Item Data Notification

Business Message Standard (BMS)

Release 3.2

01-Dec-2014, Issue 1

Document Summary

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Business Requirements Document (BRAD) Reference

BRAD Title	BRAD Issue Date	BRAD Version
Upstream Standards Master Data Alignment	11 May 2005	0.0.6

Document Change History

Date of Change	Version	Changed By	Reason for Change	Summary of Change
12-Jan-2012	BMS 3.0 – Issue 1	Mark Van Eeghem	BMS Release 3.0	See summary of changes
01-May-2013	BMS 3.1 – Issue 1	Coen Janssen	BMS Release 3.1	See summary of changes
01-Dec-2014	BMS 3.2 – Issue 1	Ewa Iwicka	BMS Release 3.2	See summary of changes

Disclaimer

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1. Business Domain View

1.1. Introduction

Message Definition

The Item Data Notification provides the ability to align item master data in a peer to peer environment. The message supports both the exchange of "General Item information" which is relationship independent, as well as "Specific Item information" which is relationship dependent. The message will often be sent by the manufacturer or supplier of the item, but also may be sent by the customer (for example in cases where the customer owns the product design).

Principles

The current situation in the upstream supply chain of the CPG industry is that all manufacturers and suppliers are faced with different business processes and data interchanges when they move into more integrated relationships. Different business processes and approaches create a barrier to the scalability of integration efforts whilst also imposing many costs: the time and money spent making transactions; the delays caused by the need for corrections; plus inevitable information gaps and misunderstandings.

Both parties should obtain benefits from integration, among them reduced inventory and a reduction in re-work and waste. One example is that suppliers should have better visibility of forecasted production and can improve their reaction to changes.

A key part of this integration is the alignment of master data between buyer and seller.

Item Master Data is a set of data, which describes the specifications and structures of each item involved in Supply Chain Processes. Each set of data can uniquely be identified by a Global Trade Item Number (GTIN).

The transaction can be established by either the manufacturer or the supplier. Only one party will initiate the transaction. Which of both parties initiates the transaction needs to be agreed upon in the Integration Agreement; changes in item master data need to be commonly agreed & realised by the party initially initiating the transaction, i.e. the message flow will only be in one direction in order to ensure data alignment.

Master data will be aligned each time information changes or new information is added. There is no need for a response message during the alignment of master data between buyer and seller.

The "Master Data Alