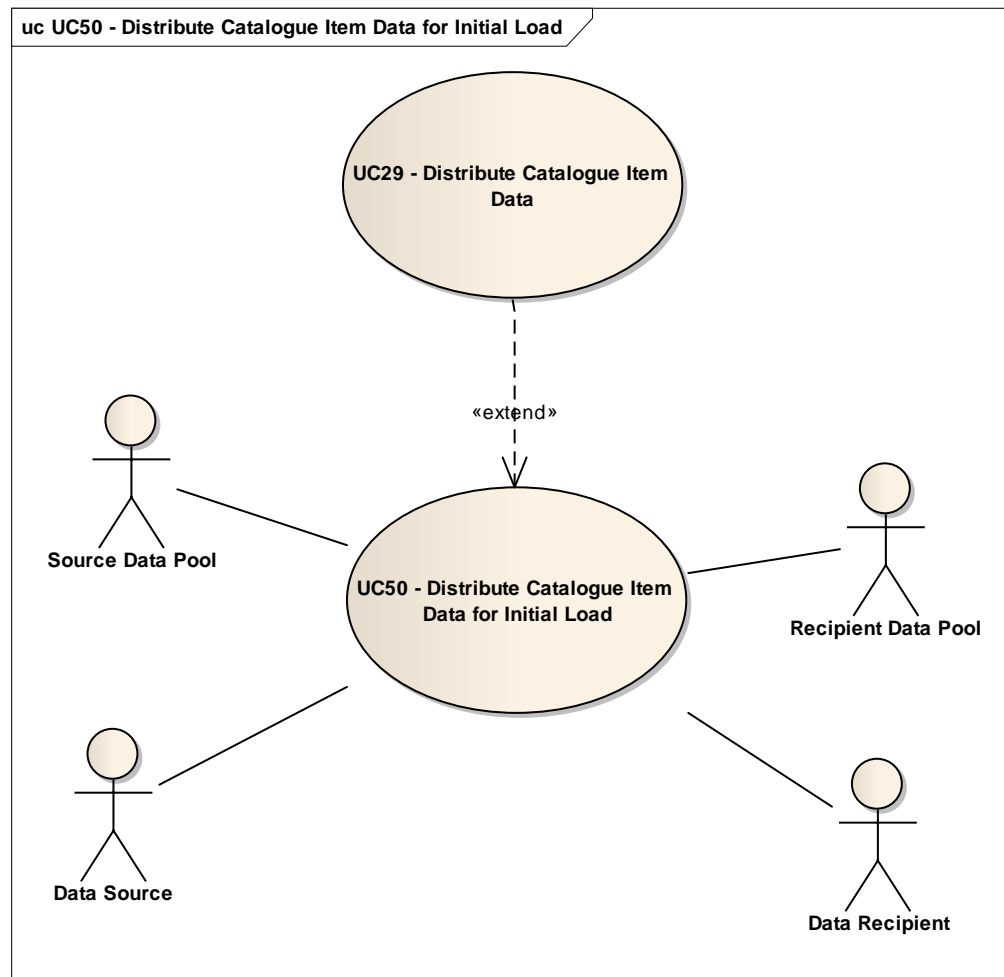
	<div>■ Source Data Pool (SDP): The Data Pool that communicates the trade item information from the Data Source to the Recipient Data Pool and handles the response.</div>		
Performance Goals	See Actors (Goal)		
Preconditions	The participants are registered in the GDSN GS1 Global Registry. The Data Recipient has previously received a CIN for the catalogue item and sent a CIC REJECTED for the item.		
Post conditions	Synchronization is allowed on the GTIN/GLN/TM. The RDP, SDP, and DS are aware of the Data Recipient's intentions regarding a specific Catalogue Item. Updates to the item will be sent to the Data Recipient.		
Scenario	Begins when... The Retailer (DR) decides to begin synchronization on a product and sends the CIC (State other than REJECTED) to the Supplier through the RDP.		
	Continues with...		
	Step #	Actor	Activity Step
	1	DR	Sends the CIC (State other than REJECTED) to the RDP.
	2	RDP	Receives the CIC (State other than REJECTED).
	3	RDP	Sends the CIC (State other than REJECTED) to the SDP.
	4	SDP	Receives the CIC (State other than REJECTED).
	5	SDP	Sends the CIC (State other than REJECTED) to the DS.
	6	SDP	Updates the synch list for that GTIN/GLN/TM, allowing synchronization on the Trade Item.
	7	SDP	May query DS to confirm that they have the most current trade item information.
	8	SDP	Sends the most current Trade Item Information to RDP after revalidating the trade item.
	9	RDP	Receives the most current Trade Item Information.
10	RDP	Sends the most current Trade Item Information to DR.	
	Ends when... DR Synchronization on the GTIN/GLN/TM is allowed. The Data Recipient has received the most current Trade Item Information (if applicable).		
Alternative Scenario	None		
Related Rules	ID	Rules	Weight
	175	The Retailer must have a way to communicate the desire to resume synchronisation of a product after they communicated the rejection of the same product.	Primary
	176	The SDP must be capable of updating the synch list for the GTIN/GLN/TM after a CIC REJECTED was received followed by a CIC RECEIVED, allowing synchronisation on the Trade Item.	Primary
	177	If a Retailer decides to begin synchronization on a product after previously sending a CIC REJECTED, any CIC (State other than REJECTED) can be sent to the Supplier through the RDP.	Primary
	178	SDP communicate the CIC (State other than REJECTED) to the DS.	Primary

Figure 4-62 Distribute Confirmation Data for a previously rejected Catalogue Item Notification Activity Diagram



4.25. Distribute Catalogue Item Data for Initial Item Load

Figure 4-63 Catalogue Item Data for Initial Item Load Use Case Diagram

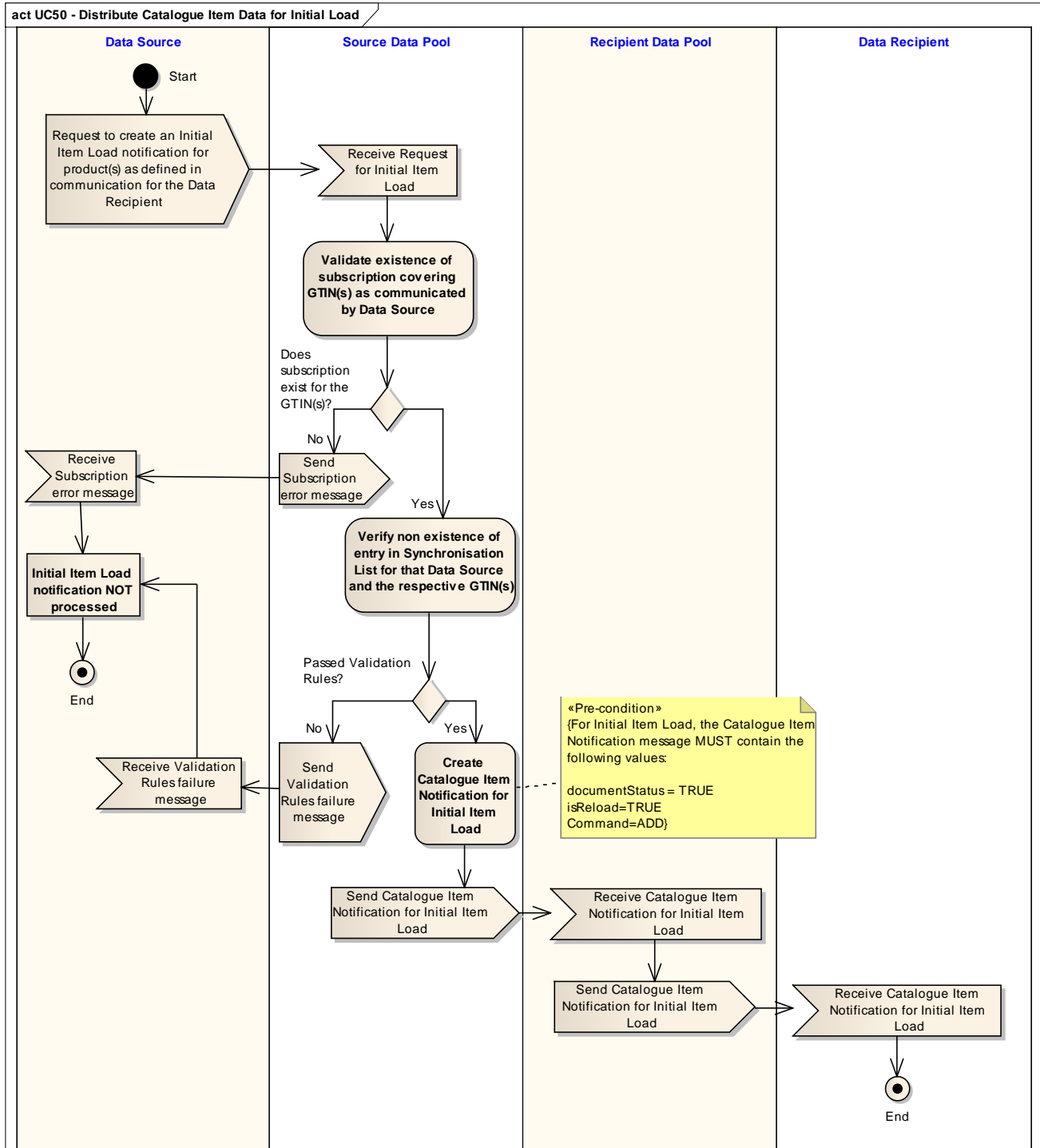


Use Case ID	UC-50
Use Case Name	Distribute Catalogue Item Data for Initial Item Load
Use Case Description	Data Source requests notification to Data Recipient of a CIN for Initial Item Load where the SDP sends CIN for initial item load.
Actors (Goal)	<ul style="list-style-type: none"> ■ Data Source: Requests CIN be sent to the Data Recipient ■ Source Data Pool: Source Data Pool for Data Source will ensure that isReload is properly set and that a subscription exists ■ Data Recipient: Receives the CIN ■ Recipient Data Pool: Recipient Data Pool will ensure the CIN received from SDP is sent to the DR.
Performance Goals	Ensure that the Source Data Pool properly sets the isReload flag and that a subscription exists that supports the publication of the GTINs included in the CIN.

Preconditions	<ul style="list-style-type: none">■ Data Recipient has conveyed to the Data Source the need for a CIN for Initial Item Load.■ Data Recipient creates a CIS for product from the Data Source■ Data Recipient notifies the Data Source of request for CIN IIL for specific products – via phone, via Retailer Fact Sheet, via Implementation Guidelines documentation, etc.																				
Post conditions	Source Data Pool validates an existing subscription for the GTINs and properly populates the isReload flag.																				
Scenario	Begins when... a Data Source requests that their Source Data Pool execute an CIN for Initial Item Load to a specific Data Recipient																				
	Continues with...																				
	<table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>DS</td><td>Requests that their SDP create an IIL notification for products [GTINs] as defined in communication from the DR.</td></tr><tr><td>2</td><td>SDP</td><td>Checks to see that they have a subscription that covers the GTINS as communicated from the DS.</td></tr><tr><td>3</td><td>SDP</td><td>Verifies that there is no entry in the synch list for that DS and those GTINs.</td></tr><tr><td>4</td><td>SDP</td><td>Creates CIN for Initial Item Load if the validations are passed. Does not create the CIN for Initial Item Load if the validations are failed and returns message to the DS on the failed validations.</td></tr><tr><td>5</td><td>RDP</td><td>Receives the CIN for initial Item Load and sends to the DR.</td></tr></table>			Step #	Actor	Activity Step	1	DS	Requests that their SDP create an IIL notification for products [GTINs] as defined in communication from the DR.	2	SDP	Checks to see that they have a subscription that covers the GTINS as communicated from the DS.	3	SDP	Verifies that there is no entry in the synch list for that DS and those GTINs.	4	SDP	Creates CIN for Initial Item Load if the validations are passed. Does not create the CIN for Initial Item Load if the validations are failed and returns message to the DS on the failed validations.	5	RDP	Receives the CIN for initial Item Load and sends to the DR.
	Step #	Actor	Activity Step																		
	1	DS	Requests that their SDP create an IIL notification for products [GTINs] as defined in communication from the DR.																		
	2	SDP	Checks to see that they have a subscription that covers the GTINS as communicated from the DS.																		
	3	SDP	Verifies that there is no entry in the synch list for that DS and those GTINs.																		
4	SDP	Creates CIN for Initial Item Load if the validations are passed. Does not create the CIN for Initial Item Load if the validations are failed and returns message to the DS on the failed validations.																			
5	RDP	Receives the CIN for initial Item Load and sends to the DR.																			
Ends when... DR receives the CIN for Initial Item Load.																					
Alternative Scenario																					
	<table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Request for CIN for Initial Item Load cannot be fulfilled due to failure of validation rule that ensures that the synchronisation list in the RDP has no evidence of the GTIN having been published. A subscription must exist that covers the GTINs being transmitted in the CIN.</td></tr></table>			Step #	Actor	Activity Step	1	SDP	Request for CIN for Initial Item Load cannot be fulfilled due to failure of validation rule that ensures that the synchronisation list in the RDP has no evidence of the GTIN having been published. A subscription must exist that covers the GTINs being transmitted in the CIN.												
Step #	Actor	Activity Step																			
1	SDP	Request for CIN for Initial Item Load cannot be fulfilled due to failure of validation rule that ensures that the synchronisation list in the RDP has no evidence of the GTIN having been published. A subscription must exist that covers the GTINs being transmitted in the CIN.																			
Related Rules	ID	Requirements	Weight																		
	179	SDP must notify the Data Source of the reason the CIN for Initial Item Load cannot be created.	Primary																		
	180	The CIN Message Must distinguish an item already in trade as data synchronization is begun between Data Source and Data Recipient through the isReloadFlag being set to TRUE.	Primary																		
	181	The CIN Must distinguish a new item being introduced into the supply chain through the isReloadFlag being set to FALSE.	Primary																		
	182	A GDSN validation is required to ensure that the synch list in the SDP has no evidence of the GTIN having been published but a subscription exists that covers the GTINs being transmitted in the CIN.	Primary																		
	183	The CIN with 'isReload' set to true is allowed ONLY if there is not a synch list entry for the GTINs included AND there is an existing subscription that covers the GTINs included.	Primary																		

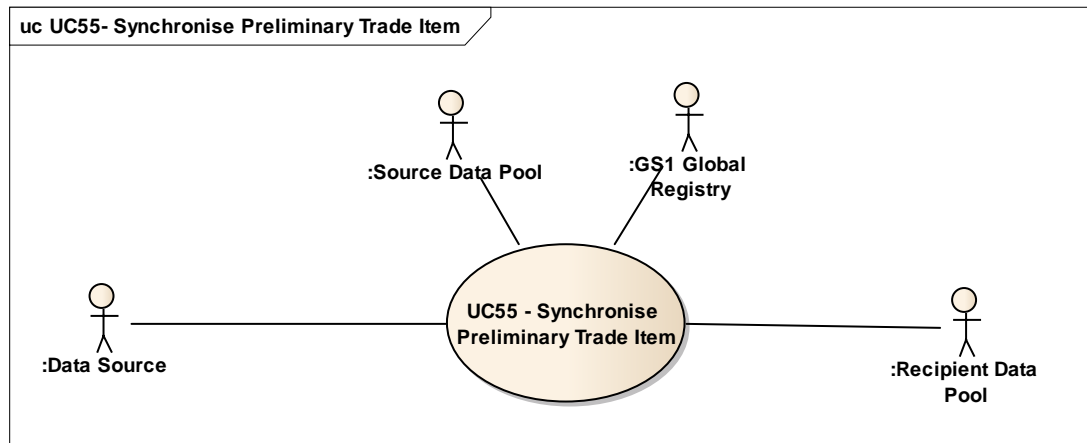
	184	For IIL, the CIN Message MUST contain following values, documentStatus=ORIGINAL isReload=TRUE Command=ADD	Primary	
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Figure 4-64 Distribute Catalogue Item Data for Initial Item Load Activity Diagram



4.26. Synchronise Preliminary Trade Item

Figure 4-65 Synchronise Preliminary Trade Item



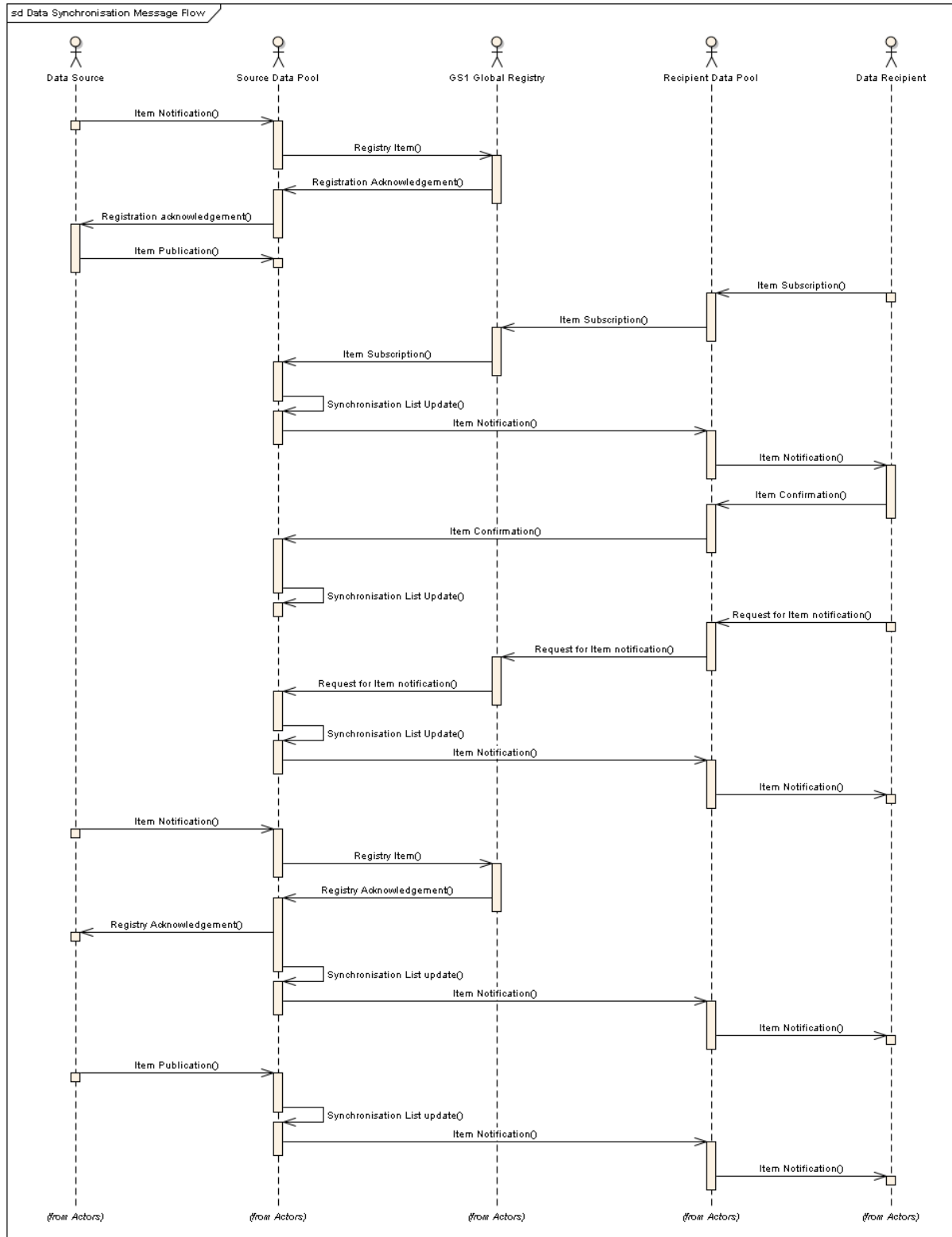
Use Case ID	UC-55															
Use Case Name	Synchronise Preliminary Trade Item															
Use Case Description	This use case describes any processes that need to take place for preliminary Catalogue Item data to be synchronised in GDSN. Preliminary trade items are trade items that have attributes that have not been finalized and could change before production.															
Actors (Goal)	<ul style="list-style-type: none">■ Data Source■ SDP■ GS1 Global Registry■ RDP															
Performance Goals	<ul style="list-style-type: none">■ Data Source: To synchronise preliminary item data and then set the status to final.■ SDP: To have validated, registered, preliminary Catalogue Item hierarchy data.■ Global Registry: To ensure valid, unique Catalogue Item data are registered.■ Recipient Data Pool: To receive preliminary item data and then to receive final data for the trade item.															
Preconditions	<ul style="list-style-type: none">■ Data Source has defined preliminary Catalogue Item data and Catalogue Item hierarchies.■ All items with same key (GTIN, GLN, TM) to be published with a PRELIMINARY status do not exist in a status of FINAL in other hierarchies (to be published or previously published).															
Post conditions	Data Source has passed preliminary trade item data to the data recipient and then when finalised have sent final item data to the Data Recipient for the same trade item with a status of FINAL.															
Scenario	<p>Begins when... the Data Source sends to the Source Data Pool (SDP) a Catalogue Item Hierarchy with one or many items with the preliminaryItemStatusCode set to PRELIMINARY</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>Validates the Catalogue Item Hierarchy data according to rules that apply to PRELIMINARY Trade Item.</td></tr><tr><td>2</td><td>SDP</td><td>Validates that the trade item does not exist as FINAL in other published trade item hierarchies.</td></tr><tr><td>3</td><td>SDP</td><td>Sends Catalogue Item Data to the Global Registry (if item does not exist in the GDS network).</td></tr><tr><td>4</td><td>GR</td><td>Validates and registers the Catalogue Item Data.</td></tr></table>	Step #	Actor	Activity Step	1	SDP	Validates the Catalogue Item Hierarchy data according to rules that apply to PRELIMINARY Trade Item.	2	SDP	Validates that the trade item does not exist as FINAL in other published trade item hierarchies.	3	SDP	Sends Catalogue Item Data to the Global Registry (if item does not exist in the GDS network).	4	GR	Validates and registers the Catalogue Item Data.
Step #	Actor	Activity Step														
1	SDP	Validates the Catalogue Item Hierarchy data according to rules that apply to PRELIMINARY Trade Item.														
2	SDP	Validates that the trade item does not exist as FINAL in other published trade item hierarchies.														
3	SDP	Sends Catalogue Item Data to the Global Registry (if item does not exist in the GDS network).														
4	GR	Validates and registers the Catalogue Item Data.														

	5	SDP	Stores the Catalogue Item Hierarchy data.
	6	SDP	Notifies the Data Source of Registration if newly registered trade item.
	7	SDP	Sends preliminary Catalogue Item Data to the RDP when published to a Data Recipient.
	8	RDP	Receives preliminary Catalogue Item Data.
	9	RDP	Sends the preliminary Catalogue Item Data to the Data recipient.
	10	DR	Receives preliminary Catalogue Item Data.
	11	DS	Once the trade item data has been finalized, the Data Source sends to the SDP Catalogue Item Hierarchy data with a status of FINAL using the CHANGE BY REFRESH command.
	12	SDP	Receives Catalogue Item Hierarchy data to be finalized.
	13	SDP	Validates Catalogue Item Hierarchy data according to all validations performed for a FINAL Trade Item.
	14	SDP	Sends a validation acknowledgement to the Data Source.
	15	DS	Receives the validation acknowledgement: <i>Catalogue Item Hierarchy data changed.</i>
	16	SDP	Loads the Finalised Catalogue Item Hierarchy data.
	17	SDP	Sends Finalised Catalogue Item Data to the RDP.
	18	RDP	Receives Finalised Catalogue Item Data.
	19	RDP	Sends the Finalised Catalogue Item Data to the Data recipient.
	Ends when... the Data Recipient receives finalized Catalogue Item Data from RDP.		
Alternative Scenario	Not Applicable		
Related Requirements	Not Applicable		
Related Rules	ID	Rules	Weight
	232	Item records marked PRELIMINARY may be updated with a CORRECT or CHANGE_BY_REFRESH.	Primary
	233	Any attribute values may be changed or corrected on a preliminary item according to current rules except for the trade item identification (GTIN/GLN/TM).	Primary
	234	Before firstShipDate has been reached, a preliminary trade Item should be updated to FINAL.	Primary
	235	firstShipDate should be populated for preliminary trade item. Note: This is a recommendation for an implementation guide not a hard validation rule.	Primary
	236	The change to a trade item's status from PRELIMINARY to FINAL may be done using a CHANGE_BY_REFRESH or CORRECT Command.	Primary
	237	All applicable validations on a preliminary trade item must be performed during a Change By Refresh or Correct even if this entails having the data source populate temporary data for unknown attributes.	Primary
	238	The whole trade item is considered to be preliminary not individual attributes. All attributes in the trade item are treated as preliminary except for the Key (GTIN, GLN, TM).	Primary

	239	If the Data Recipient does not accept a preliminary item they should use a REVIEW status and not REJECTED unless they have no interest in the trade item.	Primary
	240	All mandatory and conditional attributes must be sent for a preliminary trade item with the understanding that these values are preliminary and subject to change.	Primary
	241	A FINAL child may be associated with parent items in a PRELIMINARY status.	Primary
	242	A PRELIMINARY child must not be associated with parents in a FINAL status.	Primary
	243	Items may be in a status of PRELIMINARY for a specific target market (GTIN/GLN/TM). For example, a trade item can be PRELIMINARY in the US but FINAL in France.	Primary
	244	<p>If a trade item is switched to a status of FINAL within a published trade item hierarchy, it must be switched to FINAL in all hierarchies that it has been published in within the target market it has been published in by the same Information Provider GLN.</p> <ul style="list-style-type: none"> this will require the Data Source to republish all hierarchies that contain the item being finalized there is some concern regarding the timing of these changes to multiple hierarchies within the network. . It is recommended that all other hierarchies sharing this item should be updated and republished within the same working day. 	Primary
	245	A trade item hierarchy is not considered to be FINAL until all trade items within the hierarchy have a preliminary status of FINAL.	Primary
	246	The trade item with a status of FINAL will be the starting point for the GTIN allocation rule enforcement.	Primary
	247	Item Futurisation must not be started until the item is in a status of FINAL.	Primary
	248	The trade item must be FINAL or PRELIMINARY for all data recipients within a TM (not RDD).	Primary
	249	<p>Preliminary Item functionality is optional. If not supported by data pool, the Source Data Pool must notify Data Source and Recipient Data Pool (RDP) that they do not support the publication of preliminary items.</p> <p>There may be a need for the RDP as well to notify Data Recipients and Source Data Pools that they do not support preliminary data in the case that they do validations.</p>	Primary

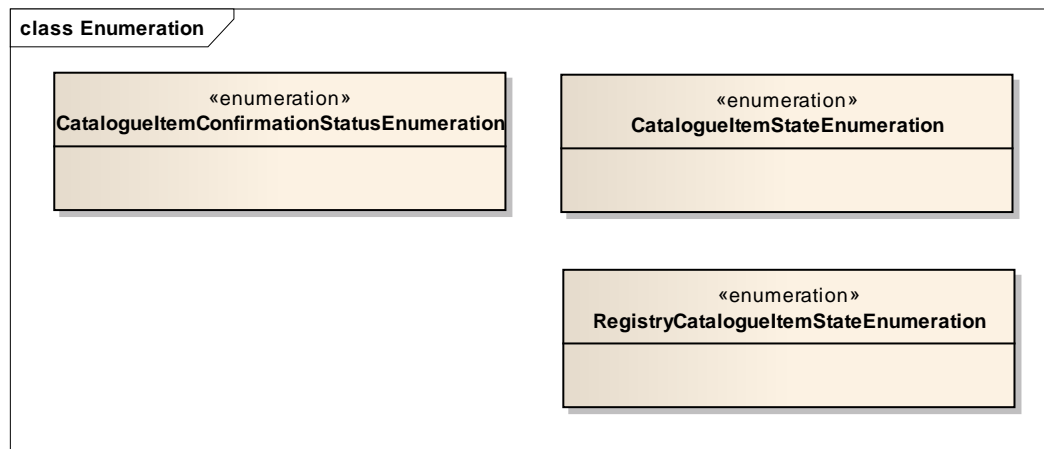
4.27. Business Transaction Sequence Diagram(s)

Figure 4-66 Data Synchronisation Message Flow Sequence Diagram

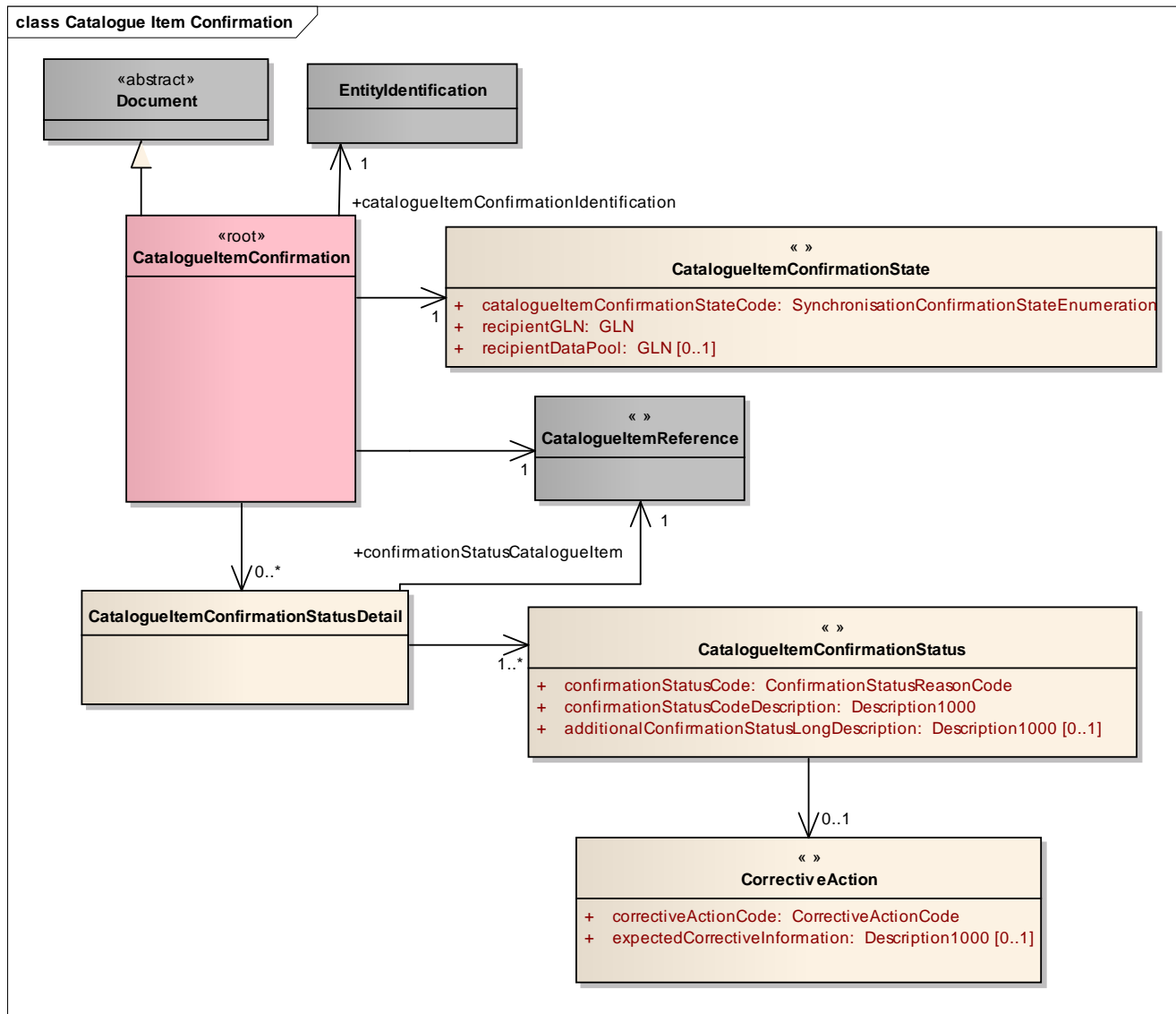


5. Information Model

5.1. Enumeration



5.2. Catalogue Item Confirmation



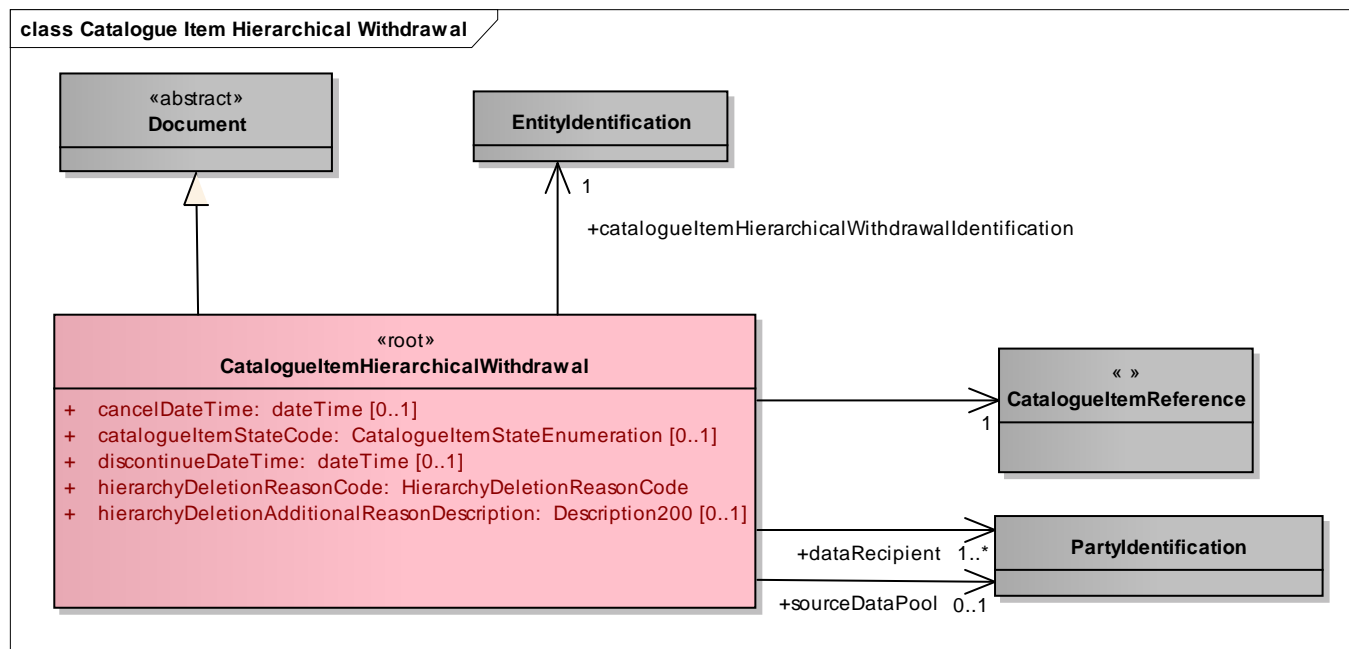
Note: Reference Shared Common Library Business Message (BMS) Release 3.1.0

Content	Attribute / Role	Datatype /Secondary class	Multi plicit y	Definition
CatalogueItemConfir mation				This refers to electronic communication from the Data Recipient to the Data Source indicating what action has been taken on the item. The confirmation process occurs in the recipient's data pool. Confirmation is not mandatory. When used, it provides for the following outcomes: 1. Synchronised: data is integrated, in synch and added to the synchronisation list. 2. Received: data is added to the synchronisation list and will be in synch. 3. Rejected: data will no longer be synchronised or updates will no longer be provided. 4. Review: a request to the data source to "review" their data because the data recipient has received discrepant data which they cannot synchronise. If the data was previously synchronised, it will be removed from the synchronisation list.
Association		CatalogueItemReferen ce	1..1	Provides the Catalogue Item Reference for the Catalogue Item Confirmation.
Association	catalogueItemConfirma tionIdentification	EntityIdentification	1..1	Unique identifier for the Catalogue Item Confirmation Message.
Association		CatalogueItemConfir mationStatusDetail	0..*	Provides the additional Catalogue Item Status detail when the catalogue item state is set to REVIEW or REJECTED.
Association		CatalogueItemConfir mationState	1..1	Provides the Catalogue Item Confirmation State for the Catalogue Item Confirmation.
Generalization		Document		Provides the document information for the Catalogue Item Confirmation.
CatalogueItemConfir mationStatusDetail				Provides the Catalogue Item Confirmation Status for the referenced catalogue item. This should only be used if Catalogue Item Confirmation State is set to either REVIEW or REJECTED

Content	Attribute / Role	Datatype /Secondary class	Multi plicit y	Definition
Association	confirmationStatusCatalogueItem	CatalogueItemReference	1..1	Provides the reference to a (multiple) Catalogue Item References (GTIN + GLN + Target Market), which will establish the relationship between the information communicated in the extended CIC message and the actual Catalogue Item being referenced.
Association		CatalogueItemConfirmationStatus	1..*	Provides the catalogue item confirmation status for each Confirmation Status Catalogue Item.
CatalogueItemConfirmationState				!! The four states reflected by a Recipient Data Pool are: Received, Rejected, Review and Synchronised
Attribute	catalogueItemConfirmationStateCode	SynchronisationConfirmationStateEnumeration	1..1	Codelist for the 4 modes of data reflected by a Data Pool: Received, Rejected, Review and Synchronised.
Attribute	recipientGLN	GLN	1..1	The Party, which is authorized to view, use, and download a set of Master Data provided by a Data Source. Note this attribute is synonymous with dataRecipient but is in this case the party where the Catalogue Item Confirmation is originating from.
Attribute	recipientDataPool	GLN	0..1	A data pool that supports the functionality of the Data Recipient (Subscription, Confirmation, Search, Request for Notification, etc.)
CatalogueItemConfirmationStatus				There can be 1 or more Codes and Descriptions in a single CIC message that contain specific information as to why a certain action is taken.
Association		CorrectiveAction	0..1	Provides the Data Source (Source Data Pool) what the corrective message should be to fix the issue that caused the problem in the first place.

Content	Attribute / Role	Datatype /Secondary class	Multi plicit y	Definition
Attribute	confirmationStatusCod e	CatalogueItemConfirm ationStatusCode	1..1	The CIC Confirmation Code must be of a type of code number that can be generated automatically by a computer system. The CIC Confirmation Code must be of a type of code number that may be generated by either the data recipient (and passed through the Datapool processes) or the data pool.
Attribute	confirmationStatusCod eDescription	Description1000	1..1	Provides the code description that matches up with the Code that can possibly be generated automatically by a computer system.
Attribute	additionalConfirmation StatusLongDescription	Description1000	0..1	Provides a way to communicate human entered information that may not be covered by the machine to machine codes and descriptions
CorrectiveAction				Provides the optional element that will tell the Data Source (Source Data Pool) what the corrective message should be to fix the issue that caused the problem in the first place. For example, it would indicate whether the publication / notification should be resent as a "Reload" or a "New" Item.
Attribute	correctiveAction	CorrectiveActionCode	1..1	Provides the corrective action code to fix the issue that caused the problem.
Attribute	expectedCorrectiveInfo rmation	Description1000	0..1	Provides the expected corrective information via human entered information that may not be covered by the machine to machine codes.

5.3. Catalogue Item Hierarchical Withdrawal

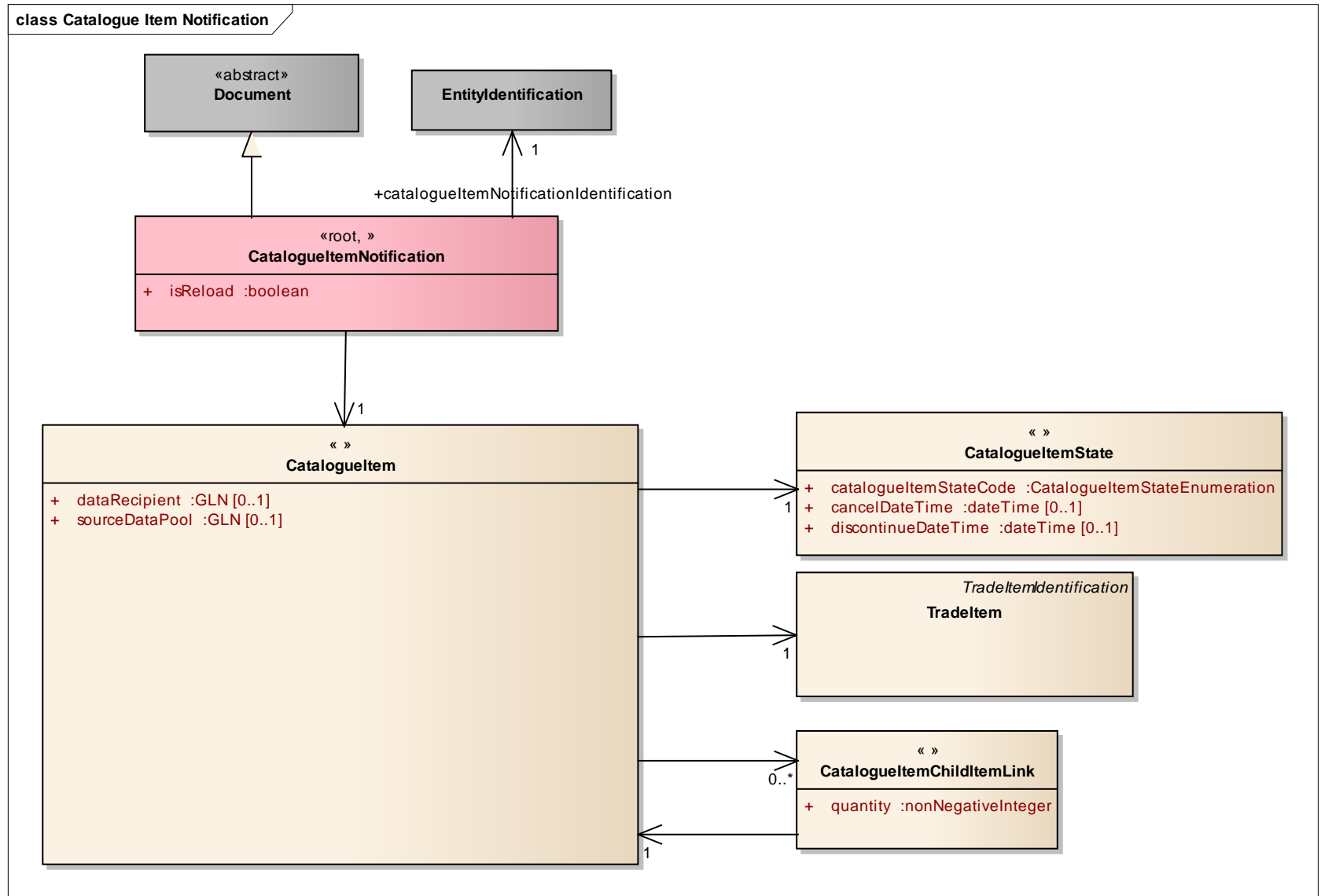


Note: Reference Shared Common Library Business Message (BMS) Release 3.1.0.

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition
CatalogueItemHierarchicalWithdrawal <input type="checkbox"/>				A business message used to transmit trade item information from a data source or a data pool to a data recipient with the Global Data Synchronisation Network with regards to a correction that is required to an item hierarchy that has already been synchronised. <input type="checkbox"/>
Generalization <input type="checkbox"/>	<input type="checkbox"/>	Document <input type="checkbox"/>	<input type="checkbox"/>	

Content	Attribute / Role	Datatype /Secondary class	Multi plicit y	Definition
Association □	catalogueItemHierarchicalWithdrawalIdentification □	EntityIdentification □	1..1	Unique identifier for the Catalogue Item Hierarchical Withdrawal Message.□
Association □	dataRecipient □	PartyIdentification □	1..* □	Party authorized to view, use, download a set of Master Data provided by a Data Source. □
Association □	sourceDataPool □	PartyIdentification □	0..1 □	A data pool that supports the functionality required by a Data source such as Data Loading, Publication, Notification, Registration, etc. □
Association □	□	CatalogueItemReference □	1..1	Identifies the Catalogue Item Hierarchy being deleted or withdrawn. This Catalogue Item reference is for the highest published catalogue item in the hierarchy. □
Attribute	cancelDateTime	dateTime	0..1	Date assigned by data source and stored in the source data pool reflecting the date the catalogue item was cancelled. This date will also be stored in the Registry.
Attribute	catalogueItemStateCode	catalogueItemStateEnumeration	0..1	The four states are: Registered , Cancelled, In Progress and Discontinued .
Attribute	discontinueDateTime	dateTime	0..1	Date assigned by data source and stored in the source data pool reflecting the date the catalogue item was discontinued. This date will also be stored in the Registry.
Attribute	hierarchyDeletionReasonCode □	HierarchyDeletionReasonCode□	1..1 □	Code providing clarity as to the reason why a hierarchy is being deleted□
Attribute	hierarchyDeletionAdditionalReasonDescription □	Description200□	0..1 □	Free text used to provide additional detail to a reason code indicating why a hierarchy is being deleted□

5.4. Catalogue Item Notification



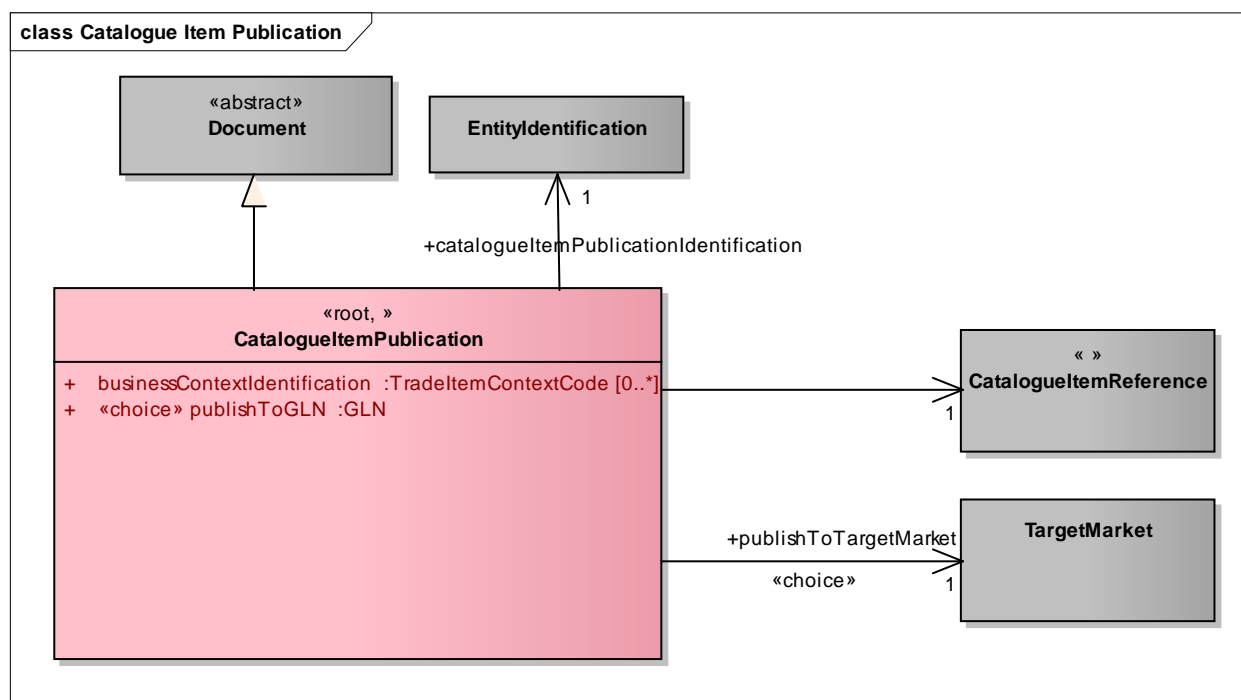


Note: Reference Shared Common Library Business Message (BMS) Release 3.2.0

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition
CatalogueItem				Information on an item registered or to be registered at the GS1 Global Registry.
Association		CatalogueItemChildItemLink	0..*	This information on CatalogueItemChildItemLink for CatalogueItem.
Association		CatalogueItemStateCode	1..1	This information on CatalogueItemState for CatalogueItem.
Association		TradeItem	1..1	This information on TradeItem for CatalogueItem.
CatalogueItemChildItemLink				A class of information to identify the quantity of items within a packaging hierarchy level within the Global Data Synchronisation Network.
Association		CatalogueItem	1..1	This information on CatalogueItem for CatalogueItemChildItemLink.
Attribute	quantity	integer	1..1	Number of units required.
CatalogueItemNotification				A business message used to transmit trade item information from a data source or a data pool to a data recipient with the Global Data Synchronisation Network.
Association	catalogueItemNotificationIdentification	EntityIdentification	1..1	Unique identifier for the Catalogue Item Notification Message.
Generalization		Document		This information on Document for CatalogueItemNotification.
Association		CatalogueItem	1..1	This information on CatalogueItem for CatalogueItemNotification.
Attribute	isReload	boolean	1..1	The Boolean value within the request for notification process (True = currently on the notification list and False = initialload).

Content	Attribute / Role	Datatype /Secondary class	Multi plicit y	Definition
Attribute	dataRecipient	GLN	1..1	Party, which is authorized to view, use, download a set of Master Data provided by a Data Source.
Attribute	sourceDataPool	GLN	0..1	A data pool that supports the functionality required by a Data Source such as Data Loading, Publication, Notification, Registration, etc.

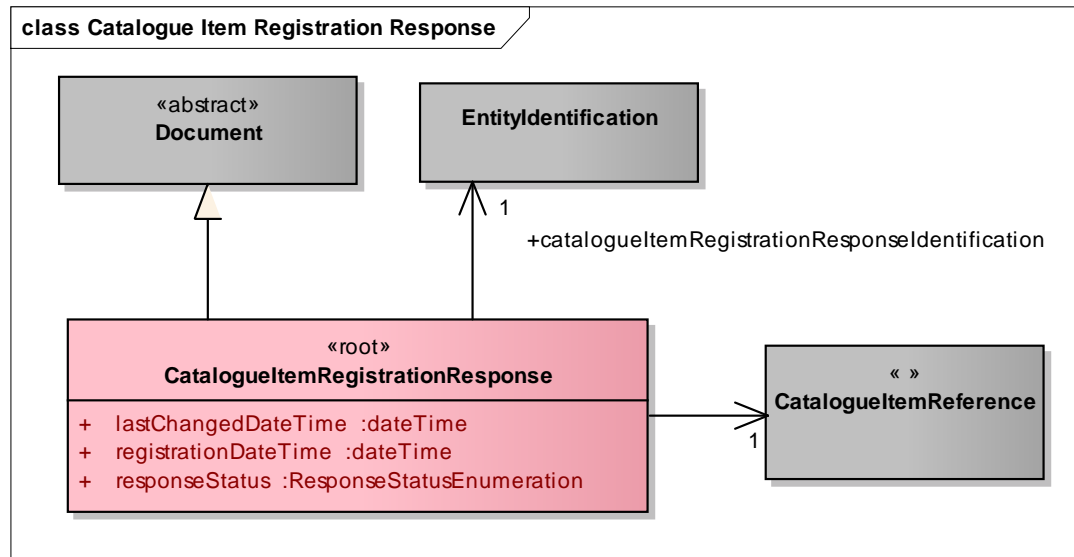
5.5. Catalogue Item Publication



Note: Reference Shared Common Library Business Message (BMS) Release 3.1.0.

Content	Attribute / Role	Datatype /Secondary class	Multi plicit y	Definition
CatalogueItemPublica tion				A business message standard used to distribute trade item information within the Global Data Synchronisation Network.
Association		CatalogueItemReferen ce	1..1	Identifies the Catalogue Item referenced for the Catalogue Item Publication.
Generalization		Document		This information on Document for CatalogueItemPublication.
Association	publishToTargetMarket	TargetMarket	1..1	The target market code indicates the country in which the information provider will make the GTIN available to buyers. This indicator does not in any way govern where the buyer may re-sell the GTIN to consumers.
Association	catalogueItemPublicati onIdentification	EntityIdentification	1..1	Unique identifier for the Catalogue Item Publication Message.
Attribute	publishToGLN	GLN	1..1	Within the registry context, information is published to a party, identified by the Global Location Number-- The globally unique GS1 System identification number for physical, functional, or legal entities. The Global Location Number uses the GS1-13 Data Structure
Attribute	businessContextIdentifi cation	TradeItemContextCod e	0..*	A business context that applies to a published trade item. Note : this functionality is for complex context scenarios and is not active in GDSN for this release.

5.6. Catalogue Item Registration Response

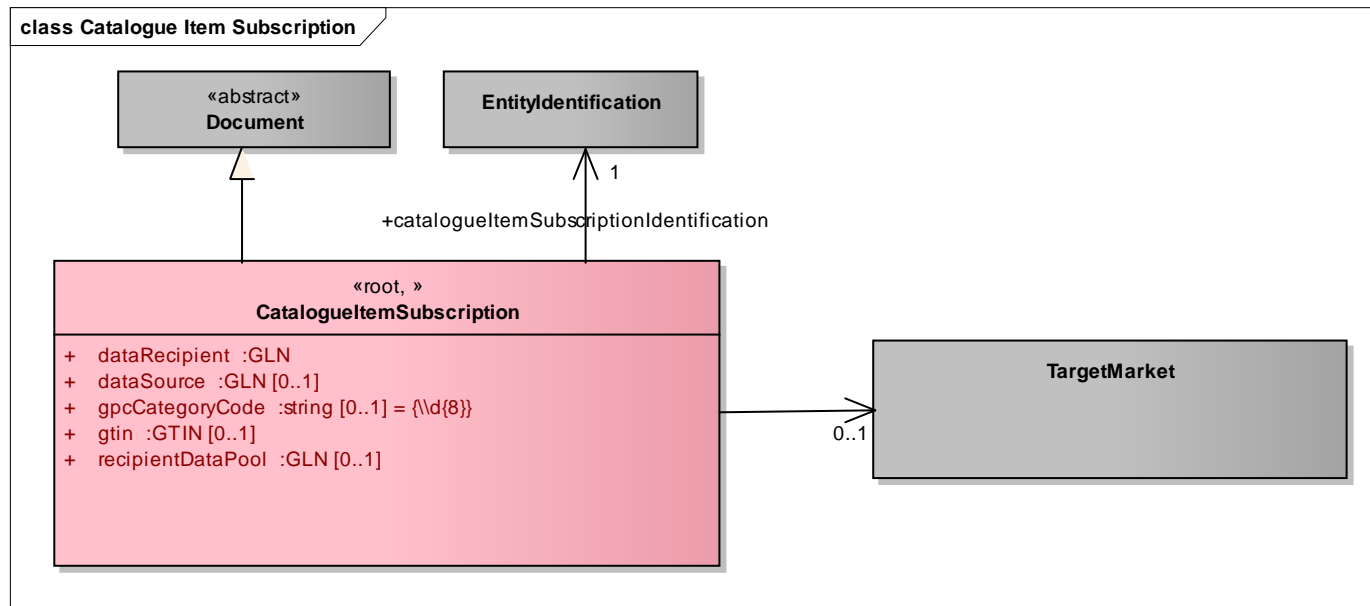


Note: Reference Shared Common Library Business Message (BMS) Release 3.1.0

Content	Attribute / Role	Datatype /Secondary class	Multi plicit y	Definition
CatalogueItemRegistr ationResponse				A business message used to notify a data pool of the status of the registration in the Global Registry for a trade item.
Generalization		Document		
Association	catalogueItemRegistr ationResponseIdentificati on	EntityIdentification	1..1	The unique identifier for the catalogueItemRegistrationResponse.
Association		CatalogueItemReferen ce	1..1	A class of information from the Catalogue Item Common library used to identify the key to the trade item information using the data source GLN, the GTIN, and the Target Market within the Global Data Synchronisation Network.

Content	Attribute / Role	Datatype /Secondary class	Multi plicit y	Definition
Attribute	lastChangedDateTime	dateTime	1..1	Date assigned by system indicating last time the information was changed. This date is generic and will be stored where assigned and will accompany every message.
Attribute	registrationDateTime	dateTime	1..1	Date assigned by the registry of successful registration.
Attribute	responseStatus	ResponseStatusEnum eration	1..1	The response status for a Party Registration, expressed as a code for example Accepted

5.7. Catalogue Item Subscription

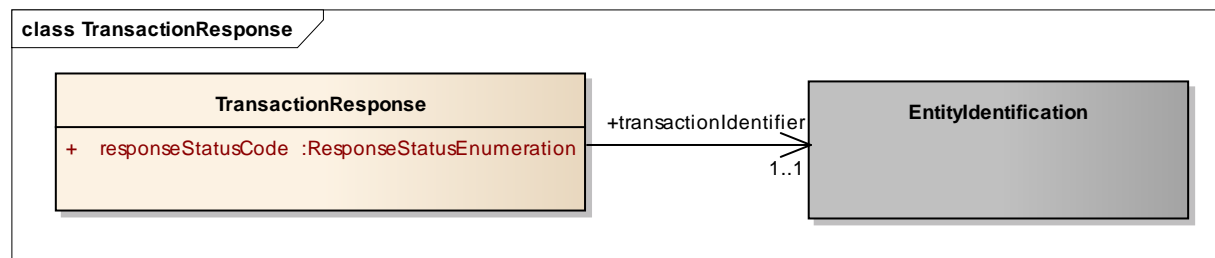
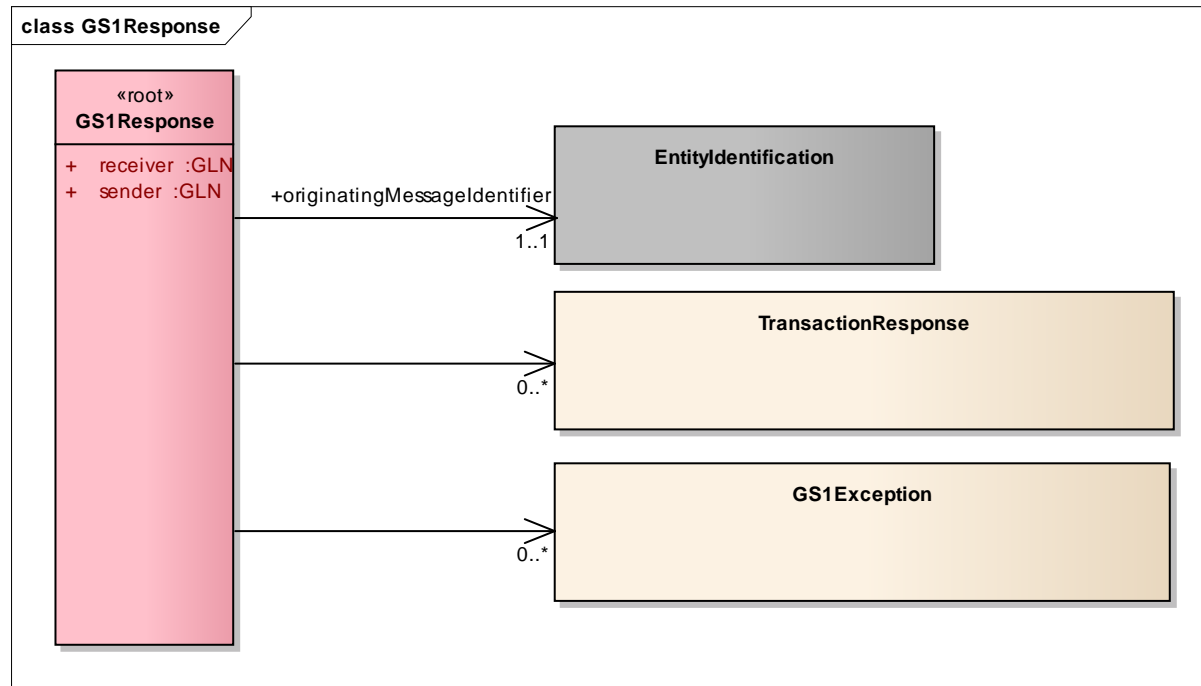


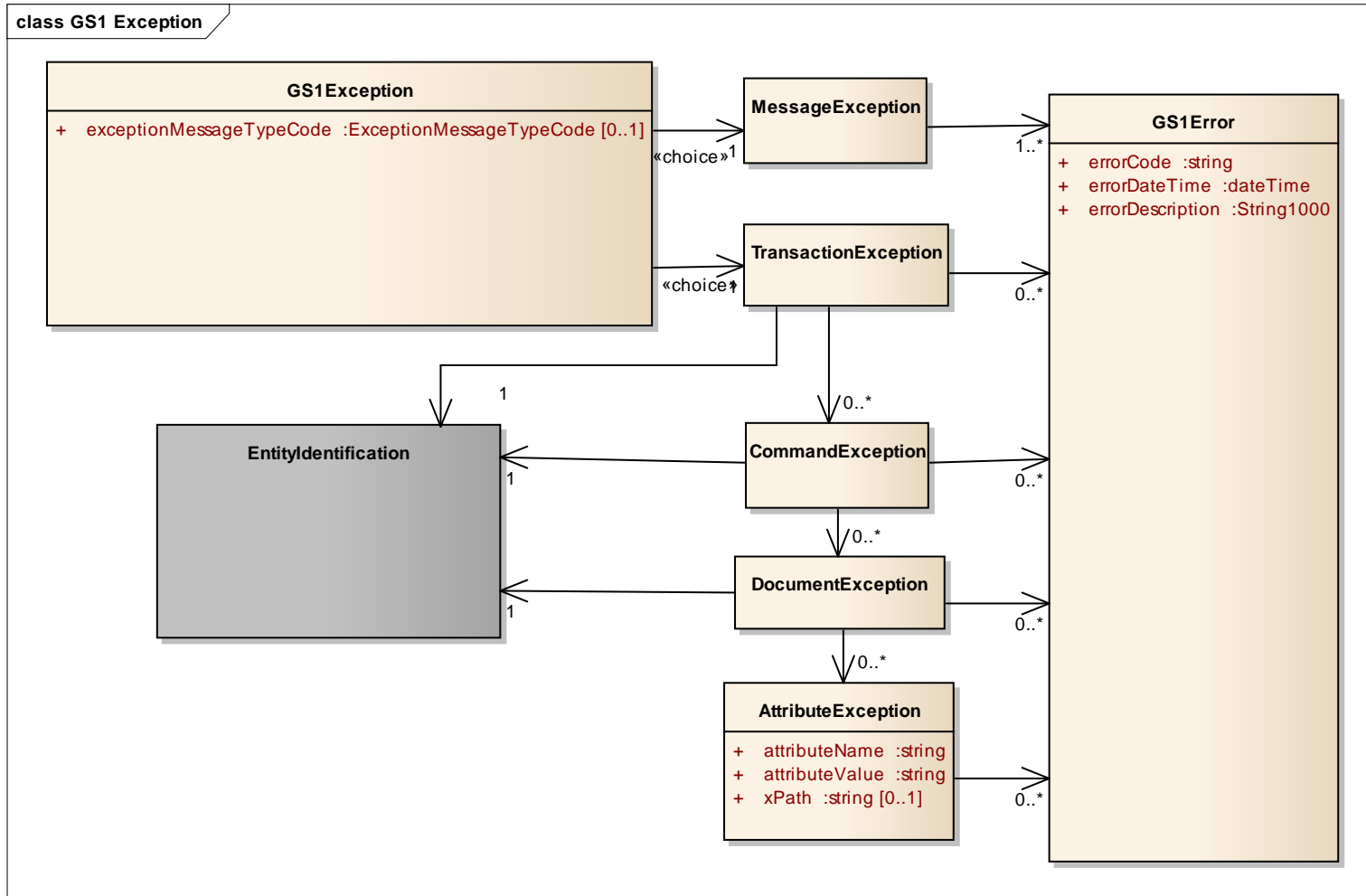
Note: Reference Shared Common Library Business Message (BMS) Release 3.1.0

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition
CatalogueItemSubscription				A business message used to establish a request for the update of trade item information from an end recipient on a continuous basis.
Generalization		Document		
Association	catalogueItemSubscriptionIdentification	EntityIdentification	1..1	Not available

Content	Attribute / Role	Datatype /Secondary class	Multi plicit y	Definition
Association		TargetMarket	0..1	Market in which the Information Provider will make the GTIN available to buyers. This does not in any way govern where the buyer may re-sell the GTIN to consumers. Additionally, Target Market where the trade item is intended to be sold.
Association	classification	CatalogueItemClassification	0..1	A classification schema is an Industry accepted, standardised method to group like products together so that global searches can be enabled
Attribute	dataRecipient	GLN	1..1	Party, which is authorized to view, use, download a set of Master Data provided by a Data Source.
Attribute	dataSource	GLN	0..1	Entity that provides the global data synchronization network with Master Data. The Data Source is officially recognized as the owner of this data. For a given Item or Party, the source of data is responsible for permanent updates of the information under its responsibility.
Attribute	gtin	GTIN	0..1	A particular Global trade item Number, a numerical value used to uniquely identify a trade item. A trade item is any trade item (trade item or service) upon which there is a need to retrieve pre-defined information and that may be planned, priced, ordered, delivered and or invoiced at any point in any supply chain.
Attribute	recipientDataPool	GLN	0..1	A data pool that supports the functionality of the Data Recipient (Subscription, Confirmation, Search, Request for Notification, etc.)

5.8. GS1 Response





Note: Reference Shared Common Library Business Message (BMS) Release 3.1.0

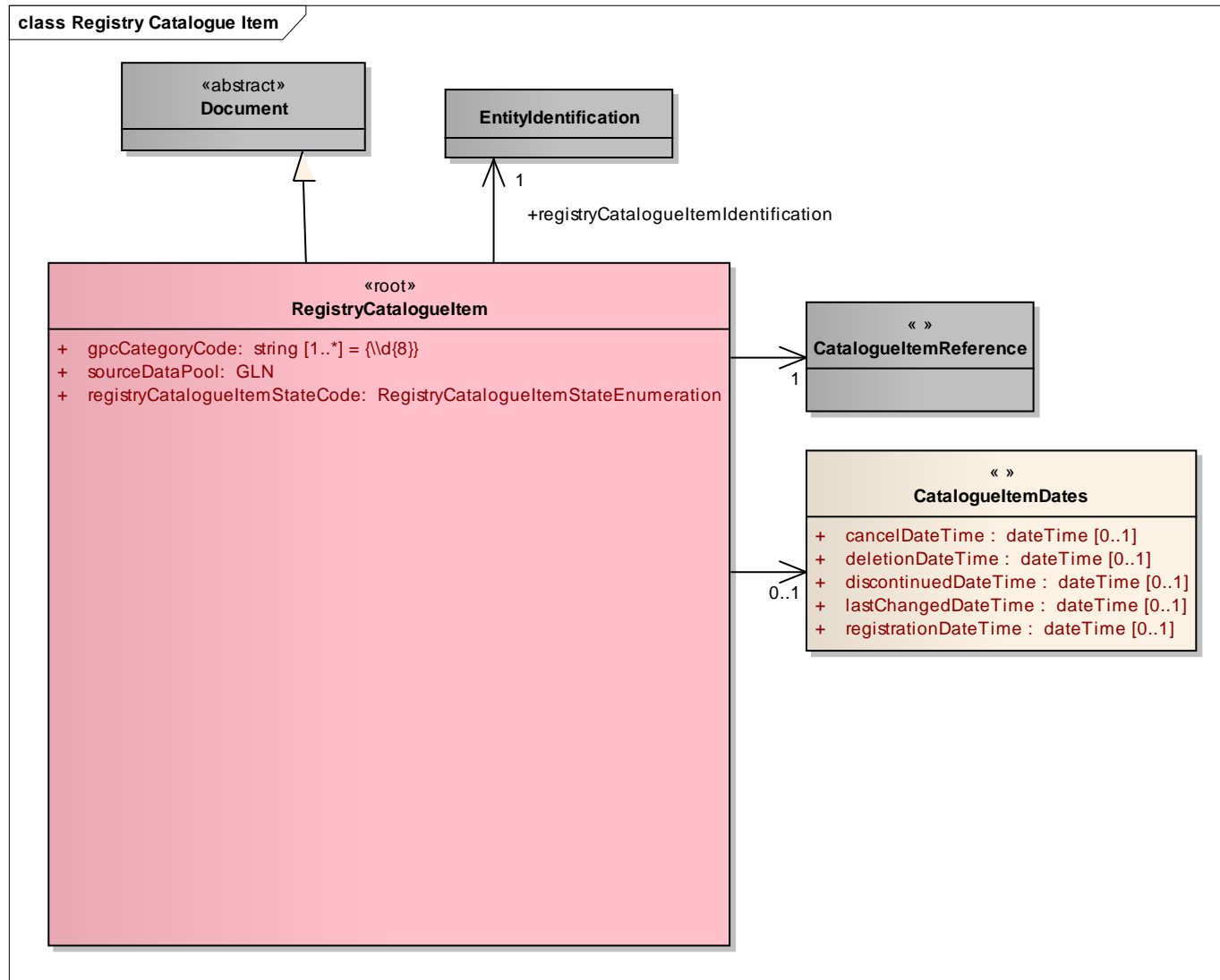
Content	Attribute / Role	Datatype /Secondary class	Multipli city	Definition
GS1Response				The root class of the standard response sent within the GDSN.

Content	Attribute / Role	Datatype /Secondary class	Multipli city	Definition
Association	originatingMessageIden tifier	EntityIdentification	1..1	Unique identifier for the Originating Message.
Association		TransactionRespons e	0..*	A positive response sent within the GDSN network for a transaction.
Association		GS1Exception	0..*	Exceptions within GDSN that happen at the Document, Command, Message, Transaction or Attribute Level.
Attribute	receiver	GLN	1..1	Identifies the party receiving an electronic message by use of the Global Location Number-- The globally unique GS1 System identification number for physical, functional, or legal entities.
Attribute	sender	GLN	1..1	Identifies the party sending an electronic message by use of the Global Location Number-- The globally unique GS1 System identification number for physical, functional, or legal entities.
AttributeException				Error details associated with the document attribute.
Attribute	attributeName	String	1..1	The name of the attribute that caused the exception.
Attribute	attributeValue	String	1..1	The value of the attribute that caused the exception.
Attribute	xPath	string	0..1	The XML xpath of the attribute that has created an exception.
Association		GS1Error	0..*	The specific GDSN Error related to the attribute.
CommandException				Error details associated with the document command.
Association		DocumentException	0..*	Error details associated with the document.
Association		GS1Error	0..*	The specific GDSN Error related to the document command.
Association		EntityIdentification	1..1	
DocumentException				Error details associated with the document.

Content	Attribute / Role	Datatype /Secondary class	Multipli city	Definition
Association		AttributeException	0..*	An attribute exception related to a document.
Association		EntityIdentification	1..1	
Association		GS1Error	0..*	The specific GDSN Error related to the command.
GS1Error				A logical grouping of information detailing an error which occurred in a message sent within the GDSN.
Attribute	errorCode	string	1..1	Error codes are numbered messages that correspond to faults in commands.
Attribute	errorDateTime	dateTime	1..1	Point in time at which an error occurred.
Attribute	errorDescription	String1000	1..1	A message that is returned by the GDSN, if an error occurs during the handling of a command.
GS1Exception				A standard message used to express exceptions within GDSN that happen at the Document, Command, Message, Transaction or Attribute Level.
Association	<<Choice>>	TransactionExceptio n	1..1	Error details associated with the document transaction.
Association	<<Choice>>	MessageException	1..1	Error details associated with the message.
Attribute	exceptionMessageTyp e	exceptionMessageTy peCode	0..1	The type of GS1 exception message being received for example GDSN.
MessageException				Error details associated with the message.
Association		GS1Error	1..*	The specific GDSN Error related to the message.
TransactionException				Error details associated with the document transaction.
Association		CommandException	0..*	Error details associated with the document command.
Association		EntityIdentification	1..1	
Association		GS1Error	0..*	The specific GDSN Error related to the message transaction.

Content	Attribute / Role	Datatype /Secondary class	Multipli city	Definition
TransactionResponse				A positive response sent within the GDSN network for a transaction.
Attribute	responseStatusCode	ResponseStatusEnumeration	1..1	The 3 states are: Accepted, Modified, Rejected
Association	transactionIdentifier	EntityIdentification	1..1	A reference to the transaction that the transaction response is responding to.

5.9. Registry Catalogue Item

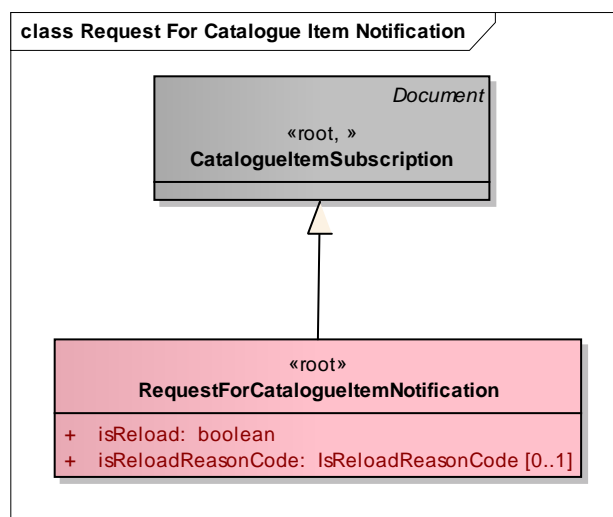


Note: Reference Shared Common Library Business Message (BMS) Release 3.1.0.

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition
RegistryCatalogueItem				A business message used to register trade item information from a data pool to the Global Registry within the Global Data Synchronisation Network.
Association		CatalogueItemReference	1..1	A Catalogue Item associated with a Registry Catalogue Item.
Generalization		Document		
Association		CatalogueItemClassification	1..*	Information on a Catalogue Item Classification for a Registry Catalogue Item.
Association		CatalogueItemDates	0..1	Information on Catalogue Item Dates for a Registry Catalogue Item.
Association	registryCatalogueItemIdentification	EntityIdentification	1..1	Unique identifier for the Registry Catalogue Item Message.
Attribute	sourceDataPool	GLN	1..1	A data pool that supports the functionality required by a Data Source such as Data Loading, Publication, Notification, Registration, etc.
Attribute	registryCatalogueItemStateCode	CatalogueItemState Code	1..1	The four states are: Registered , Cancelled, In Progress and Discontinued .
CatalogueItemDates				Dates related to the status of the Catalogue Item.
Attribute	cancelDateTime	dateTime	0..1	Date assigned by data source and stored in the source data pool reflecting the date the catalogue item was cancelled. This date will also be stored in the Registry.
Attribute	deletionDateTime	dateTime	0..1	Date assigned by data source and stored in the source data pool reflecting the date the catalogue item was flagged for deletion. This date will also be stored in the Registry.
Attribute	discontinuedDateTime	dateTime	0..1	Date assigned by data source and stored in the source data pool reflecting the date the catalogue item was discontinued. This date will also be stored in the Registry.

Content	Attribute / Role	Datatype /Secondary class	Multipl icity	Definition
Attribute	lastChangedDateTime	dateTime	0..1	Date assigned by system indicating last time the information was changed. This date is generic and will be stored where assigned and will accompany every message.
Attribute	registrationDateTime	dateTime	0..1	Date assigned by the registry of successful registration.

5.10. Request for Catalogue Item Notification



Note: Reference Shared Common Library Business Message (BMS) Release 3.1.0.

Content	Attribute / Role	Datatype /Secondary class	Multipl icity	Definition
RequestForCatalogue ItemNotification				A business message used to establish a subscription to trade item information for a data recipient within the Global Data Synchronisation Network.
Generalization		CatalogueItemSubsc ription		A Catalogue Item Subscription associated with a Request For Catalogue Item Notification.

Content	Attribute / Role	Datatype /Secondary class	Multipl icity	Definition
Attribute	isReload	boolean	1..1	The Boolean value within the request for notification process (True = currently on the notification list and False = initial load).
Attribute	isReloadReasonCode	IsReloadReasonCode	0..1	A code depicting the reason for requesting a reload.

6. Enumeration

6.1. Catalogue Item State Enumeration

GS1 Code List	CatalogueItemStateEnumeration
GS1 Code List Version	R1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

CANCELED	Canceled	The catalogue item that was never manufactured has been removed.
DISCONTINUED	Discontinued	The catalogue item that has been in the supply chain has been removed from the supply chain.
IN_PROGRESS	In Progress	The Catalogue Item is in the process of being processed at the Global Registry.
REGISTERED	Registered	The Catalogue Item has been registered at the Global Registry.

6.2. Registry Catalogue Item State Enumeration

GS1 Code List	RegistryCatalogueItemStateEnumeration
GS1 Code List Version	R1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

CANCELED	Canceled	The catalogue item that was never manufactured has been removed from the Global Registry.
DISCONTINUED	Discontinued	The catalogue item that has been in the supply chain has been removed from the supply chain.
IN_PROGRESS	In Progress	The Catalogue Item is in the process of being processed at the Global Registry.
REGISTERED	Registered	The Catalogue Item has been registered at the Global Registry.

6.3. Response Status Enumeration

Values Listed in Shared Common.

7. Code Lists



Note: Reference Shared Common Library Business Message (BMS) Release 3.1.0 and GDSN Domain Common Library Release 3.1.0 for all common code lists.

7.1. Confirmation Status Reason Code

GS1 Code List	ConfirmationStatusReasonCode
GS1 Code List Version	R1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Name	Code Definition
CIC019	Missing chemical ingredients information.	The item is missing required information on chemical ingredients.
CIC020	Incorrect or outdated chemical ingredients information.	The chemical ingredients information received is incorrect or outdated for the trade item.
CIC100	Attribute Analysis Requested	Data Recipient is requesting further review of specific attribute(s).
CIC101	Wrong CIN Publication Type	The message Publication Type was not as expected by Data Recipient.
CIC102	Unable to Synchronize	Data Recipient is not able to synchronize data.
CIC103	Missing GTIN in Item Hierarchy	Data Recipient has identified a missing GTIN level(s) of the published hierarchy.
CIC104	Required Attribute Information for Data Recipient Missing	Data Recipient has identified missing attribute(s) that are mandatory for their specific GDSN implementation.
CIC200	Incorrect Context	The data sent to the recipient has been sent with an incorrect product context (wrong context for GPC brick).
CIC999	Free Form Text to be populated by the Data Recipient	The Data Recipient is providing a free-form text explanation for the Confirmation Status Code they have returned to the Data Source or are providing information on additional issues that cannot be identified with a specific Confirmation Status Code. Possible Resolution: If further explanation is required, the Data Source should contact the Data Recipient

7.2. Corrective Action Code

GS1 Code List	CorrectiveActionCode
GS1 Code List Version	R1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Name	Code Definition
ACTION_NEEDED	Action Needed	Further action is needed. The data recipient will send instructions within the CIC message or contact the data source.
CHANGE_BY_REFRESH_MESSAGE	Change By Refresh Message	Please send a Change by Refresh message
CONTACT_TRADING_PARTNER	Contact Trading Partner	Please contact the data recipient.
CORRECTION_MESSAGE	Correction Message	Please send a Correction message
INITIAL_ITEM_LOAD_MESSAGE	Initial Item Load Message	Please send an Initial Item Load message, where the attribute isReload equals true.
NONE	None	No action needed
NEW_ITEM_MESSAGE	New Item Message	Please send a New Item message, where the attribute isReload equals false.

7.3. Hierarchy Deletion Reason Code

GS1 Code List	HierarchyDeletionReasonCode
GS1 Code List Version	R1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

HIERARCHY_LINK_CORRECTION	Hierarchy Link Correction	Hierarchy is being deleted for a correction to hierarchy links.
PUBLICATION_WITHDRAWAL	Publication Withdrawal	Hierarchy is being withdrawn from publication to a trading partner.

7.4. Is Reload Reason Code

GS1 Code List	IsReloadReasonCode
GS1 Code List Version	R1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Name	Code Definition
CHEMICAL_INGREDIENT_RELOAD	Chemical Ingredient Reload	A request for a reload of currently synchronised items for the purpose of receiving information on chemical ingredients.

8. Business Document Example

8.1. Catalogue Item Confirmation

Catalogue Item Confirmation	
Document	
creationDateTime	2011-03-11 11:00
documentStatus	ORIGINAL
EntityIdentification	
- entityIdentification	20051101
PartyIdentification (contentOwner)	
- gln	8712345678913
CatalogueItemConfirmation	
CatalogueItemConfirmationState	
catalogueItemConfirmationStateCode	REVIEW
recipientGLN	9712345678912
recipientDataPool	7712345678944
CatalogueItemReference	
gtin	00074562000525
dataSource	8712345678913
targetMarketCountryCode	528
CatalogueItemConfirmationStatusDetail	
CatalogueItemReference	
gtin	00074562000525
dataSource	8712345678913
targetMarketCountryCode	528
CatalogueItemConfirmationStatus	
confirmationStatusCode	CIC102
confirmationStatusCodeDescription	Unable to Synchronize
Corrective Action	
correctiveActionCode	CONTACT_TRADING_PARTNER

8.2. Catalogue Item Hierarchical Withdrawal

Catalogue Item Hierarchical Withdrawal	
Document	
creationDateTime	2011-03-11 11:00
documentStatus	ORIGINAL
EntityIdentification	
- entityIdentification	20071101
PartyIdentification (contentOwner)	
- gln	8712345678913
CatalogueItemHierarchicalWithdrawal	
catalogueItemStateCode	REGISTERED
hierarchyDeletionReasonCode	HIERARCHY_LINK_CORRECTION
dataRecipient	9712345678912
sourceDataPool	8712345678912
CatalogueItemReference	
gtin	00074562000525
dataSource	8712345678913
targetMarketCountryCode	528

8.3. Catalogue Item Notification

Catalogue Item Notification	
Document	
creationDateTime	2011-03-11 11:00
documentStatus	ORIGINAL
EntityIdentification	
- entityIdentification	20051101
PartyIdentification (contentOwner)	
- gln	8712345678913
CatalogueItemNotification	
isReload	FALSE
CatalogueItem	
dataRecipient	9712345678912
sourceDataPool	7712345678944
CatalogueItemState	
catalogueItemStateCode	REGISTERED

Catalogue Item Notification	
Tradeltem	
contextIdentification	DP006
isTradeltemABaseUnit	TRUE
isTradeltemAConsumerUnit	TRUE
isTradeltemADespatchUnit	FALSE
isTradeltemAnInvoiceUnit	FALSE
isTradeltemAnOrderableUnit	TRUE
tradeltemUnitDescriptorCode	BASE_UNIT_OR_EACH
PartyInRole	
gln	6612345678944
partyRoleCode	INFORMATION_PROVIDER
GDSNTradeltemClassification	
gpcCategoryCode	10000028
gpcCategoryName	Cheese/Cheese Substitutes (Perishable)
TargetMarket	
targetMarketCountryCode	124
TradeltemSynchronisationDates	
lastChangeDateTime	2013-01-10T12:00:01.000-05:00
effectiveDateTime	2013-02-10T12:00:01.000-05:00
TradeltemIdentification	
gtin	00074562000525
TradeltemInformation	
AllergenInformationModule	
AllergenInformation	
allergenSpecificationAgency	CFIA
allergenSpecificationName	Allergen Check List
Allergen	
allergenTypeCode	AM
levelOfContainmentCode	CONTAINS
DairyFishMeatPoultryItemModule	
DairyFishMeatPoultryInformation	
fatInMilkContent	10.00
isHomogenised	FALSE
CheeseInformation	
cheeseMaturationProcessContainerTypeCode	MOULD
cheeseMaturationPeriodDescription	Up to 6 months. en
isRindEdible	FALSE
rennetTypeCode	ANIMAL_RENNET
FoodAndBeverageIngredientInformationModule	

Catalogue Item Notification	
AdditiveInformation	
additiveName	Sodium Nitrate
levelOfContainmentCode	CONTAINS
FoodAndBeverageIngredient	
ingredientSequence	1
ingredientName	Milk
ingredientContentPercentage	80.00
TradeItemMeasurementsModule	
TradeItemMeasurements	
netContent	40 GRM
depth	30 CMT
height	20 CMT
width	30 CMT
TradeItemWeight	
netWeight	40 GRM

8.4. Catalogue Item Publication

Catalogue Item Publication	
Document	
creationDateTime	2011-03-11 11:00
documentStatus	ORIGINAL
CatalogueItemPublication	
businessContextIdentification	DP006
publishToGLN	8222345678913
EntityIdentification	
- entityIdentification	20051101
PartyIdentification (contentOwner)	
- gln	8712345678913
CatalogueItemReference	
gtin	00074562000525
dataSource	8712345678913
targetMarketCountryCode	124

8.5. Catalogue Item Registration Response

Catalogue Item Registration Response	
Document	
creationDateTime	2011-03-11 11:00
documentStatus	ORIGINAL
CatalogueItemPublication	
lastChangedDateTime	2013-02-10T12:00:01.000-05:00
registrationDateTime	2013-02-10T12:00:01.000-05:00
EntityIdentification	
- entityIdentification	20051101
PartyIdentification (contentOwner)	
- gln	8712345678913
CatalogueItemReference	
gtin	00074562000525
dataSource	8712345678913
targetMarketCountryCode	124

8.6. Catalogue Item Subscription

Catalogue Item Subscription	
Document	
creationDateTime	2011-03-11 11:00
documentStatus	ORIGINAL
CatalogueItemSubscription	
dataRecipient	8222345678913
gpcCategoryCode	10000028
EntityIdentification	
- entityIdentification	20051101
PartyIdentification (contentOwner)	
- gln	8712345678913

8.7. GS1 Response

GS1 Response	
GS1Response	
receiver	8222345678913
Sender	7222345678911
OriginationMessageIdentifier	
EntityIdentification	
- entityIdentification	20051101
PartyIdentification (contentOwner)	
- gln	8712345678913
GS1Exception	
receiver	8222345678913
sender	7222345678911
exceptionMessageTypeCode	GDSN
MessageException	
GS1Error	
errorCode	Err-075
errorDescription	Invalid GLN
errorDateTime	2006-03-17T10:00:00.000-05:00

8.8. Registry Catalogue Item

RegistryCatalogueItem	
Document	
creationDateTime	2011-03-11 11:00
documentStatus	ORIGINAL
RegistryCatalogueItem	
gpcCategoryCode	10000028
sourceDataPool	7772345678913
registryCatalogueItemStateCode	REGISTERED
EntityIdentification	
- entityIdentification	20051101
PartyIdentification (contentOwner)	
- gln	8712345678913
CatalogueItemReference	
gtin	00074562000525

RegistryCatalogueItem	
dataSource	8712345678913
targetMarketCountryCode	124
CatalogueItemDates	
lastChangedDateTime	2013-02-10T12:00:01.000-05:00
registrationDateTime	2013-02-10T12:00:01.000-05:00

8.9. Request for Catalogue Item Notification

Request For Catalogue Item Notification	
Document	
creationDateTime	2011-03-11 11:00
documentStatus	ORIGINAL
RequestForCatalogueItemNotification	
isReloadFlag	FALSE
CatalogueItemSubscription	
dataRecipient	8222345678913
gpcCategoryCode	10000028
EntityIdentification	
- entityIdentification	20051101
PartyIdentification (contentOwner)	
- gln	8712345678913

9. Summary of Business Rules

Rule ID	Business Requirement Description
1	Party data must exist prior to a Catalogue Item is being registered.
2	Catalogue Item data must be validated prior to registration.
3	Data Source must be able to add a Catalogue Item to the Source Data Pool.
4	Data Source must be able to change Catalogue Item data in the Source Data Pool.
5	Data Source must be able to correct Catalogue Item data in the Source Data Pool.
6	Data Source must be able to delete Catalogue Item data in the Source Data Pool.
7	If a Catalogue Item is deleted: - the links pointing down must be deleted all links above must be deleted - all Items above must be deleted
8	GS1 standards validation for GTIN and GLN format.
9	Uniqueness validation for Catalogue Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN) – only applies to the occurrence of the key, not to the uniqueness of the information related to it.
10	The Catalogue Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique.
11	Corrections bypass the standard GTIN/GLN allocation rules.
12	Every command needs a response and is handled according to the agreement between the parties involved. In the inter-operable network, acknowledgement messages are standardised and may contain the following information: - Confirmation of message receipt - Success / Failure of processing (syntax and content) - Reason for failure, with a code number and text message unique assigned to each failure
13	The Data Source grants visibility of item, party and partner profiles including party capabilities data to a given list of parties (identified by their GLNs) or to all parties in a given Target Market.
14	A subscription must be able to be maintained on the following levels: -GTIN -GLN of Data Source -Target Market -GPC Brick -any combination of these 4 elements
15	With the setup of a subscription, a Data Recipient sets a profile to receive on-going updates of the matching data (including all hierarchies, independently from the level subscribed on).
16	Subscription remains valid until it is deleted. Hence, it cannot be updated.
17	Subscriptions must be created by data recipients in their Recipients Data Pool and sent to the Global Registry.
18	A new Source Data Pool will get their relevant subscriptions as soon as they start registering their GTINs.
19	The system must maintain detailed subscription lists.
20	Synchronisation Lists must include every Catalogue Item (GTIN+GLN+TM) that needs to be synchronised.

Rule ID	Business Requirement Description
21	If a Catalogue Item is "Confirmed of Synchronisation" then all Catalogue items below in the Catalogue Item Hierarchy shall be included in the Synchronisation list.
22	Relationship dependent data will only be communicated for Synchronised, Review or Accept status in the Synchronisation List.
23	Events that can trigger notifications are: <ul style="list-style-type: none"> - Publication of new data / change of publication - Change of published Catalogue Item / Party / Partner Profile - Change of owner, rights - Subscription - Synchronisation List - Confirmation/ Rejection - Request for Notification - Any successful matching process
24	Notifications must NOT be sent in the following cases since data is not yet public and validated information: <ul style="list-style-type: none"> - Data load (add, change, etc...) - Data validation - Registration of new Catalogue Item
25	The Data Distribution, which is the movement of data from one entity to another, must be handled through a specific notification type.
26	Notification to the data recipient will always include the entire hierarchy. (applies to add & update by adding a higher level)
27	In case of an Item Link correction, the entire hierarchy will be indicated as corrected in the notification.
28	The updated hierarchy always fully replaces the current hierarchy. This action is called "Full Refresh".
29	The confirmation process must take place in the home data pool of the data recipient.
30	Only Catalogue Items are registered in the Global Registry. Not Catalogue Item Hierarchies.
31	Validation acknowledgements are mandatory.
32	Acknowledgement Reason codes must be unique.
33	Item Links are identified by the parent GTIN key + child GTIN key + quantity contained.
34	Item Links are not registered or held within the Global Registry.
35	Changes have to comply with validation rules.
36	If the Catalogue Item was registered, updates impacting the Registry data must be reflected in the Global Registry.
37	Registration of Catalogue Item changes only needs to happen for changes that: <ul style="list-style-type: none"> - Impact fields stored in the Global Registry. - Are authorised according to the GTIN allocation rules. <p>Note: Authorised ... the Data Recipient indicates to the Data Source that the Data Recipient is taking some action in the direction of full Synchronisation. The status is informative and does not change any behaviour on the part of any actor in the Data Synchronisation environment.</p>
38	The change function implies a full refresh of all attributes of the previously created Catalogue Item – this will be reflected in the subsequent notification, including a full refresh of the changed record of the full hierarchy.
39	The ability to provide incremental updates is: <ul style="list-style-type: none"> - optional – not required for data pool certification - functionality provided between the recipient's data pool and its users
40	Incorrect core data (i.e. attributes that cannot be updated according to allocation rules) can only be updated through specific correction functionality.

Rule ID	Business Requirement Description
41	Correct Item Hierarchy must: <ul style="list-style-type: none"> - trigger syntactical and content validation - skip GTIN allocation rules validation - set a flag on the GTIN data record to inform the data recipient of the correction (see data distribution / notification) - the correction (see data distribution / notification) - the correction will also be reflected in the Global Registry if it impacts Registry data
42	If the correction impacts the hierarchy, then it must be handled by deleting the incorrect Item Link and adding a new Item Link - Add/Delete Scenarios.
43	If the correction does not impact the hierarchy, then Item Link attributes will be updated through the correction command.
46	New hierarchy replaces old hierarchy completely.
47	The objective of the "Delete" Function is not to physically remove data from the data pool, but to "Flag for deletion", authorising the deletion of the data.
48	The deletion needs to be validated against a number of criteria, e.g. Item is no longer published, item discontinued, retention limit (GS1 specifications)...
50	Deletions need to be reflected in the registry (deletion flag + effective change date = deletion date in the Global Registry)
51	To protect data integrity within the data pool, the deletion of a child can only occur after the deletion of the parents.
52	Validation for deleted Items ensures the parents have been deleted before the deletion of the child is performed.
53	Validation is automatically triggered by the "Delete" command and does not require a specific message flow.
54	Deletion of a Catalogue Item must trigger the invalidation of any hierarchy links involving that Item, whether that Item is the parent or the child in the link. This is completed by the Refresh.ItemLink message. Ackn.ItemLink will be repeated for every link that was refreshed or invalidated.
55	Deletion needs to be validated against: <ul style="list-style-type: none"> - Publication status - Availability Status (end availability + discontinued Y/N) - Hierarchy: parents have to be deleted before children.
56	The discontinuation dates starts the standard retention period depending on the sector as soon as GTIN has been discontinued in ALL target markets where it was active (needs to be stored in the Global Registry).
57	A deletion cannot be corrected – only the discontinuation can be reversed.
58	Deletes are not synchronised across data pools.
59	Item Links can only be deleted: <ul style="list-style-type: none"> - as the correction of an error - as the result of a delete Item.
60	The validity period of an ItemLink is defined by the validity period of the Parent Item and/or the Child Item.
61	When either parent or child expires, the related ItemLink(s) have to expire as well.
62	Cancel Catalogue Item is achieved through the maintenance (using change function) of the cancel date.
64	Cancel date needs to be stored in the Global Registry.
65	Communicate that product is no longer available: maintain end availability date.

Rule ID	Business Requirement Description
66	When product is available again: update start/end availability date.
67	Communicate the product is no longer going to be manufactured: discontinued = Y + effective change date = discontinued date in the Global Registry.
68	Communicate the product is no longer going to be available: maintain end availability date.
69	Data recipient maintains subscription.
70	Data recipient will continue to receive updates until he rejects the data.
72	Reject is optional: in the absence of confirmation & reject, the data recipient would still receive updates.
73	Confirmed GTIN: - subscription: go to synchronisation list - synchronisation list: no action required.
74	Only new products matching the initial subscription will be distributed to avoid resending data that was previously rejected.
75	Updates for confirmed products will be distributed based on the synchronisation list.
76	Confirmation (accept or synchronised) will indicate the data recipient's commitment to synchronise the data in its internal systems.
77	Filtering out rejected data is a source data pool responsibility.
78	Subscription: for every matching GTIN, independently from its level, all hierarchies will be returned.
79	Synchronisation list: - Includes every GTIN id (GTIN+GLN+TM) that needs to be synchronised - Can be a result of the Confirmation process - All GTINs equal or lower in the hierarchy than the GTIN confirmed will be returned.
80	Rejection at the highest level of a hierarchy will trigger the rejection of all GTINs in the hierarchy of the rejected GTIN.
81	Synchronisation List is only synchronised between the involved source and recipient data pools for applicable data: synchronisation list is built based on confirmation received by a source data pool and nothing else.
82	Maintaining a publication is granting visibility and access to data.
83	Publications are initiated by the Data Source in the source data pool, they do not need to be synchronised in the Global Data Synchronisation Network (GDSN).
84	The Target Market where product is available is communicated in the product key (GTIN+GLN+TM) – this can be different from the Target Market for publication.
85	Data is either published: - to a Target Market: any GLN in the Target Market has access to the data (only applies to “public” Items) - to specific GLNs: only these GLNs have access to the data (only applies to “private” Items).
87	Notification is triggered by the matching process.
88	The matching process is owned and developed by each source data pool in order to trigger data distribution based on publication and subscription data.
89	The matching process can be triggered either by publication, subscription or as a scheduled event. It is valid for all subscription types (including synchronisation list) and all publication types.
90	For a given subscription (create/update): - the matching process identifies Items published to the GLN or TM of the subscription owner. - for each item, a notification is created including all dependent hierarchies. - for a synchronisation list, the hierarchy information included in the notification, will be limited to the GTINs maintained in the Synchronisation list. - The notification is sent to the home data pool of the data recipient.

Rule ID	Business Requirement Description
91	<p>For a given publication (create/update) :</p> <ul style="list-style-type: none"> - the matching process identifies subscriptions with matching criteria (TM, GLN, category, GTIN...) - for each matching subscription, a notification is created including all dependent hierarchies - for a synchronisation list, the hierarchy information included in the notification, will be limited to the GTINs maintained in the Synchronisation list. - The notification sent to home data pool of the data recipient.
92	<p>“Single Data Source” Principle : - there can only be one official source of the data – the one that is registered - this source is identified by the data source - this is the only valid source for data synchronisation and related processes.</p>
93	<p>Although the notification process will physically move the data from one data pool to another, this data should not be stored permanently for the purpose of synchronisation with any other user than the initial subscriber.</p>
94	<p>Confirmation is not mandatory and can provide 4 outcomes:</p> <ol style="list-style-type: none"> 1. Synchronised: data is integrated, in synch 2. Accept: Data has been received by the data recipient, but no business decision has been made on the data. 3. Reject: data will no longer be synchronised or updates will no longer be provided. 4. Review: request to the data source to review their data and take action (applies to adds & changes) because the data recipient has received discrepant data which they cannot synchronise. If no confirmation is sent, data updates will continue to be provided until the data recipient accepts, rejects or updates the subscription, or until the data source changes the publication. For a new Catalogue Item the same confirmation can be used.
95	<p>The list of authorised values for the confirmation message does not imply a sequence in which the message has to be used.</p>
96	<p>The same “confirmation” message can be used to stop synchronising a Catalogue Item. In that case, the “Reject” status will be used.</p>
97	<p>“Synchronised” status is sent once – parties are assumed to be in synch unless a reject/review status is exchanged.</p>
98	<p>Rejection should not remove data previously authorised, for instance in a different hierarchy.</p>
100	<p>The Global Registry is involved in the following functions and/or business cases as defined in the Item Synchronisation detailed requirements:</p> <ul style="list-style-type: none"> -Validation -Registration -Subscription -Global Search
101	<p>Registry Validation includes :</p> <ul style="list-style-type: none"> - GS1 standards validation for GTIN and GLN formats (i.e. check digit) - Uniqueness validation for Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN), ensuring there is only one occurrence and data source for each data record as identified by the appropriate fields.
104	<p>In summary, the registry requirements for validation are:</p> <ul style="list-style-type: none"> - GS1 standards validation for GTIN/GLN formats - Uniqueness validation for Item, Party and data pool key - Store and maintain GS1 standards - Process validation command - Provide validation acknowledgement
105	<p>Registration is the process, which references all Catalogue Items and Parties published in all certified data pools and on which there is a need to synchronise / retrieve information. This is supported by data storage in accordance with the Registry data scope and rules.</p>

Rule ID	Business Requirement Description
106	Registering a Catalogue Item involves a check by the Global Registry for Item uniqueness. The Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Global Registry must be unique. When an Item is registered, the registry verifies that the combination of this data is unique to that Item.
107	<p>The registration process is triggered by the following business cases:</p> <ol style="list-style-type: none"> 1. Create Catalogue Item: After the physical load and validation of the data, the registry record needs to be created before data can be published. 2. Update Catalogue Item: When a registered Catalogue Item is updated in its source data pool, updates impacting the Registry data must be reflected in the Global Registry, before the updated data can be propagated to the recipients. Registration of Catalogue Item changes only needs to happen for changes that: Impacts fields stored in the Global Registry. Are authorised according to the GTIN allocation rules. 3. Correct Catalogue Item: When a registered item is corrected in its source data pool, corrections impacting the Registry data must be reflected in the Global Registry before the updated data can be propagated to the data recipients. 4. Delete Catalogue Item: Deletions need to be reflected in the Global Registry. 5. Cancel Catalogue Item: Communicates a trade item was never manufactured – this allows an earlier “reuse” of the GTIN i.e. standard retention period. This is achieved through the maintenance (using change function) of the cancel date. 6. Removing a Catalogue Item from the supply chain: The permanent removal of a Catalogue Item from the supply chain is achieved through the maintenance of a discontinuation date. This date has to be reflected in the Global Registry. Temporary removals are not reflected in the Global Registry and only handled through the maintenance of the availability period in the data pools.
108	<p>Registry requirements for registration are :</p> <ul style="list-style-type: none"> - Registration can only happen after successful validation. - Registration can only produce errors, no warnings. - Successful Registration of a Catalogue Item is mandatory prior to publication of any hierarchy containing that Catalogue Item. - ItemStatus needs to be included in GTIN data model to reflect validation and registration status. - Process registration command (for create, update, correct, delete). - Provide registration acknowledgement.
109	A Data Recipient requests that it receive a “notification” when a specific event occurs that meets the Recipients criteria (selective on sources, categories, etc.). This is subject to the recipient's access to information as controlled by the data source through its source data pool.
110	After a Subscription is created, the Global Registry will then disseminate relevant subscriptions to appropriate Source Data Pools (current and future new data pools).
111	<p>Registry requirements for subscription are:</p> <ul style="list-style-type: none"> - Receive and store subscriptions - Provide subscription acknowledgement - Matching process of subscriptions with Source Data Pools - Forward subscriptions
112	<p>The data pool validation is the compliance checking of new or changed data versus GS1 Global Data Standards, principles and rules, including:</p> <ul style="list-style-type: none"> - GS1 Item and Party data model validation - Syntax checks (field formats...) - Consistency checks (pick lists, authorised values...) - Legal checks (local data requirements...) - Quality checks (measurements, hierarchy representation...) <p>This will be handled through a validation engine.</p>

Rule ID	Business Requirement Description
116	The Global Registry includes: <ul style="list-style-type: none"> - item data - party data - data pool profiles - attributes required to enable Global Search with the use of meta data database (to be defined) - global validation rules required for validation engine (to be defined)
118	Changes/corrections applied to the Global Registry are effective immediately.
119	Future effective changes stored in the data pool are only reflected in the Global Registry when they become effective.
123	Recipient maintains a subscription, including the "Reload" flag.
124	The notification triggered by a subscription must also carry the "Reload" flag value.
125	The Source Data Pool is responsible to reset the "Reload" flag once it sends all requested data.
126	If a new Reload is needed, the Recipient must delete the previous Reload Subscription, then create a new Subscription with the "Reload" flag set.
127	The Global Registry must distribute Subscriptions only to relevant Source Data Pools.
128	Source Data Pools must send notifications based on matching publications and subscriptions.
129	GTIN and Category are mutually exclusive subscription criteria as the Category is uniquely defined for a given GTIN, independently from the GLN and from the TM.
130	GTIN, GLN (of Data Source), Target Market and Classification must be stored in the Global Registry, and are linked to the Source Data Pool(s) where the data can be found. For instance, if given a GTIN, the Global Registry will be able to return all the data pools where data can be found on that GTIN, independently from the GLN of the Data Source, the Target Market or the Category.
131	The distribution of subscriptions is either a scheduled event or is triggered by another event.
132	The events that can trigger the distribution of a subscription are: <ul style="list-style-type: none"> - new/updated registration: check existing subscriptions, if new data pools are found : distribute subscriptions - new subscription: check existing registrations, if new data pools are found: distribute subscriptions - delete subscriptions: distribute "delete" to source data pools where subscription had been sent
133	Subscriptions cannot be updated, they are created or deleted.
134	Subscriptions must be stored in the recipient's data pool.
135	For every subscription, the Registry must store the GLN of the Source Data Pool to which the subscription was sent and when it was sent.
137	Match new subscriptions with registered Catalogue Items and forward the subscription to the Source Data Pool.
138	Publication Who : Data Source = source GLN What : Item record, identified by GTIN+GLN+TM Where : TM or GLN (= target GLN)
139	Subscription Who : Data Recipient = target GLN What : Any combination of GTIN, GLN, TM and Category
140	Publication TM does not have to be equal to the GTIN TM (i.e. I can have a product record defined for TM France, but publishing the data to Belgium only for information purposes).

Rule ID	Business Requirement Description
141	Deletion of a Subscription stops New Catalogue Items from being sent to RDP, but, doesn't stop Catalogue Items already in the Synchronisation List from being updated.
142	Request for Notification is not retained in the Global Registry and acts like a Subscription that is applied to the Synchronisation List, then deleted (no New Catalogue Item data will be sent).
143	"Reload" flag is passed through to Recipient.
144	Request for publication (subscription) resets the reject flag if catalogue Item has been previously rejected and reactivate the subscription.
145	The request for publication subscription is only executed once.
146	Subscriptions are passed from global Registry to data pools just once. The Global Registry passes along to the source data pool matching subscriptions in the entirety, rather than replicating for each GTIN registered.
147	Request for notification publication (subscription) resets the reject flag if the Catalogue Item has been previously rejected and reactivate the subscription.
149	Upon execution of an item data notification, the source data pool will pass along the value of this attribute within the message for the recipient to properly route the inbound message.
151	The team wanted to reiterate the fact that new subscriptions received by a source data pool would be executed immediately a single time.
152	The ability to set up a subscription and not get an initial full load of data. She wants to only receive the changes, adds, deletes and new items that match her subscription. (This is the same as a regular subscription with the exception of not getting the initial load).
153	The Global Registry and the data pools should be able to process current and previous versions of the Catalogue Item Synchronisation messages. The Global Registry and the data pools should also be able to process a new version within a certain time frame.
154	The Global Registry shall send only once a subscription to a Source Data Pool.
155	Data Sources will publish trade items at the highest level of the hierarchy.
156	Subscription matches are performed at any level of the hierarchy. The data recipient is sent all hierarchies that match.
157	Confirmations will be done at the highest level of the published trade item hierarchy.
158	Top of hierarchy is assumed to be the largest available unit determined by the data source. Defined as the GTIN of the highest published item in the hierarchy.
159	Multiple independent hierarchies can co-exist at the data-pool for an item for example hierarchy 1 = case A – each A and hierarchy 2 = pallet A – case A –each A.
160	Catalogue Item Confirmations (CIC) for the item at the top level of the hierarchy with a status of reject will stop publications of the whole hierarchy.
161	A CIC with a status of Rejected, Received, Review or Synchronised sent for an item below the highest level of the published item hierarchy will result in a CIC failure.
162	To stop the publication of a hierarchy to data recipient, a CIN (with a Document Command of Delete and a CIN Catalogue Item State which equals the current catalogue item state in the Global Registry) will be sent from the source data pool to the recipient data pool and on to the data recipient.
165	Publication deletes must be done at highest level of the published item hierarchy.

Rule ID	Business Requirement Description
166	<p>A Request for Catalogue Item Notification with the isReload set to false will result in items being re-sent whether they were previously rejected or not. The Sync List will be reset. This is only valid for items that have previously been sent to the data recipient.</p> <p>The CIN response will have the following values: documentStatus= Original isReload = False Command= Add</p>
167	<p>A Request for Catalogue Item Notification with the isReload set to true will result in only items not previously rejected being re-sent. The Sync List is not reset. The CIN response will have the following values: documentStatus= Copy isReload = True Command= Add</p>
168	<p>The Document Status of the RFCIN command is ignored for the purposes of determining its impact on the sync list and the status of the CIN that is generated.</p>
169	<p>The Global Registry shall retain and persist all Catalogue Item Subscriptions that are received that contain a GTIN or GLN that is not found in the Global Registry.</p>
171	<p>The message identifier (CorrelationInformation: requestingDocumentInstanceIdentifier) at the document header level for the GS1 response must equal the DocumentIdentification: instanceIdentifier of the original message.</p>
172	<p>When the status of the "Catalogue Confirmation State List" is set to either "Review" or "Rejected", there may be additional information in the CIC message such as the confirmation code, description, and the comment and understands what action they need to take to resolve the current situation.</p>
174	<p>The CIC message can include multiple Catalogue Item References (GTIN + GLN + Target Market) to establish the relationship between the information communicated and the actual Catalogue Item being referenced</p>
175	<p>The Retailer must have a way to communicate the desire to resume synchronisation of a product after they communicated the rejection of the same product.</p>
176	<p>The SDP must be capable of updating the synch list for the GTIN/GLN/TM after a CIC REJECTED was received followed by a CIC RECEIVED, allowing synchronisation on the Trade Item.</p>
177	<p>If a Retailer decides to begin synchronization on a product after previously sending a CIC REJECTED, any CIC (State other than REJECTED) can be sent to the Supplier through the RDP</p>
179	<p>SDP must notify the Data Source of the reason the CIN for Initial Item Load cannot be created.</p>
180	<p>The CIN Message Must distinguish an item already in trade as data synchronization is begun between Data Source and Data Recipient through the isReloadFlag being set to TRUE.</p>
181	<p>The CIN Must distinguish a new item being introduced into the supply chain through the isReloadFlag being set to FALSE.</p>
182	<p>A GDSN validation is required to ensure that the synch list in the SDP has no evidence of the GTIN having been published, but a subscription exists that covers the GTINs being transmitted in the CIN.</p>
183	<p>The CIN with 'isReload' set to true is allowed ONLY if there is not a synch list entry for the GTINs included AND there is an existing subscription that covers the GTINs included.</p>
184	<p>For Initial Item Load, the CIN Message MUST contain following values, documentStatus=ORIGINAL isReload=TRUE Command=ADD</p>
191	<p>When an item has a discontinue date, the state of the item does not get updated until that date becomes current.</p>

Rule ID	Business Requirement Description
192	The Global Registry must support a Registry Catalogue Item State of "DELETED".
193	Hierarchical links between Trade Items can only be created or changed using the CatalogueItemChildLink class in the Catalogue Item Notification message. It is also mandatory to populate the ChildTradeItem class within the Trade Item as well to specify a hierarchy.
194	If the GLN is not found in the party registry, the subscription is still persisted. The GLN must still pass all syntactic validations.
195	If the GTIN is not found in the item registry, the subscription is still persisted. The GTIN must still pass all syntactic validations.
196	If the Target Market is not found in the code list of valid target markets in the global registry, the subscription fails.
197	If the GPC is not found in the code list of valid GPCs in the global registry, the subscription fails.
209	The Product Context used to validate the trade item is determined based on the Product Classification of the Trade Item. For example, if the GPC Brick in the Trade Item is Bread (Shelf Stable), then the context referenced by the contextIdentification must be Food Beverage Tobacco Pet Food.
219	The Source Data Pool must pass the product context used to determine the validations to the Recipient Data Pool to help determine the set of validations that were performed on the trade item.
220	The Recipient Data Pool must pass the product context on to the Data Recipient to inform them of the set of validations performed on the trade item.
222	Confirmations may include a Catalogue Item Confirmation Status Code of Incorrect Product Context. This is to inform the data source and the source data pool that the trade item data published to the Data Recipient was validated against an incorrect product context.
226	To stop the publication of a hierarchy to data recipient, a Catalogue Item Hierarchical Withdrawal message (with a Document Command of Delete, a Catalogue Item State which equals the current catalogue item state in the Global Registry and a HierarchyDeletionReasonCode of PUBLICATION_WITHDRAWAL) will be sent from the source data pool to the recipient data pool and on to the data recipient (depending on data recipient interface). In release 2.8, the same function was performed by sending the Catalogue Item Notification message, with command DELETE. The 2.8 method, while available in the 3.1 is discouraged and should be avoided.
227	The Catalogue Item Hierarchical Withdrawal" document can only be sent at the highest level of the published hierarchy.
228	The trade item being deleted via a "Catalogue Item Hierarchical Withdrawal" must have been previously registered.
229	The only valid Document Command for the "Catalogue Item Hierarchical Withdrawal" document is DELETE. (new validation).
230	To correct a catalogue item hierarchy for incorrect links, the hierarchy must be deleted using the Catalogue Item Hierarchical Withdrawal message with a reason code of Hierarchy Link Correction and then re-added with the correct links using the Add command.
231	The subsequent Add Message (after the hierarchy link correction) must be treated as a correction for validation purposes.
231	The subsequent Add Message (after the hierarchy link correction) must be treated as a correction for validation purposes.
232	Item records marked PRELIMINARY may be updated with a CORRECT or CHANGE_BY_REFRESH.
233	Any attribute values may be changed or corrected on a preliminary item according to current rules except for the trade item identification (GTIN/GLN/TM).
234	Before firstShipDate has been reached, a preliminary trade Item should be updated to FINAL.

Rule ID	Business Requirement Description
235	firstShipDate should be populated for preliminary trade item. Note: This is a recommendation for an implementation guide not a hard validation rule.
236	The change to a trade item's status from PRELIMINARY to FINAL may be done using a CHANGE_BY_REFRESH or CORRECT Command.
237	All applicable validations on a preliminary trade item must be performed during a Change By Refresh or Correct even if this entails having the data source populate temporary data for unknown attributes.
238	The whole trade item is considered to be preliminary not individual attributes. All attributes in the trade item are treated as preliminary except for the Key (GTIN, GLN, TM).
239	If the Data Recipient does not accept a preliminary item they should use a REVIEW status and not REJECTED unless they have no interest in the trade item.
240	All mandatory and conditional attributes must be sent for a preliminary trade item with the understanding that these values are preliminary and subject to change.
241	A FINAL child may be associated with parent items in a PRELIMINARY status.
242	A PRELIMINARY child must not be associated with parents in a FINAL status.
243	Items may be in a status of PRELIMINARY for a specific target market (GTIN/GLN/TM). For example, a trade item can be PRELIMINARY in the US but FINAL in France.
244	If a trade item is switched to a status of FINAL within a published trade item hierarchy, it must be switched to FINAL in all hierarchies that it has been published in within the target market it has been published in by the same Information Provider GLN. <ul style="list-style-type: none"> this will require the Data Source to republish all hierarchies that contain the item being finalized there is some concern regarding the timing of these changes to multiple hierarchies within the network. . It is recommended that all other hierarchies sharing this item should be updated and republished within the same working day.
245	A trade item hierarchy is not considered to be FINAL until all trade items within the hierarchy have a preliminary status of FINAL.
246	The trade item with a status of FINAL will be the starting point for the GTIN allocation rule enforcement.
247	Item Futurisation must not be started until the item is in a status of FINAL.
248	The trade item must be FINAL or PRELIMINARY for all data recipients within a TM (not RDD).
249	Preliminary Item functionality is optional. If not supported by data pool, the Source Data Pool must notify Data Source and Recipient Data Pool (RDP) that they do not support the publication of preliminary items. There may be a need for the RDP as well to notify Data Recipients and Source Data Pools that they do not support preliminary data in the case that they do validations.
250	Data Recipients cannot further restrict the publication of data sets by Data Sources beyond those already associated with the agreed upon context stored within the GDD. As a result, the Data Recipient may have to ignore information that they are not interested in but is part of the listed attributes associated with the context.
251	The product context associated with a trade item has no impact on the Registry Catalogue Item data and has no effect on the registration of a trade item.
253	For purposes of matching validation rules with product contexts, Source Data Pools must be able to map between the GPC brick in the Catalogue Item and the GPC level present in the product context.

Rule ID	Business Requirement Description
254	Source Data Pools will be notified of the contexts applicable to a GPC brick through updates to the standard for a release. The Context Reports will be updated in alignment with GPC releases to include any necessary changes to GPC.
255	If the GPC brick associated with the trade item is 99999999 then validations will be performed based only on the validation rules applicable to all product contexts. Note: see Context Report Cross Segment for all GPC's that should be validated based only on the validation rules applicable to all product contexts.

10. Implementation Considerations

Item Containment within the Trade Item:

The Trade Item model includes only one level down (one level of children) per parent Trade Item. Requirement #28 states that “The updated hierarchy always fully replaces the current hierarchy.” As such, the Containment that is modelled in the Trade Item message is not used in the Catalogue Item Synchronisation Process. Catalogue Item Hierarchy **must** be communicated via the “CatalogueItemChildLink” class in the “CatalogueItemNotification” message.

11. Definitions & Principles

11.1. Single Data Source Principle

There can only be one official source of the data – the one that is registered.

This source is identified by the data owner.

This is the only valid source for data synchronisation and related processes.

Although the notification process will physically move the data from one data pool to another, this data should not be stored permanently for the purpose of synchronisation with any other user than the initial subscriber.

If stored, access should be limited to the initial data recipient.

11.2. Catalogue Item Identification

In the synchronisation process,

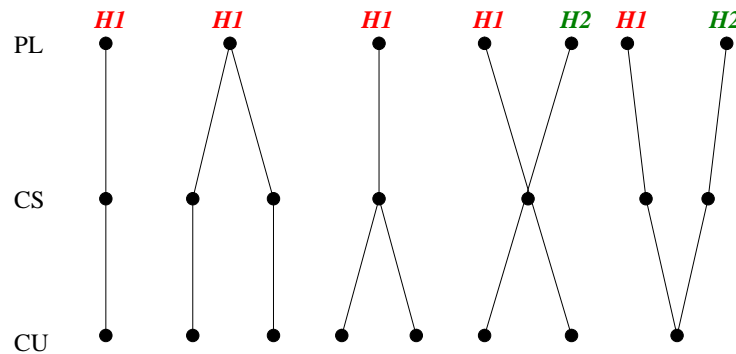
- a Catalogue Item is uniquely identified by GTIN + GLN + TM
- a ItemLink is uniquely identified by the Parent Item Key + Child Item Key + quantity contained

11.3. Full Hierarchies

All Catalogue Item messages communicated by full hierarchy. In other words, all communication at the highest level of the hierarchy. This begins with publication messages, and follows with all distribution messages and then all response messages.

The definition of a full hierarchy is a construct of data containing a set of GTINs and links that make up a unique relationship from the highest level GTIN with no parent down to the lowest level GTIN(s) with no children.

Figure 11-1 Full Hierarchy Examples



12. Data Loading Business Cases

12.1. Overview

A data source sends a full data set (Catalogue Item Hierarchy) to its source data pool. The data loaded can be published only after validation by the data pool and registration in the Global Registry. This function covers:

- Add new Catalogue Item Hierarchy
- Correct mistakes: changes to an existing Catalogue Item record to correct errors
- Change of information to reflect changes in the original object
- Delete obsolete Catalogue Item Hierarchy: in this function the related data records are flagged as inactive but not physically deleted from the data pool. Data cleansing and data archiving mechanisms have to be implemented in data pools and Global Registry.

The source data pool is the unique reference point for registered GTINs, even if the data is not physically stored there.

12.2. New Catalogue Item Hierarchy

To create a new Catalogue Item Hierarchy, the Data Source enters a full Catalogue Item Hierarchy (Catalogue Item and ItemLink data) into the Source Data Pool.

The data pool verifies that the information loaded is “correct”, i.e. expected and complete and then sends the relevant Catalogue Item data to the registry for registration.

ItemLink data is not sent to the Registry as ItemLinks do not need to be registered

Example :

Command : Add
 Payload : Catalogue Item Data

Catalogue Item1 (CU)
Catalogue Item2 (CS)
Catalogue Item3 (PL)
ItemLink Data
Itemlink 1 (2 → 1)
Itemlink 2 (3 → 2)

The validation of the data is a 2-step process:

1. **Data Pool Validation** is the compliance checking of new or changed data versus GS1 Global Data Standards, principles and rules, including:
 - GS1 Item and Party data model validation
 - Syntax checks (field formats...)
 - Consistency checks (pick lists, authorized values...)
 - Legal checks (local data requirements...)
 - Quality checks (measurements, hierarchy representation...)
 - GS1 standards used for validation are stored centrally (could be in the registry)

2. **Registry Validation** is the checking compliance with basic GS1 standards related to the format of a GTIN/GLN and ensuring the uniqueness of the data that is being registered.

In summary:

- GS1 standards validation for GTIN and GLN format
- Uniqueness validation for Catalogue Item (GTIN/GLN/TM), Party (GLN) or data pool (GLN) – only applies to the occurrence of the key, not to the uniqueness of the information related to it.

Registration is the process, which references all Catalogue Items and parties published in all certified data pools and on which there is a need to synchronise / retrieve information. This is supported by data storage in accordance with the Registry data scope and rules.

Registering a Trade Item involves a check by the Registry for uniqueness. The Trade Item is identified by the following elements: GTIN, GLN, Target Market. Each combination of this key data found in the Registry must be unique.

12.3. Change Catalogue Item Hierarchy

To make changes to a Catalogue Item Hierarchy already existing in a data pool, whether the Catalogue Items have been registered or not.

Changes have to comply with validation rules.

If the Catalogue Items in the Hierarchy were registered, updates impacting the Registry data must be reflected in the Registry.

Registration of Catalogue Item changes only need to happen for changes that :

- Impact fields stored in the registry
- Are authorized according to the GTIN allocation rules

Validation is done against existing data, applying GDD standard and GTIN Allocation rules.

The change function implies a full replacement of all attributes of the previously created Catalogue Item – this will be reflected in the subsequent notification, including a full refresh of the changed record.

The ability to provide incremental updates is :

- optional – not required for data pool certification
- functionality provided between the recipient's data pool and its users

12.4. Correct Catalogue Item Hierarchy

Correction is the update of data in ways that would not be allowed by the standard GTIN allocation rules (i.e. changes that would otherwise require the allocation of a new GTIN).

All other validations (i.e. syntax, consistency, legal compliancy) still apply.

Correction will trigger a different process at the data recipient's end.

This process is intended to correct errors, not to circumvent the validation process as part of a standard data update.

Incorrect core data (i.e. attributes that cannot be updated according to allocation rules) can only be updated through a specific correction functionality.

This functionality will:

- trigger syntactical and content validation
- skip GTIN allocation rules validation
- set a flag on the GTIN data record to inform the data recipient of the correction (see data distribution / notification)
- the correction will also be reflected in the registry if it impacts registry data

According to GTIN allocation rules, ItemLinks can never be updated, as they reflect the relationship between 2 GTINs. There is, however, a need for a process to correct data that was incorrectly maintained.

The correction will be handled differently depending whether it impacts the integrity of the hierarchy or not :

- if the correction impacts the hierarchy, then it will be handled by deleting the incorrect ItemLink and adding a new Item Link - **Add/Delete Scenarios**
- else, Catalogue Item or ItemLink attributes will be updated through the correction command - **Correction Scenarios**

12.5. Correction Scenarios

Correct Catalogue Item Data Element

Process:

- no impact on logical hierarchy
- update data element with Correct Catalogue ItemHierarchy

Correct ItemLink Data Element

Example:

ItemLink : QuantityContained

Catalogue Item : Weight

current hierarchy :

Parent : GTIN1

Child : GTIN2

Quantity Contained : 10

correction :

Quantity Contained : 12

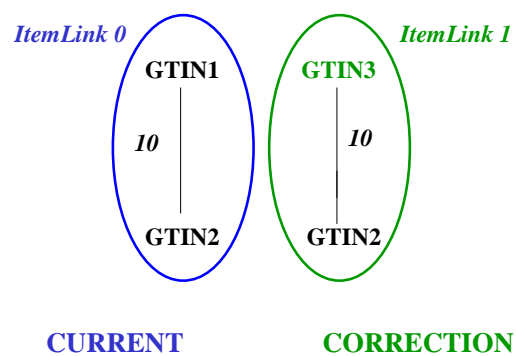
Process:

- no impact on logical hierarchy
- update data element with Correct.ItemHierarchy

12.6. Add/Delete Scenarios

1. Parent / Child Correction v

Example:

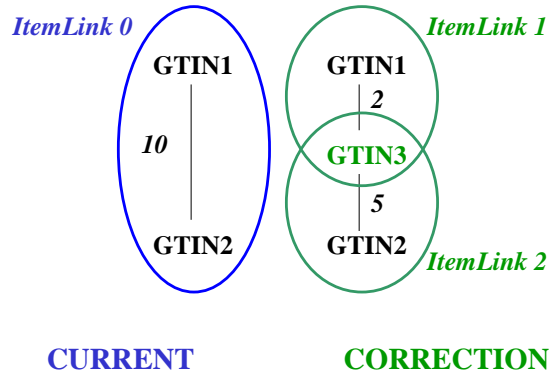


Process:

- Delete.ItemLink0
- Add.GTIN3
- Add.ItemLink1

3. Insert Intermediate layer in existing hierarchy

Example:

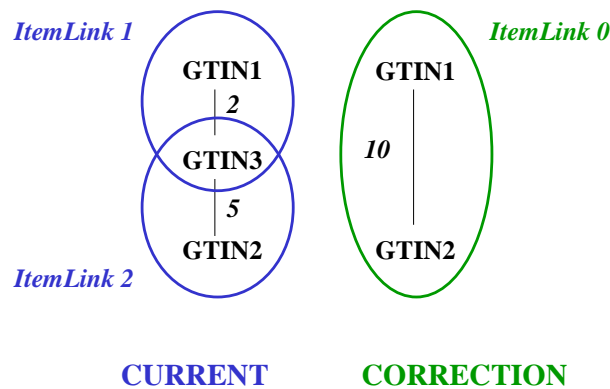


Process:

- Delete.ItemLink 0
- Add.GTIN3
- Add.ItemLink 1
- Add.ItemLink 2

4. Delete Intermediate layer in existing hierarchy

Example:

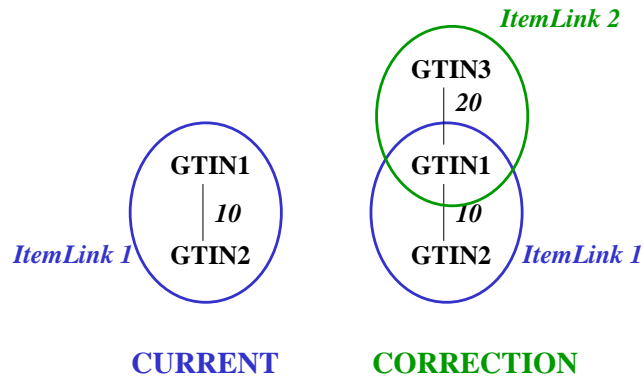


Process:

- Delete ItemLink 1
- Delete ItemLink 2
- Delete GTIN3 if not used anywhere else
- Add ItemLink 0

5. Add new layer on top of existing hierarchy

Example:

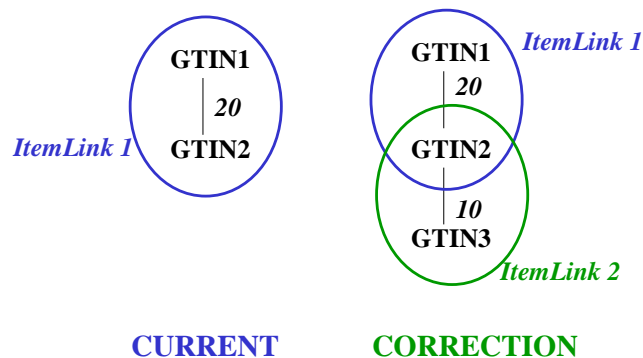


Process:

- Add.Item (GTIN3)
- Add.ItemLink 2

6. Add new layer at bottom of existing hierarchy

Example:



Process:

- update GTIN2 : no longer BU
- Add.Item(GTIN3) – new BU
- Add.ItemLink 2

12.7. Delete Catalogue Item Hierarchy

The objective of the “Delete” Function is not to physically remove data from the data pool, but to “Flag for deletion”, authorizing the deletion of the data.

The deletion needs to be validated against a number of criteria, e.g. Catalogue Item is no longer published, Catalogue Item discontinued, retention limit (GS1 specifications).

Rules for archiving or physical deletes will be agreed with the data pools and in the scope of the certification process.

Deletions need to be reflected in the registry (deletion flag + effective change date = deletion date in the registry)

Comments:

- To protect data integrity within the data pool, the deletion of a child can only occur after the deletion of the parents. Validation for deleted Catalogue Items ensures the parents have been deleted before the deletion of the child is performed.
- Deletion of a Catalogue Item must trigger the invalidation of any hierarchy links involving that Catalogue Item, whether that Catalogue Item is the parent or the child in the link. This is completed by the Refresh.ItemLink message. Ackn.ItemLink will be repeated for every link that was refreshed or invalidated.
- Deletion needs to be validated against:
 - Publication status
 - Availability Status (end availability + discontinued Y/N)
 - Hierarchy: parents have to be deleted before children
 - A deletion cannot be corrected – only the discontinuation can be reversed.
 - Deletes are not synchronised across data pools

ItemLinks can only be deleted:

- as the correction of an error

The ItemLink validity in time is defined by the validity of the Parent Item and Child Item.

When either parent or child expire, the related ItemLink(s) have to expire as well.

When a parent or child is deleted:

- the links pointing down must be deleted
- the links above must be deleted
- all Catalogue Items above must be deleted

Whether that happens automatically or not is a matter of implementation.

The deletion of a Catalogue Item Hierarchy will trigger the clean-up of the synchronisation list.

12.8. Removing a Catalogue Item from the supply chain

3 business cases:

- Catalogue Item was never manufactured: Cancel Catalogue Item
- Catalogue Item is temporarily removed from the supply chain
- Catalogue Item is permanently removed from the supply chain

12.9. Cancel Catalogue Item

Communicates a trade item was never manufactured

This is achieved through the maintenance (using change function) of the cancel date

Next steps:

- need cancel date in Catalogue Item data model
- cancel date needs to be included in the registry

Temporarily:

Communicate that product is no longer available: maintain end availability date

When product is available again: update start/end availability date

Permanently:

Communicate the product is no longer going to be manufactured: discontinued = Y + effective change date = discontinued date in the registry.

Communicate the product is no longer going to be available: maintain end availability date.

The maintenance of the discontinued date will start the retention period for the GTIN in the Registry.

As a GTIN can be active in several Target Markets at the same time, it does not have to be discontinued in all Target Markets at the same time. This implies that the retention period for a given GTIN can only start after that GTIN has been discontinued in all Target Markets.

If a Catalogue Item was previously discontinued, it can only be re-introduced through a correction.

If a public Catalogue Item is discontinued, it is discontinued for the entire market.

It has no effect on the synchronisation list, the recipients will be notified of the change in Catalogue Item data.

The synchronisation list will only be cleaned up after the data source requests the deletion of the Catalogue Item.

13. Data Distribution Business Cases

13.1. Overview

Data Distribution refers to the movement of data to the correct destination according to defined criteria.

It also includes the on-going maintenance of these criteria.

This function includes:

- the creation and synchronisation of subscriptions
- the maintenance of publication
- the notification of data based on a publication/subscription matching process

13.2. Create and Synchronise Subscriptions

A Data Recipient requests that it receive a “notification” when a specific event occurs that meets the Recipients criteria (selective on sources, categories, etc).

This is subject to the recipient's access to information as controlled by the data source through its source data pool.

A subscription can be maintained on following levels :

- GTIN
- GLN of data owner
- Target Market
- Classification

Or any combination of these 4 elements.

With the setup of a subscription, a Data Recipient sets a profile to receive on-going updates of the matching data (including all hierarchies, independently from the level subscribed on).

Subscriptions remain valid until they are deleted.

Subscriptions are created by data recipients in their home data pool and sent to the registry.

The Registry will then disseminate relevant subscriptions to appropriate Home Data Pools (current and future new data pools)

A new data pool will get their relevant subscriptions as soon as they start registering their GTINs.

13.3. Subscription Scenario

- Data recipient maintains subscription
- Data recipient will continue to receive updates until he rejects the data
- For a synchronisation list / subscription, the reject will remove that GTIN from the synchronisation list
- Reject is optional : in the absence of authorization & reject, the data recipient would still receive updates
- Authorized GTIN :
 - subscription : go to synchronisation list
 - •synchronisation list : no action required
- Only new products matching the initial subscription will be distributed to avoid resending data that was previously rejected
- Updates for authorized products will be distributed based on the synchronisation list
- Confirmation (accept or synchronised) will indicate the data recipient's commitment to synchronise the data in its internal systems
- Filtering out rejected data is a source data pool responsibility

13.4. Subscription & Synchronisation List

Subscription:

for every matching GTIN, independently from its level, all hierarchies will be returned

Synchronisation list:

- Includes every GTIN id (GTIN+GLN+TM) that needs to be synchronised
- Can be a result of the Confirmation process
- All GTINs equal or lower in the hierarchy than the GTIN confirmed will be returned
- Only these GTINs will be returned

Rejections are done at the highest level of the hierarchy and will result in a rejection of the entire hierarchy.

Relationship dependent data will only be communicated for GTINs that are on the Synchronisation List.

Synchronisation List is only synchronised between the involved source and recipient data pools for applicable data: synchronisation list is built based on confirmation received by a source data pool and nothing else.

The synchronisation list is a subset of the notification list maintained by the source data pool, keeping track of where data has been notified, independently from the received confirmations.

The data recipient needs to be notified if the synchronisation list is being modified by the data source.

That can only happen if a Catalogue Item is deleted or if publication of a given ItemHierarchy is stopped.

13.5. Subscription Matching Process

The subscription matching process takes place in the registry. The objective is to compare subscription data with registry data to only distribute subscriptions to data pools matching the criteria. This does not include synchronisation lists – these are only synchronised between the recipient and source data pool as they are the result of the synchronisation process.

13.6. Common Data

A subscription can be maintained on any combination of 4 elements:

- GTIN
- GLN of Data Source a.k.a. Data Owner
- Target Market
- Lowest level GS1 Classification

GTIN and Lowest level of GS1 classification are mutually exclusive subscription criteria as the Classification is uniquely defined for a given GTIN, independently from the GLN and from the TM.

These 4 elements are also stored in the registry, and are linked to the source data pool(s) where the data can be found.

For instance, if given a GTIN, the registry will be able to return all the data pools where data can be found on that GTIN, independently from the GLN of the data owner, the Target Market or the classification.

The business cases for the registry matching process are organized in 2 groups :

- how to determine where the subscriptions have to be distributed –“where to”
- when are subscriptions being distributed “ when”

13.7. Where To” Business Cases

The following combinations of criteria can define the list of data pools where the subscription data needs to be sent.

GTIN	GLN Of Data Source	TM	Category	Relevant Source Data Pools	Example
X	X	X		0-1	<i>GTIN1 by Kraft in UK0</i> : GTIN+GLN+TM does not exist in the registry 1 : source data pool for GTIN+Kraft+UK
X	X			0-N	<i>GTIN1 by Kraft → Target Market(s)</i> 0 : GTIN1+Kraft+** does not exist in the registry N : 1<=N<=X where X is the number of TM variants for GTIN1+Kraft
X		X		0-N	<i>GTIN1 in UK → Data Sources (s)</i> 0 : GTIN1 + *** + UK does not exist in the registry N : 1 <=N<= X where X is the number of GLN variants for GTIN1+UK
	X	X	X	0-N	<i>Kraft in UK for Category “Snacks” → GTIN(s)</i> 0 : ****+Kraft+UK, “Snacks” does not exist in the registry N : 1 <=N<=X where X is the number of GTIN variants for Kraft+UK with category “Snacks”
	X	X		0-N	<i>Kraft in UK → GTIN(s)</i> 0 : ****+Kraft+UK does not exist in the registry N : 1<=X<=N where X is the number of GTIN variants for Kraft+UK
	X		X	0-N	<i>Kraft for Category “Snacks” → GTIN(s) per TM(s)</i> 0 : ****+Kraft+**, Snacks does not exist in the registry N : 1<=N<=X where X is the number of GTIN+TM variants for Kraft, Snacks
		X	X	0-N	<i>UK for Category “Snacks” → GTIN(s) per GLN(s)</i> 0 : ****+***+UK, Snacks does not exist in the registry N : 1 <=N<=X where X is the number of GTIN+GLN variants for UK, Snacks
X				0-N	<i>GTIN1 → GLN(s) per TM(s)</i> 0 : GTIN1+***+** does not exist in the registry N : 1<=N<=X where X is the number of GLN+TM variants for GTIN1

GTIN	GLN Of Data Source	TM	Category	Relevant Source Data Pools	Example
	X			0-N	<i>Kraft</i> → <i>GTIN(s) per TM(s)</i> 0 : ****+Kraft+** does not exist in the registry N : 1<=N<=X where X is the number of GTIN+TM variants for Kraft
		X		0-N	<i>UK</i> → <i>GTIN(s) per GLN(s)</i> 0 : ****+***+UK does not exist in the registry N : 1<=N<=X where X is the number of GTIN+GLN variants for UK
			X	0-N	<i>Snacks</i> → <i>GTIN(s) per GLN(s) per TM(s)</i> 0 : ****+***+** does not exist in the registry for category "Snacks" N : 1<=N<=X where is the number of GTIN+GLN+TM with Category = "Snacks"

** - wildcard for TM

*** - wildcard for GLN

**** - wildcard for GTIN

13.8. “When” Business Cases

The distribution of subscriptions is either a scheduled event or is triggered by another event.

The events that can trigger the distribution of a subscription are:

- new/updated registration : check existing subscriptions, if new data pools are found : distribute subscriptions
- new subscription : check existing registrations, if new data pools are found, distribute subscriptions
- delete subscriptions : distribute “delete” to source data pools where subscription had been sent

Remark:

Subscriptions cannot be updated, they are created or deleted. This assumes subscriptions are stored in the recipient’s data pool

13.9. Impact on Registry Requirements

- for every subscription, store to which data pool the data has been sent and when
- ability to identify new or updated registered Catalogue Items that match a subscription and forward the subscription to the source data pool
- match new subscriptions with registered Catalogue Items and forward the subscription to the source data pool

13.10. Create Publication

Maintaining a publication is granting visibility and access to data.

Publications are initiated by the data source in the source data pool, they do not need to be synchronised in the GDSN

The Target Market where product is available is communicated in the product key (GTIN+GLN+TM) – this can be different from the Target Market for publication.

Data is either published:

- to a Target Market : any GLN in the Target Market has access to the data (only applies to “public” Items)
- to specific GLNs : only these GLNs have access to the data (only applies to “private” Items)

The purpose of the public/private flag is to provide information to the parties involved on the status of the Catalogue Item.

13.11. Notification based on Publication/Subscription

Notification is the result of a successful matching process.

Events that can trigger a notification are:

- new or updated publication
- change of published data
- change of owner/rights
- subscription
- synchronisation list update
- request for notification

The matching process is owned and developed by each source data pool in order to trigger data distribution based on publication and subscription data. The implementation of a matching process is a pre-requisite for data pool certification.

The matching process can be triggered either by publication, subscription or as a scheduled event. It is valid for all subscription types (including synchronisation list) and all publication types.

For a given subscription:

- the matching process identifies Catalogue Items published to the GLN or TM of the subscription owner
- for each Catalogue Item, a notification is created including all dependent hierarchies.
- If the subscription is a synchronisation list, the hierarchy information included in the notification, will be limited to the GTINs maintained in the Synchronisation List.
- The notification is sent to the home data pool of the data recipient

For a given publication :

- the matching process identifies subscriptions with matching criteria (TM, GLN, category, GTIN...)
- for each matching subscription, a notification is created including all dependent hierarchies
- If the subscription is a synchronisation list, the hierarchy information included in the notification, will be limited to the GTINs maintained in the Synchronisation List.
- The notification is sent to the home data pool of the data recipient

13.12. Publication and Subscription Data

Publication

Who : Data Source = source GLN

What : Catalogue Item record, identified by GTIN+GLN+TM

Additional attributes : Category

Where : TM or GLN (= target GLN)

Subscription

Who : Data recipient = target GLN

What : Any combination of GTIN, GLN, TM and Category

13.13. Matching Process Scenarios

Subscription	Publication to TM Notification if :	Publication to GLN Notification if :
GTIN+GLN+TM <i>GTIN1 by Kraft in UK</i>	<ul style="list-style-type: none"> ■ published Catalogue Item has same GTIN+ GLN+TM ■ publication TM = subscription TM 	<ul style="list-style-type: none"> ■ published Catalogue Item has same GTIN+ GLN+TM ■ target GLN = subscriber's GLN
GTIN+GLN <i>GTIN1 by Kraft, all TM</i>	<ul style="list-style-type: none"> ■ published Catalogue Item has same GTIN+ GLN, independently from the TM 	<ul style="list-style-type: none"> ■ published Catalogue Item has same GTIN+ GLN, independently from the TM ■ target GLN = subscriber's GLN
GTIN+TM <i>GTIN1 in UK, all GLNs</i>	<ul style="list-style-type: none"> ■ published Catalogue Item has same GTIN+TM, independently from the GLN ■ publication TM = subscription TM 	<ul style="list-style-type: none"> ■ published Catalogue Item has same GTIN+TM, independently from the GLN ■ target GLN = subscriber's GLN
GLN+TM+Category <i>Kraft, UK, "Snacks", all GTINs</i>	<ul style="list-style-type: none"> ■ published Catalogue Item has the same GLN+ TM+Category, independently from the GTIN ■ publication TM = subscription TM 	<ul style="list-style-type: none"> ■ published Catalogue Item has the same GLN+TM+Category, independently from the GTIN ■ target GLN = subscriber's GLN
GLN+TM <i>Kraft, UK, all GTINs</i>	<ul style="list-style-type: none"> ■ published Catalogue Item has the same GLN+ TM, independently from the GTIN ■ publication TM = subscription TM 	<ul style="list-style-type: none"> ■ published Catalogue Item has the same GLN+ TM, independently from the GTIN ■ target GLN = subscriber's GLN

Subscription	Publication to TM <i>Notification if :</i>	Publication to GLN <i>Notification if :</i>
GLN+Category <i>Kraft, "Snacks", all TMs, all GTINs</i>	<ul style="list-style-type: none"> published Catalogue Item has the same GLN+ Category, independently from the GTIN or TM 	<ul style="list-style-type: none"> published Catalogue Item has the same GLN+ Category, independently from the GTIN or TM target GLN = subscriber's GLN
TM+Category <i>UK, "Snacks", all GLNs, all GTINs</i>	<ul style="list-style-type: none"> published Catalogue Item has the same TM and Category, independently from the GTIN or GLN publication TM = subscription TM 	<ul style="list-style-type: none"> published Catalogue Item has the same TM and Category, independently from the GTIN or GLN target GLN = subscriber's GLN
GTIN <i>GTIN1, all TMs, all GLNs</i>	<ul style="list-style-type: none"> published Catalogue Item has the same GTIN, independently from the GLN or TM 	<ul style="list-style-type: none"> published Catalogue Item has the same GTIN, independently from the GLN or TM target GLN = subscriber's GLN
GLN <i>Kraft, all GTINs, all TMs</i>	<ul style="list-style-type: none"> published Catalogue Item has the same GLN, independently from the GTIN or TM 	<ul style="list-style-type: none"> published Catalogue Item has the same GLN, independently from the GTIN or TM target GLN = subscriber's GLN
TM <i>UK, all GTINs, all GLNs</i>	<ul style="list-style-type: none"> published Catalogue Item has the same TM, independently from the GTIN or GLN publication TM = subscription TM 	<ul style="list-style-type: none"> published Catalogue Item has the same TM, independently from the GTIN or GLN target GLN = subscriber's GLN
Category <i>"Snacks", all GTINs, all GLNs, all TMs</i>	<ul style="list-style-type: none"> published Catalogue Item has the same Category, independently from the GTIN, GLN or TM 	<ul style="list-style-type: none"> published Catalogue Item has the same Category, independently from the GTIN, GLN or TM target GLN = subscriber's GLN

Publication TM does not have to be equal to the GTIN TM for example a product record defined for TM France, but published to Belgium only for information purposes.

13.14. Confirmation of Synchronisation

The final recipient communicates with the data source to indicate further action upon the Catalogue Item.

The confirmation process takes place in the data pool of the data recipient.

Confirmation is not mandatory and can provide 4 outcomes:

- **Synchronised:** data is integrated, in synch and added to the synchronisation list
- **Accept:** Data has been received by the Recipient, but no business decision has been made on the data.
- **Reject:** data will no longer be synchronised or updates will no longer be provided
- **Review:** a request to the data source to "review" their data because the data recipient has received discrepant data which they cannot synchronize.

If no confirmation is received, data updates will continue to be provided until the data recipient accepts, rejects or updates the subscription, or until the data owner changes the publication

The list of authorized values for the confirmation message does not imply a sequence in which the message has to be used.

Possible responses for a new Catalogue Item introduction:

- synchronised
- received + synchronised
- received
- reject

The same “confirmation” message can be used to stop synchronizing a Catalogue Item.

In that case, the “Reject” status will be used to remove the Catalogue Item from the synchronisation list.

“Synchronised” status is sent once – parties are assumed to be in synch unless a reject/review status is exchanged.



Note: Rejection should not remove data previously authorized, for instance in a different hierarchy

Catalogue Items rejected by the recipient will not be re-transmitted by virtue of a new subscription or publication, only by the request for notification.

All Catalogue Item messages are communicated by full hierarchy. In other words, all communication is done at the highest level of the hierarchy. This begins with publication messages, follows with all distribution messages and then all response messages.

For the confirmation process this implies:

- Confirmations are always communicated on the highest level of the hierarchy.
- The implementation of the confirmation process in the recipient’s data pool or in the recipient’s back end systems can be at any level as long as the confirmation messages used for communication in the GDSN only contain full, uniquely identified hierarchies

The synchronisation list will contain all Catalogue Items (GTIN+GLN+TM) where the recipient has responded with Accept, Synchronise or Review confirmation message. Specifically, it does not include Rejects.

The synchronisation list is a subset of a larger list kept by the data pools: the notification list.

The notification list will contain the confirmation status for every GTIN + GLN+TM notified to a given GLN.

That is :

- received
- synchronised
- review
- rejected
- unknown

13.15. Request for Notification

This is a onetime subscription requesting for the data to be (re)sent.

The request for notification is not distributed and stored by the registry: the recipient data pool, where the request is created, looks up the source data pool where it needs to be sent in the registry and sends the request to the source data pool.

Request for notification is only executed once and then discarded by the source data pool.

For Catalogue Items that were previously synchronised (= in synchronisation list) or rejected, the request for notification resets the confirmation status : undo reject or remove from synchronisation list.

In summary, the confirmation status is reset to “unknown” in the notification list.

The notification resulting from a request for notification will carry the value of the Reload attribute maintained in the request for notification.

This attribute contains a Boolean value.

The value of this attribute will be passed along with the notification for the recipient to properly route the inbound message.

After executing the notification, the source data pool will change the stored value from True to False.

13.16. Ending Synchronisation

There are 2 ways of ending synchronisation (remove references from the synchronisation list) :

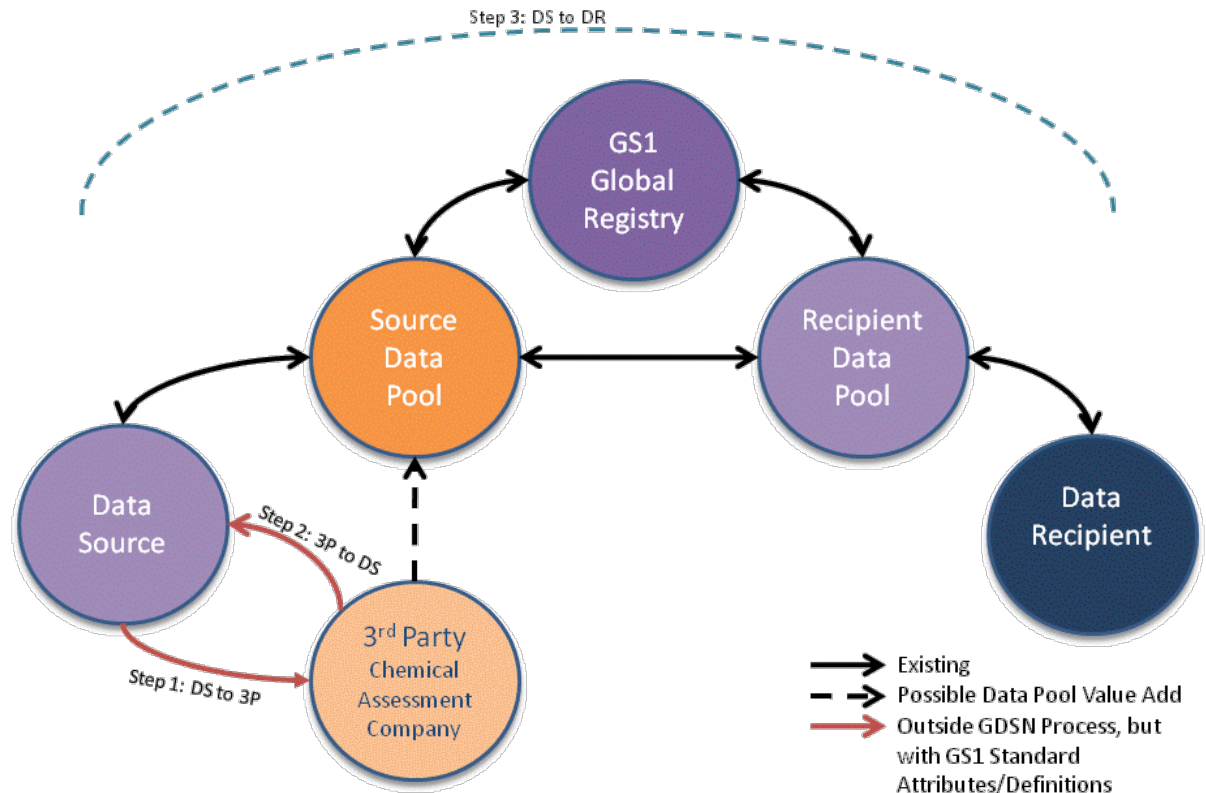
- the data recipient can send a reject confirmation
- the data source can stop the publication

The notification triggered by an end of publication will carry the status of “unpublished”, indicating this is the last time the data is being notified and that the synch list will be cleaned up.

This applies to the synchronisation and notification lists and is effective immediately.

This does not tell anything about the status of the Catalogue Item in the supply chain (life cycle, availability) – it merely indicates the end of data synchronisation without indicating a reason.

13.17. Synchronisation of Chemical Ingredients



Note: DS = Data Source, 3P = Third Party Chemical Assessment Company

Information on chemical ingredients will be passed through the Global Data Synchronisation Network from Data Source to Data Recipient along with other Trade Item information. Chemical Ingredients information may be sent to a third party chemical assessment organisation in order to determine any chemical ingredient details that cannot be determined by the data source. In other cases Data Sources will have the abilities to do their own assessments.

In both cases, a certificate (unique ID and URL) will be sent along with the chemical ingredients information as proof that the chemical ingredients have been assessed. This enhanced chemical ingredients data would be returned to the supplier and it would have 3rd Party chemical assessment certification fields associated with it when it flows to GDSN including:

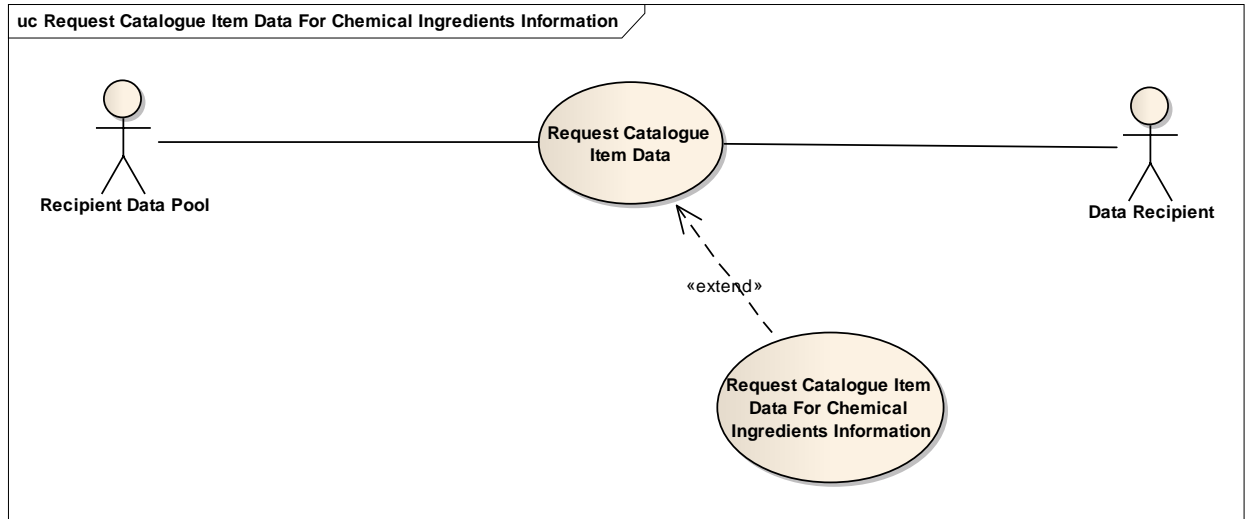
- A qualifier (status of the assessment)
- The Third Party Chemical Assessment Solution Providers name and identification.
- The Third Party Chemical Assessment Solution Provider's document id number that is unique for reference for each and all GTINs that contain this ingredient

A link will be available at a third party or data source (in case of self assessment) web-site for the Data Recipient to validate the certification of assessment.

This assessment certificate information will be sent along with the chemical ingredients information through the GDSN to the Data Recipient.

It is assumed at this point that the link between the Data Source and the Third Party Chemical Assessment Solution Provider will be out of the network.

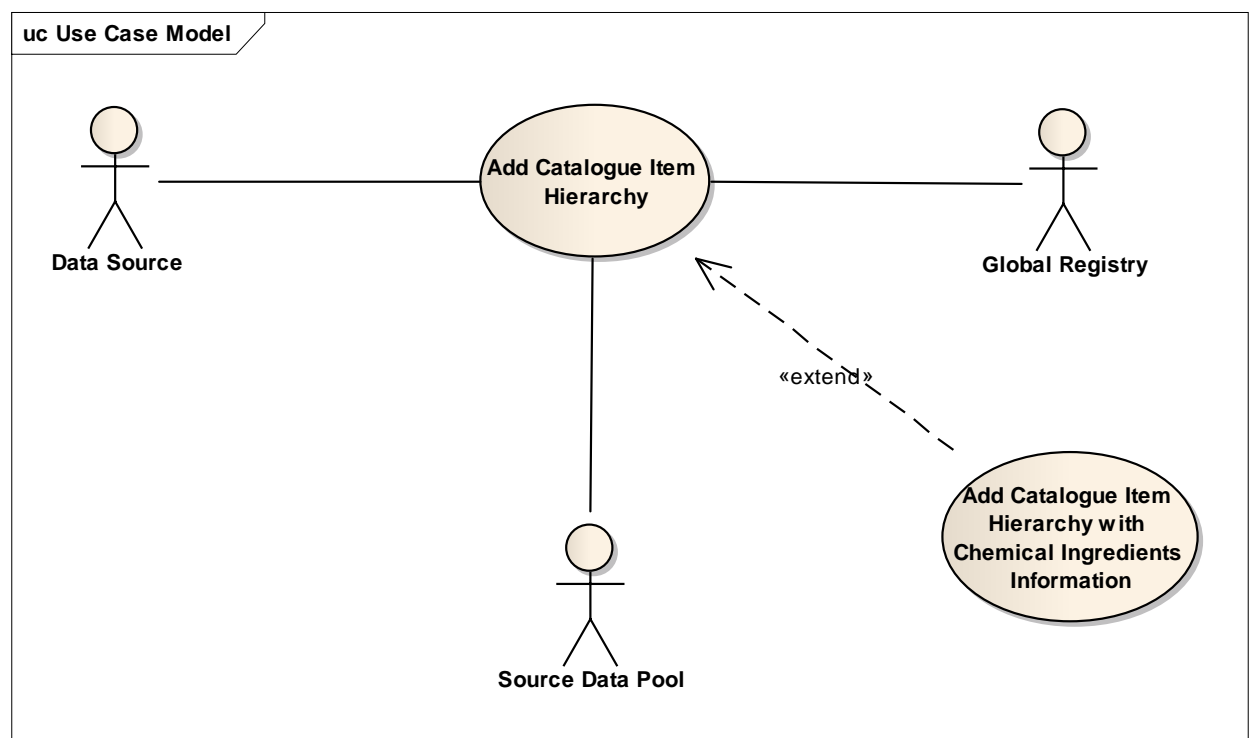
13.17.1. Use Case Diagram: Request Catalogue Item Data for Chemical Ingredients Information



Use Case ID	
Use Case Name	Request Catalogue Item Data for Chemical Ingredients Information
Use Case Description	<p>The Request Catalogue Item Data Use Case describes how a Data Recipient informs the Source Data Pool to resend certain Catalogue Item data that has been previously synchronised with validated chemical ingredients information. This Use Case makes use of the Request for Catalogue Item Notification message.</p> <p>This process is an extension to the Request Catalogue Item Data process currently used within GDSN.</p> <p>Note: In GDSN, the Request for Catalogue Item Data will result in the Source Data Pool being made aware of a request for a reload of a Trade Item with chemical ingredients. There will have to be some additional communication between the Source Data Pool and the Data Source in order to inform the Data Source of the request for chemical ingredients information for a Trade Item and the resulting need for an assessment of this data.</p>
Actors (Goal)	Data Recipient Recipient Data Pool (RDP)
Performance Goals	<p>Data Recipient: To inform the Source Data Pool that it would like certain Catalogue Item data to be resent with validated chemical ingredients information.</p> <p>RDP: To possess the necessary information that will allow the RDP and appropriate Source Data Pools to distribute Catalogue Item Data to the Recipient.</p>
Preconditions	The Data Recipient has previously received Catalogue Item data.
Post conditions	The RDP is aware that certain Catalogue Item data is to be resent to the Data Recipient with chemical ingredients information.

Use Case ID													
Scenario	<p>Begins when... the Data Recipient sends a Request For Catalogue Item Notification to the RDP with a Catalogue Item Request Reason Code of "Send Chemical Ingredients"..</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>RDP</td><td>sends a message acknowledgement to the Data Recipient</td></tr><tr><td>2</td><td>RDP</td><td>validates the request message</td></tr><tr><td>3</td><td>RDP</td><td>sends an acknowledgement to the Data Recipient.</td></tr></table> <p>Ends when...the Data Recipient receives the acknowledgement.</p>	Step #	Actor	Activity Step	1	RDP	sends a message acknowledgement to the Data Recipient	2	RDP	validates the request message	3	RDP	sends an acknowledgement to the Data Recipient.
Step #	Actor	Activity Step											
1	RDP	sends a message acknowledgement to the Data Recipient											
2	RDP	validates the request message											
3	RDP	sends an acknowledgement to the Data Recipient.											
Alternative Scenario	Not Applicable												
Related Rules	Not Applicable												

13.17.2. Use Case Diagram: Add Catalogue Item Hierarchy with Chemical Ingredients Information.

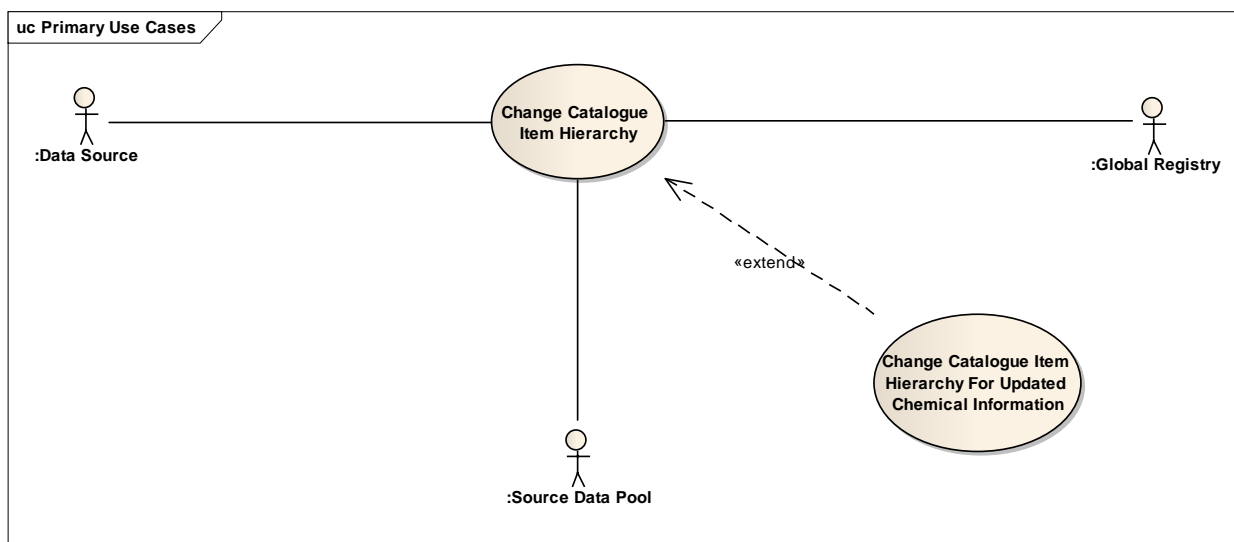


Use Case ID	
Use Case Name	Add Catalogue Item Hierarchy with Chemical Ingredients Information
Use Case Description	The Add Catalogue Item Hierarchy use case describes what activities need to happen to validate and register Catalogue Item Hierarchy data in the GDSN with Chemical Ingredients Information. This use case is based on the existing Add Catalogue Item

Use Case ID																																								
	Hierarchy Use Case but contains any additional steps and validations required for sending chemical ingredient information.																																							
Actors (Goal)	Data Source Source Data Pool (SDP) Global Registry (GR)																																							
Performance Goals	Data Source: To have validated, registered Catalogue Item Hierarchy data in their Source Data Pool including relevant chemical ingredients information. SDP: To have validated, registered Catalogue Item Hierarchy data including relevant chemical ingredients information Global Registry: To ensure valid, unique Catalogue Item data are registered. Note: The chemical ingredients functionality does not affect the Global Registry.																																							
Preconditions	Chemical Ingredient Information has been determined and validated by a certified Third Party Chemical Assessment Solution Provider or by the supplier acting as a Third Party Chemical Assessment Solution Provider.																																							
Post conditions	Data Source knows that Catalogue Item data has been validated and registered and Item Links have been validated.																																							
Scenario	<p>Begins when... the Data Source sends, to the SDP, Catalogue Item Hierarchy data with chemical ingredients information provided by a certified Third Party Chemical Assessment Solution Provider or by the supplier acting as a Third Party Chemical Assessment Solution Provider.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>receives the Catalogue Item Hierarchy data</td></tr><tr><td>2</td><td>SDP</td><td>validates the Catalogue Item Hierarchy data</td></tr><tr><td>3</td><td>SDP</td><td>sends a validation acknowledgement to the Data Source</td></tr><tr><td>4</td><td>SDP</td><td>receives the validation acknowledgement: <i>Catalogue Item Hierarchy data loaded</i></td></tr><tr><td>5</td><td>SDP</td><td>loads the Catalogue Item Hierarchy data</td></tr><tr><td>6</td><td>SDP</td><td>sends the Registry Catalogue Item data of Catalogue Items that are not registered yet to the Global Registry</td></tr><tr><td>7</td><td>GR</td><td>receives the Registry Item data</td></tr><tr><td>8</td><td>GR</td><td>validates the Registry Item data for uniqueness</td></tr><tr><td>9</td><td>GR</td><td>registers the Registry Item data</td></tr><tr><td>10</td><td>GR</td><td>sends a registration acknowledgement to the SDP</td></tr><tr><td>11</td><td>SDP</td><td>receives the registration acknowledgement</td></tr><tr><td>12</td><td>SDP</td><td>sends a registration acknowledgement to the Data Source</td></tr></table> <p>Ends when...the Data Source receives the registration acknowledgement: <i>Catalogue Item data registered.</i></p>	Step #	Actor	Activity Step	1	SDP	receives the Catalogue Item Hierarchy data	2	SDP	validates the Catalogue Item Hierarchy data	3	SDP	sends a validation acknowledgement to the Data Source	4	SDP	receives the validation acknowledgement: <i>Catalogue Item Hierarchy data loaded</i>	5	SDP	loads the Catalogue Item Hierarchy data	6	SDP	sends the Registry Catalogue Item data of Catalogue Items that are not registered yet to the Global Registry	7	GR	receives the Registry Item data	8	GR	validates the Registry Item data for uniqueness	9	GR	registers the Registry Item data	10	GR	sends a registration acknowledgement to the SDP	11	SDP	receives the registration acknowledgement	12	SDP	sends a registration acknowledgement to the Data Source
Step #	Actor	Activity Step																																						
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11	SDP	receives the registration acknowledgement																																						
12	SDP	sends a registration acknowledgement to the Data Source																																						
Alternative Scenario	Not Applicable																																							

Use Case ID	
Related Rules	Not Applicable

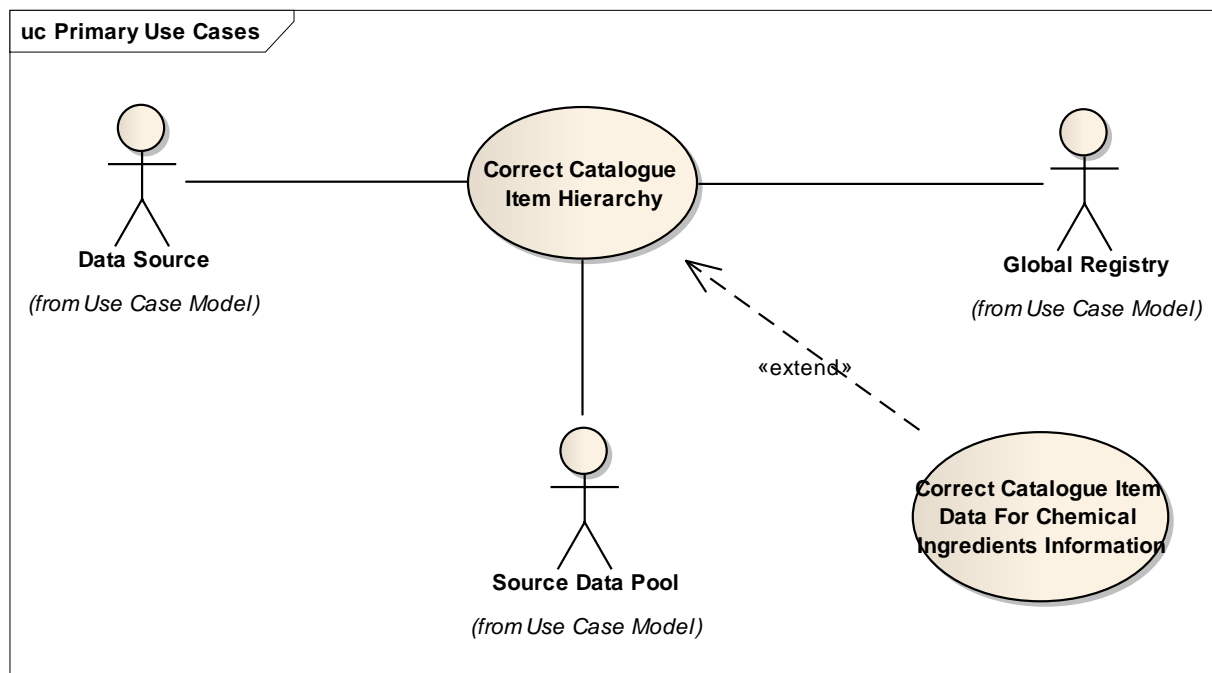
13.17.3. Use Case Diagram: Change Catalogue Item Hierarchy with Chemical Ingredients Information.



Use Case ID	UC-3
Use Case Name	Change Catalogue Item Hierarchy for Updated Chemical Ingredients Information
Use Case Description	<p>This use case is based on the existing Change Catalogue Item Hierarchy Use Case but contains any addition steps and validations required for sending chemical ingredient information.</p> <p>The Change Catalogue Item Hierarchy use case describes what activities need to happen to change Catalogue Item Hierarchy data of a Catalogue Item already existing in a Source Data Pool, whether the Catalogue Item has been registered or not.</p>
Actors (Goal)	Data Source Source Data Pool (SDP) Global Registry (GR)
Performance Goals	Data Source: To change Catalogue Item Hierarchy data in their Source Data Pool. SDP: To have validated, registered updated Catalogue Item Hierarchy data. Global Registry: To ensure valid, unique Catalogue Item data are registered, whether the Catalogue Item has been changed or not.
Preconditions	Chemical Ingredient Information has been determined and validated by a certified Third Party Chemical Assessment Solution Provider or by the supplier acting as a Third Party Chemical Assessment Solution Provider. Data Source has defined the changes to Catalogue Item data and Catalogue Item hierarchies (using Item Links) of a Catalogue Item already existing in a Source Data Pool.
Post conditions	Data Source knows that Catalogue Item data has been validated, assessed, registered and Item Links have been validated.

Use Case ID	UC-3																																										
Scenario	Begins when... the Data Source sends to the SDP the Catalogue Item Hierarchy data to be changed including any chemical ingredients information provided by a certified Third Party Chemical Assessment Solution Provider or by the supplier acting as a Third Party Chemical Assessment Solution Provider.																																										
	Continues with...																																										
	<table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>receives Catalogue Item Hierarchy data to be changed.</td></tr><tr><td>2</td><td>SDP</td><td>validates Catalogue Item Hierarchy data to be changed.</td></tr><tr><td>3</td><td>SDP</td><td>sends a validation acknowledgement to the Data Source.</td></tr><tr><td>4</td><td>DS</td><td>receives the validation acknowledgement: <i>Catalogue Item Hierarchy data changed.</i></td></tr><tr><td>5</td><td>SDP</td><td>loads the changed Catalogue Item Hierarchy data</td></tr><tr><td>6</td><td>SDP</td><td>sends the Registry Item data (to be changed) to the Global Registry</td></tr><tr><td>7</td><td>GR</td><td>receives the Registry Item data to be changed</td></tr><tr><td>8</td><td>GR</td><td>validates the Registry Item data</td></tr><tr><td>9</td><td>GR</td><td>registers the changed Registry Item data</td></tr><tr><td>10</td><td>GR</td><td>sends a registration acknowledgement to the SDP</td></tr><tr><td>11</td><td>SDP</td><td>receives the registration acknowledgement</td></tr><tr><td>12</td><td>SDP</td><td>stores the registration acknowledgement</td></tr><tr><td>13</td><td>SDP</td><td>sends a registration acknowledgement to the Data Source</td></tr></table>	Step #	Actor	Activity Step	1	SDP	receives Catalogue Item Hierarchy data to be changed.	2	SDP	validates Catalogue Item Hierarchy data to be changed.	3	SDP	sends a validation acknowledgement to the Data Source.	4	DS	receives the validation acknowledgement: <i>Catalogue Item Hierarchy data changed.</i>	5	SDP	loads the changed Catalogue Item Hierarchy data	6	SDP	sends the Registry Item data (to be changed) to the Global Registry	7	GR	receives the Registry Item data to be changed	8	GR	validates the Registry Item data	9	GR	registers the changed Registry Item data	10	GR	sends a registration acknowledgement to the SDP	11	SDP	receives the registration acknowledgement	12	SDP	stores the registration acknowledgement	13	SDP	sends a registration acknowledgement to the Data Source
	Step #	Actor	Activity Step																																								
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Ends when... the Data Source receives the registration acknowledgement: <i>Catalogue Item data registered</i>																																											
Alternative Scenario	Not Applicable																																										
Related Rules	Not Applicable																																										

13.17.4. Use Case Diagram: Correct Catalogue Item Hierarchy with Chemical Ingredients Information.



Use Case ID	UC-5
Use Case Name	Correct Catalogue Item Hierarchy for Updated Chemical Ingredients Information
Use Case Description	<p>The Correct Catalogue Item Hierarchy use case describes what activities need to happen to correct Catalogue Item Hierarchy data of a Catalogue Item already existing in a Source Data Pool, whether the Catalogue Item has been registered or not. A correction allows a Data Source to make changes to Catalogue Item data and hierarchy that would not be allowed by validation rules and as such is outside of normal processing. It is intended to provide a means for errors to be corrected and not as an alternative to the Change Catalogue Item Hierarchy process. A Data Source should expect that a Correct Catalogue Item Hierarchy message may be scrutinized more closely by the Data Recipient and possibly incur a delay in processing.</p> <p>This use case is based on the existing Correct Catalogue Item Hierarchy Use Case but contains any addition steps and validations required for sending chemical ingredient information.</p> <p>Note: The correct use case assumes that there may be validation rules associated with chemical ingredients information that may need to be bypassed in the case of a correction.</p>
Actors (Goal)	Data Source Source Data Pool (SDP) Global Registry
Performance Goals	Data Source: To make corrections to errors in Catalogue Item Hierarchy data and have those corrections reflected in their Source Data Pool. SDP: To have validated, registered updated Catalogue Item Hierarchy data. Global Registry: To ensure valid, unique Catalogue Item data are registered, whether the

Use Case ID	UC-5																																										
	Catalogue Item has been corrected or not.																																										
Preconditions	<p>Chemical Ingredient Information has been determined and validated by a certified Third Party Chemical Assessment Solution Provider or by the supplier acting as a Third Party Chemical Assessment Solution Provider.</p> <p>Data Source has defined the corrections to Catalogue Item data and Catalogue Item hierarchies (using Item Links) of a Catalogue Item already existing in a Source Data Pool.</p>																																										
Post conditions	Data Source knows that corrected Catalogue Item data has been validated and registered and corrected Item Links have been validated.																																										
Scenario	<p>Begins when... the Data Source sends to the SDP the Catalogue Item Hierarchy data to be corrected including any chemical ingredients information provided by a certified Third Party Chemical Assessment Solution Provider or by the supplier acting as a Third Party Chemical Assessment Solution Provider.</p> <p>Continues with...</p> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1</td><td>SDP</td><td>receives Catalogue Item Hierarchy data to be corrected</td></tr><tr><td>2</td><td>SDP</td><td>validates Catalogue Item Hierarchy data to be corrected</td></tr><tr><td>3</td><td>SDP</td><td>sends a validation acknowledgement to the Data Source</td></tr><tr><td>4</td><td>DS</td><td>receives the validation acknowledgement: <i>Catalogue Item Hierarchy data corrected</i></td></tr><tr><td>5</td><td>SDP</td><td>loads the corrected Catalogue Item Hierarchy data</td></tr><tr><td>6</td><td>SDP</td><td>sends the Registry Item data (to be corrected) to the Global Registry</td></tr><tr><td>7</td><td>GR</td><td>receives the Registry Item data to be corrected</td></tr><tr><td>8</td><td>GR</td><td>checks that the Catalogue Item exists in the Registry. 9. The Global Registry registers the corrected Registry Item data</td></tr><tr><td>9</td><td>GR</td><td>sends a registration acknowledgement to the SDP</td></tr><tr><td>10</td><td>SDP</td><td>receives the registration acknowledgement</td></tr><tr><td>11</td><td>SDP</td><td>stores the registration acknowledgement</td></tr><tr><td>12</td><td>SDP</td><td>sends a registration acknowledgement to the Data Source</td></tr><tr><td>13</td><td>SDP</td><td>receives Catalogue Item Hierarchy data to be corrected</td></tr></table> <p>Ends when... the Data Source receives the registration acknowledgement: <i>Catalogue Item data registered</i></p>	Step #	Actor	Activity Step	1	SDP	receives Catalogue Item Hierarchy data to be corrected	2	SDP	validates Catalogue Item Hierarchy data to be corrected	3	SDP	sends a validation acknowledgement to the Data Source	4	DS	receives the validation acknowledgement: <i>Catalogue Item Hierarchy data corrected</i>	5	SDP	loads the corrected Catalogue Item Hierarchy data	6	SDP	sends the Registry Item data (to be corrected) to the Global Registry	7	GR	receives the Registry Item data to be corrected	8	GR	checks that the Catalogue Item exists in the Registry. 9. The Global Registry registers the corrected Registry Item data	9	GR	sends a registration acknowledgement to the SDP	10	SDP	receives the registration acknowledgement	11	SDP	stores the registration acknowledgement	12	SDP	sends a registration acknowledgement to the Data Source	13	SDP	receives Catalogue Item Hierarchy data to be corrected
Step #	Actor	Activity Step																																									
1	SDP	receives Catalogue Item Hierarchy data to be corrected																																									
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Alternative Scenario	Not Applicable																																										
Related Rules	Not Applicable																																										

13.17.5. Business Rules for Synchronising Chemical Ingredients

Number	Requirement
1	Compliance validations can be performed by 3 rd Parties but could also be performed by suppliers that meet certification criteria.
2	Data Source must be responsible for notifying the third party of any formulation changes.
3	A component for a Trade Item must be passed if it has associated chemical ingredients.
4	A certificate must be passed with the Trade Item if the chemical ingredients have been assessed.
5	Certificates can be generated by a 3 rd Party Chemical Assessment Solution Provider or a supplier if they are serving as a third party provider.
6	Third Party Chemical Assessment Solution Providers must inform their suppliers of any updates to legislation which effect previous assessed chemical information.
7	Upon receipt of notice of changed regulations, the Data Source must send their chemical ingredients information to the Third Party Chemical Assessment Solution Providers for re-assessment. After the results of the assessment are received, this updated information must be sent to the Data Recipients as a Catalogue Item Notification Change.
9	Assessment must be retained by the party performing the assessment for 30 years.

14. Actor Permissions

Use Case Name	Data Source	Source Data Pool	Global Registry	Recipient Data Pool	Data Recipient
Add Catalogue Item		X	X		
Add Catalogue Item Hierarchy	X	X			
Add Item Link		X	X		
Confirm Catalogue Item Data			X	X	X
Cancel Catalogue Item	X	X	X		
Change Catalogue Item		X	X		
Change Catalogue Item Hierarchy	X	X			
Change Registered Catalogue Item			X		
Correct Catalogue Item		X	X		
Correct Catalogue Item Hierarchy	X	X			
Correct Registered Catalogue Item			X		
Create Synchronisation List		X			
Delete Catalogue Item		X	X		
Delete Catalogue Item Data in Source Data		X			
Delete Registered Catalogue Item			X		
Discontinue Catalogue Item	X	X	X		
Distribute Confirmation Data		X	X	X	X
Distribute Data Recipient Requests for	X	X	X	X	X
Distribute Catalogue Item Data	X	X		X	X
Distribute Catalogue Item Data from RDP				X	X
Distribute Catalogue Item Data from SDP		X		X	
Distribute Request for Notification	X	X	X	X	X
Distribute Subscription Data	X	X	X	X	X
Load and Update Catalogue Item Data	X	X			
Manage Catalogue Item Data in Global			X		
Manage Catalogue Item Distribution	X	X	X	X	X
Publish Catalogue Item Data	X	X			
Register Catalogue Item		X	X		
Registry Validation			X		
Remove Catalogue Item Subscription		X	X	X	X
Send Catalogue Item Data to Data				X	X
Send Catalogue Item Data to RDP		X		X	
Stop Publishing Catalogue Item Data	X	X	X		
Subscribe to Catalogue Item Data				X	X
Synchronise Catalogue Item Data		X	X	X	X
Validate Catalogue Item and Item Link		X	X	X	
Validate Catalogue Item Data for Registry			X		
Load and Update Catalogue Item Data for Preliminary Trade Item	X	X	X		
Update Trade Item Preliminary Status to FINAL	X	X	X		

15. Glossary of Terms

Term	Definition
Acceptance Acknowledgement	A message sent by the receiving unit to the sending station or computer indicating that transmission has been processed successfully (syntax and content).
Acknowledgement	In the global data synchronization process, this is a response to a command returned to the originator of the command. Every command needs a response. In the inter-operable network, acknowledgement messages are standardised and may contain the following information: confirmation of message receipt (see receipt acknowledgement), success/failure of processing for syntax and content (see acceptance acknowledgement) or reason code for each type of failure (see Business error)
Add Catalogue Item	The command to create a new catalogue item record.
Align Data	The uniform definition of Electronic Commerce (EC) constructs to support defined business processes. This alignment is the exchange of basic business data such as the trading partners' names, addresses and agreements, item information, price lists, and locations. The process of alignment creates a common understanding between the trading parties and is fundamental to all trade activities.
Business Error	A message sent by the receiving unit to the sending station or computer indicating that transmission has errors (code type and text).
Cancel Date	Date assigned by data source and stored in the source data pool reflecting the date the catalogue item was cancelled. This date will also be stored in the Registry.
Cancel Item	Global data synchronization term describing a maintenance function used to communicate that a catalogue item was never manufactured. This allows reuse of the GTIN 12 months after cancellation.
Catalogue Item	The item as it is stored in a catalogue or data pool. This is uniquely identified by (GTIN + GLN + Target Market).
Catalogue Item Child Item Link	A class of information to identify the quantity of items within a packaging hierarchy level within the Global Data Synchronisation Network.
Catalogue Item Classification	See classification
Catalogue Item Confirmation	<p>This refers to electronic communication from the Data Recipient to the Data Source indicating what action has been taken on the item. The confirmation process occurs in the recipient's data pool. Confirmation is not mandatory. When used, it provides for the following outcomes:</p> <p>Synchronized: data is integrated, in synch and added to the synchronization list.</p> <p>Received: Data has been received by the Recipient, but no business decision has been made on the data.</p> <p>Rejected: recipient requests that no further updates are desired. Data will no longer be synchronized or updates will no longer be provided.</p> <p>Review: a request to the data source to "review" their data because the data recipient has received discrepant data which they cannot synchronize.</p>
Catalogue Item Confirmation State	The four states reflected by a Recipient Data Pool are: Received, Rejected, Review and Synchronised
Catalogue Item Dates	A class of information used to describe the dates of the action taken on the catalogue item record within the Global Data Synchronisation Network.
Catalogue Item Notification	A business message used to transmit trade item information from a data source or a data pool to a data recipient with the Global Data Synchronisation Network.
Catalogue Item	A business message standard used to distribute trade item information within the

Term	Definition
Publication	Global Data Synchronisation Network.
Catalogue Item Reference	A class of information from the Catalogue Item Common library used to identify the key to the trade item information using the data source GLN, the GTIN, and the Target Market within the Global Data Synchronisation Network.
Catalogue Item Registration Information	A class of information used to identify the dates of the action taken on the Global Registry item record within the Global Data Synchronisation Network.
Catalogue Item Registration Response	A business message used to notify a data pool of the status of the registration in the Global Registry for a trade item.
Catalogue Item State	The four states are: Registered , Cancelled, In Progress and Discontinued.
Catalogue Item Subscription	A business message used to establish a request for the update of trade item information from an end recipient on a continuous basis.
Certification	The accreditation of organizations to perform activities that conform to established business processes, business models and rules such as: certification of other organizations, operation of the global registry, operation of data pools, validation, authentication, consultancy, etc.
Certification Body	Organization that performs the certification process. (This is stored in the Registry).
Certification Expiration Date	Date on which the Data Pool certification is no longer valid. (This is stored in the Registry).
Certification Identification	Value that uniquely identifies a certified member of the Global Data Synchronization Network GDSN. (This is stored in the Registry).
Certification Start Date	Date on which the Data Pool obtains certification. (This is stored in the Registry).
Certification Status	Indicator of the stage of the certification process (This is stored in the Registry).
Change Catalogue Item	The command to update an existing catalogue item record.
Classification	A classification schema is an Industry accepted, standardised method to group like products together so that global searches can be enabled. Within Data Synchronization, a classification for the item is mandatory.
Compliance Check	The validation of specific data or data constructs to defined industry standards.
Construct	Data or data structure.
Content Provider	See Data Source
Context	<p>“Context is expressed as classifications drawn from various standards (business sub-process, industry, region and geography, product, legislative). The idea of Context is that the structure of a piece of business information is defined by the purpose which it serves within a business process, an industry, region, etc.”</p> <p>Example: An item can be defined in context of Global for product type FMCG (Fast Moving Consumer Goods) or other verticals.</p>
Core Data	<p>Core is defined as “common, reusable elements across various business processes. They can be mandatory or optional. Core is a common denominator upon which extensions are built”.</p> <p>Example: GTIN, Ship To, Date</p>
Core Extensions = Cross Industry Extensions	Data or data constructs specific to more than one process, industry or sector but not used across all.
Correct Item	Refers to a command that allows incorrect data to be altered in ways that would not normally be allowed by standard GTIN allocation rules. All other validations still apply. This process is intended to correct errors, not to circumvent the validation process.

Term	Definition
Data Pool	A repository of Data where trading partners can obtain, maintain and exchange information on items and parties in a standard format through electronic means.
Data Pool Certification Information	A class of information used to describe the status of a data pool's certification within the Global Data Synchronisation Network.
Data Pool Certification Status List	A class of information used to identify the certification status of a data pool within the Global Data Synchronisation Network. The values include: Certification initiated; Certification pending, Certified, and Reviewed for Certification.
Data Pool Profile	Information that allows data pools to interoperate with each other technically and from an operational business perspective. This information includes (but is not limited to): business, administration and technical contacts, capabilities, services, network addresses and transport protocols.
Data Recipient	Party, which is authorized to view, use, download a set of Master Data provided by a Data Source.
Data Source	Entity that provides the global data synchronization network with Master Data. The Data Source is officially recognized as the owner of this data. For a given Item or Party, the source of data is responsible for permanent updates of the information under its responsibility.
Data Synchronisation Data Pool Profile	A business message used to identify a data pool within the Global Data Synchronisation Network.
Data Synchronisation Error	A business message used to notify a member of the Global Data Synchronisation Network of an error that has occurred within the process.
Data Synchronisation Error Information	A class of information used to describe an error within the Global Data Synchronisation Network and its process.
Data Synchronisation Error Reference	A class of information used to describe the entity and the type of process identified as an error within the Global Data Synchronisation Network.
Delete Catalogue Item	The command to flag the existing catalogue item record for deletion (The objective is to enable the eventual removal of the catalogue item record from the data pool.)
Delete Catalogue Item Link	The command to flag the existing catalogue item link record for deletion.
Deletion Date	Date assigned by data source and stored in the source data pool reflecting the date the catalogue item was flagged for deletion. This date will also be stored in the Registry.
Discontinue Date	Date assigned by data source and stored in the source data pool reflecting the date the catalogue item was discontinued. This date will also be stored in the Registry.
Discontinue Item – Permanent	Refers to permanent removal of an item in the supply chain. This involves maintaining a discontinuation date in the Registry.
Discontinue Item - Temporary	Refers to removing an item temporarily from the supply chain. This is communicated via end availability date. When available again, updated start and end availability dates are provided. Temporary removals are not reflected in the Registry. They are a responsibility of relevant data pools who maintain the availability period.
Document	“Business data being exchanged in support of business processes. It is a named collection of core and extensions”. Any self-contained piece of work created with an application program and, if saved on disk, given a unique filename by which it can be retrieved. Documents are generally thought of as word-processed materials only. To a computer, however, data is nothing more than a collection of characters, so a spreadsheet or a graphic is as much a document as is a letter or report.

Term	Definition
Electronic Address	The Internet Protocol identification for a certified data pool within the GDSN.
End Availability Date	The date at which a trade item or a location will no longer exist.
Error Name	A brief, text description related to an error number.
Error Number	An identification code used to relate to an error name.
Extension	<p>“Extensions to core represent defined business processes which go beyond core requirements. Optional core data may be used in an extension but are not required.”</p> <p>Example: US Grocery extension for Item, VAT</p>
Full Hierarchy	A construct of data containing a set of GTINs and Links that make up a unique relationship from the highest level GTIN with no parent down to the lowest level GTIN with no children
GCI	Global Commerce Initiative
Global Data Dictionary (GDD)	The repository of definitions and attributes of all data elements used within the GS1 Business Message Standards.
Global Data Synchronization Network (GDSN)	The Global Data Synchronization Network is a federation of interoperable certified Data Pools and a certified Global Registry that collectively provide for the synchronization of Master Data between trading partners on a global basis.
Global Location Number (GLN)	Unique location number mandatory within the Global Data Synchronization process to identify data owners/info providers, etc. such as Distributors, brokers, manufacturers.
Global Registry	A directory for the registration of unique catalogue items and parties. It contains a limited data set certified to be GS1 compliant and acts as a pointer to source data pools where master data is housed.
Global Trade Item Number GTIN	A particular Global trade item Number, a numerical value used to uniquely identify a trade item. A trade item is any trade item (trade item or service) upon which there is a need to retrieve pre-defined information and that may be planned, priced, ordered, delivered and or invoiced at any point in any supply chain.
Governance	It is the management of the on-going process for master data synchronization and consists of: controlling changes to scope, rules and standards, establishing and regulating the Global Registry, regulating the Certification of Organizations, and regulating the business model.
Initial Item Load	First time the item is being published within a trading relationship through GDSN for items already in trade (prior to data synchronisation in GDSN).
Inter-Operability	The ability to communicate master data in a standardised and transparent way throughout the global data synchronization network.
Item	An item is any product or service upon which there is a need to retrieve pre-defined information and that may be priced, ordered or invoiced at any point in any supply chain. An item is uniquely identified by a GS1 Global Trade Item Number (GTIN).
Last Change Date	Date assigned by system indicating last time the information was changed. This date is generic and will be stored where assigned and will accompany every message.
Manufacturer	The party that produces the item.
Market Group	A proprietary group of data recipients normally determined by the Information Provider, although it can also be created by buyers and third parties. The Market Group is a common term and should not be confused with the Target Market Codes. This group is developed and used by the Information Provider to control the publication of data to a specific group of customers.

Term	Definition
Master Data	Within the context of Data synchronization, any data or constructs that are applicable across multiple business transactions. Master data describes each Item and Party involved in Supply Chain Processes. Each data set is uniquely identified by a Global Trade Item Number (GTIN) and a Global Location Number (GLN). Master Data can be divided into neutral and relationship dependent data. Typically Master data is static - not transactional.
Master Data Global / Local Status	<p>GLOBAL = (G): Indicates that the data element is required by all markets and contains the same information (e.g. GTIN)</p> <p>GLOBAL/LOCAL = (G/L): Indicates that the data element is required by all markets but that the actual value can be different for each one (i.e. language, tax indications etc.)</p> <p>LOCAL = (L): Indicates that the data element is required for a limited number of markets (i.e. Green point – Germany) Local requirements occur in response to national legislation, national standards or languages.</p>
Master Data Identification	A Data Synchronization term used to describe the unique identification of an item in a product catalogue (=key) in compliance with GS1 standards. This is achieved by the combination of 3 attributes: GTIN, GLN of Information Provider, and Target Market. For product catalogue management purposes, a product cannot be uniquely identified by its GTIN alone as there are valid business cases for information provider and target market specific data.
Master Data Synchronization	The process of continuous harmonization of master data between all trading partners within the supply chain through use of GS1 standards.
Matching Process	A critical step within the data synchronization process that is owned and developed by each source data pool in order to trigger data distribution based on publication and subscription data. The matching process can be triggered either by publication, subscription or as a scheduled event.
Neutral Data	Within the context of Data Synchronization, master data or constructs applicable across multiple business transactions and constant across all trading partners, such as item, party, standard terms, etc.
New Item Hierarchy	A new construct of data containing a set of GTINs and Links that make up a unique relationship from the highest level GTIN with no parent to the lowest level with no children. To create a new Item Hierarchy, the Information Provider (or data owner) enters Item and Item Link data into the Source Data Pool. The data pool verifies that the information loaded is "correct" and then sends the relevant Item data to the registry for registration. Item link data is not sent to the Registry as links are not registered.
New Item Link	The connection of two GTINs. The description of the relationship of the two connected GTINs.
Notification	In the data synchronization process, the data source, through the source data pool, sends an electronic notice to a subscriber when a valid event occurs. This is based on the subscription profile. Events that can trigger notifications are: publication of new data, change of publication (visibility granted, deleted), change of published item, party, partner profile, change of owner, rights, subscription, authorization, non-authorization rejection and request for notification.
Party	A Party (or) Location is any legal, functional or physical entity involved at any point in any supply chain and upon which there is a need to retrieve pre-defined information. A Party is uniquely identified by a Global Location Number (GLN).

Term	Definition
Party Identification	The only valid party identification is the Global Location Number (See GLN)
Party Role	These are elements defining the roles and relationships of the party, such as buyer, seller, distribution centre, store, etc. Examples of party roles are: bill to, buyer, corporate identity, delivery party, information provider, invoicee, issuer of invoice, payer, seller, ship from, ship to and supplier.
Product Context	A product context is a context based on a grouping of similar GPC product classifications for example Food Beverage Tobacco and Pet Food. The applicability of the product context to the trade item will be driven by the GPC brick associated with the trade item. A product context is defined by a list of bricks or higher GPC codes.
Publication	To prepare and issue data for distribution to one or a group of trading partners. A function within the Data Synchronization process whereby the Data Source grants visibility of item, party and partner profiles including party capabilities data to a given list of parties (identified by their GLNs) or to all parties in a given Market. It also will trigger the matching process that is the precursor to the distribution of data
Receipt Acknowledgement	A message sent by the receiving unit to the sending station or computer indicating that transmission has been received.
Recipient Data Pool	A data pool that supports the functionality of the Data Recipient (Subscription, Confirmation, Search, Request for Notification, etc.)
Registration	Registration is the process, which references all items and parties prior to publication by all GS1 certified data pools and on which there is a need to synchronize information. Registering a Trade Item involves validation by the Registry for product uniqueness. The combination of attributes used to ensure unique records includes GTIN, GLN and Target Market.
Registration Date	Date assigned by the registry of successful registration.
Registry Catalogue Item	A business message used to register trade item information from a data pool to the Global Registry within the Global Data Synchronisation Network.
Registry Catalogue Item State	The 4 states reflected by a Source Data pool are: Cancelled, Discontinued, In Progress, Registered.
Registry Validation	Registry Validation is checking compliance against GS1 standards in relation to GTIN, GLN and Target Market to ensure uniqueness of data being registered.
Relationship Dependant Data	Relationship Dependant Data is Master Data identifying all terms bilaterally agreed and communicated between trading partners such as a marketing conditions, prices, and discounts, logistics agreements, etc.
Removing an Item from the Supply Chain	Refers to cancelling an item that was never manufactured (see Cancel Item), temporarily discontinuing the item, or communicating that the item will be permanently discontinued.
Request for Catalogue Item Notification	A business message used to establish a subscription to trade item information for a data recipient within the Global Data Synchronisation Network.
Response	An abstract class of information in the Global Business Model used to define the status of a document within the GS1 system.
Response Status	The 3 states are: Accepted, Modified, Rejected
Search	This function provides data visibility according to user's permissions and certain criteria such as Categories, GTIN, GLN, target market, etc. The Home Data Pool provides this visibility in the framework of the inter-operable network.
Simpl_eb	"Simplified process in a B2B exchange of information that assumes data synchronization."
Source Data Pool	A data pool that supports the functionality required by a Data Source such as Data

Term	Definition
	Loading, Publication, Notification, Registration, etc.
Start Availability Date	The date at which a trade item or location begins its existence.
Stop Publication Catalogue Item	The process by which the Data Source stops the synchronization process by disallowing visibility of the catalogue item. This will modify the notification list if the catalogue item was previously notified; and the synchronization list if it has been synchronized, received or reviewed.
Subscribe	A data synchronization function that refers to the creation of a subscription that lists the criteria for receiving publications.
Subscription	GTIN, GLN of Information Provider, Target market and Product Classification or any combination of these can maintain subscriptions. When a subscription is established, a Data Recipient sets a profile to receive on-going updates of the matching data. Subscriptions remain valid until they are deleted. Subscriptions are created by data recipients in their home data pool and sent to the registry. The Registry maintains a subscription list that is used to route relevant subscriptions to appropriate Source Data Pools.
Synchronization	The process of continuous harmonization of information between all trading partners within the supply chain through the use of Align Data standards as published by GS1.
Synchronization List	This is a subset of the Notification List maintained by the source data pool to keep track of where data has been notified - independent of the confirmations received. The list includes every Catalogue Item (GTIN+GLN+TM) that is synchronized.
Target Market	The Target Market is a geographical region based upon geographical boundaries sanctioned by the United Nations. There is one international system to describe geographical regions, the ISO-3166-code system.
Target Market Country Code	The country level or higher geographical definition in which the Information Provider will make the GTIN available to buyers. This does not in any way govern where the buyer may re-sell the GTIN to consumers. This code can be repeated as many times as needed. This code is represented by the 2-character ISO 3166-1 code. It is a mandatory attribute. Additionally, Target Market Subdivision Code indicates country subdivision where the trade item is intended to be sold. This code is represented by the 3-character ISO 3166-2 code.
Target Market Subdivision Code	The Target Market Subdivision Code is the secondary code of the Target Market and must be a subdivision of a Target Market Country Code. The Target Market Subdivision Code describes the "geo-political subdivision of a country" where the trade item is intended for sale, as determined by the Information Provider (e.g. "State" in the US). Target Market Subdivision Codes must be used in conjunction with Target Market Country Codes. The Target Market subdivision code is represented by the three-character ISO 3166-2 code.
Trade Item Configuration	The number of complete layers contained in a trade item and number of trade items contained in a complete layer.
Trading Partners	One or more parties engaged in trade. In the context of GS1 business models any combination of Buyer, Seller, or Third Party.
Transactional Data	Information necessary for the business process being executed. For example, item codes and ordered quantities are transactional as these are mandatory fields within a purchase order: and, may vary by purchase order.
Update Item	A function used to make changes to an Item, which exists in a data pool whether the Item has been registered, or not. All changes must comply with GS1 validation rules. If the Item is registered, updates must be applied to the corresponding Global Registry data fields before the revised data can be propagated to data recipients.
Validation	The compliance checking of new or changed data against GS1 Global Data Standards, principles, rules and models.

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17. Summary of Changes

Change	BSD Version	Associated CR Number
<p>Initial draft, with following changes compared to Release 2.8:</p> <p>Added new class diagram 3.0 for hierarchy withdrawal + defs</p> <p>Renamed codelist CatalogueItemConfirmationStateList to CatalogueItemConfirmationStateCode</p> <p>Added CatalogueItemConfirmationStateCode to GDSN codelists in model</p> <p>Renamed codelist CatalogueItemConfirmationStatusList to CatalogueItemConfirmationStatusCode</p> <p>Added CatalogueItemConfirmationStatusCode to GDSN codelists in model</p> <p>Changed datatype for attribute correctiveAction in CIC from String to CorrectiveActionCode</p> <p>Added CorrectiveActionCode to GDSN codelists in model</p> <p>Renamed CatalogueItemStateList to CatalogueItemStateCode</p> <p>Added CatalogueItemStateCode to GDSN codelists in model</p> <p>Catalogue Item Publication: removed choices and replaced by [0..1] for publishToGLN and TargetMarket</p> <p>Changed datatype of responseStatus in GS1Response to shared common ResponseStatusEnumeration</p> <p>Changed dataType of state in RegistryCatalogueItemState from "list" to "code" and added to GDSN Common candidates.</p> <p>Cat Item Link message is deprecated. It is gone for 3.x</p> <p>Catalogue Item Reference has been moved to GDSN Common Candidates 3.0</p> <p>CIN: moved dataRecipient and sourceDatapool into CatalogueItemNotification class since this does not need to be repeated per child.</p> <p>RFCIN: created a code data type for isReloadReasonCode instead of using string. GDSN Common Candidates 3.0:Codes:IsReloadReasonCode</p> <p>GDSNException: errorDescription field length updated to String1000.</p> <p>GDSNException: Put <<choice>> stereotype on associations from GDSNException to MessageException and TransactionException</p> <p>RegistryCatalogueItem: Moved state into RegistryItemClass, call it registryCatalogueItemState and reuse catalogueItemStateCode. Deprecate Reg Cat Item State Class.</p> <p>CatalogueItemPublication: Choice recreated for publishToGLN and publishToTargetMarket.</p> <p>CatalogueItemPublication: removed outdated note.</p> <p>CatalogueItemRegResponse: moved CatItemRegInformation attributes into root class and deprecated current class.</p> <p>CatalogueItemRegResponse: added missing attribute responseStatus which was in the response class into the root class. Added datatype enumeration within message.</p> <p>CatalogueItemConfirmation: Hid details in CatItemReferenceClass,</p> <p>CatalogueItemSubscription: gTIN renamed to gtin per new naming.</p> <p>CatItemHierarchicalWithdrawal: ReasonDescription has now data type</p>	1.0.0	

<p>description200 instead of string200.</p> <p>.CatItemState Class both dateTime attributes named datetime instead ofdate per our best practices,</p> <p>CatItemHierarchicalWithdrawal: Link to CatItemReference named highestLevelCatalogueItem.</p> <p>Cleanup of formatting</p> <p>Updated codelists section</p>		
<p>CatalogueItemConfirmationStatus Code List changed to SynchronisationConfirmationStatusEnumeration.</p> <p>Fixed Typo in code ConfirmationStatusReasonCode.</p> <p>Added back in Canceled into RegistryCatalogueItemStateEnumeration.</p> <p>Updated sample data.</p> <p>Updated sequencing for GS1 Response (10-12-2012)</p>	1.0.1	
<ul style="list-style-type: none"> Removed use case involving the management of registration of contexts by the Data Recipient. Updated Add, Change, Correct Catalogue Item Hierarchy use cases to reflect use of product contexts only. Updated the Delete Registered Catalogue Item use case to remove references to the calculation of the deletion date. Replaced Confirmation Status of Accepted with Received throughout document. Added in Chemical Ingredients Use Cases. 	1.0.2	
<ul style="list-style-type: none"> CatalogueItem: Moved Sequence of CatalogueItemChildLink to last in sequence to handle XML sequencing issue. CatalogueItemState: Changed CatalogueItemState to CatalogueItemStateCode RegistryCatalogueItemState: Changed to registryCatalogueItemStateCode. Deleted ingredientGeneticallyModifiedDeclarationCode from sample data. Deleted dimensionTypeCode from sample data. Changed GDSN Exception to GS1 Exception added exceptionMessageType Attribute Updated error message cic19 and cic20. Rewrote UC for Preliminary Trade Item to incorporate whole process. Removed references to Business Context in Use Cases and Rules. 	1.0.3	
<ul style="list-style-type: none"> CatalogueItemPublication: Deleted attribute publishToTargetMarket. Added choice association to TargetMarket. CatalogueItemPublication: Changed data type of businessContextIdentification to TradeItemContextCode CatalogueItemSubscription: Deleted targetMarketCountryCode attribute replaced with association to TargetMarket Class. Added ResponseStatus to CatalogueItemRegistrationResponse (10-10-2013) 	1.0.4	
<ul style="list-style-type: none"> Merged GS1 Exception into GS1 Response Message. Deleted GS1 Exception Message. 	1.0.5	

<ul style="list-style-type: none">Rewrote rule 171 to eliminate reference to GS1 Exception Message.		
<ul style="list-style-type: none">Updated UC-9 to mention preference for using Catalogue Item Hierarchical Withdrawal message for publication delete.	1.0.6	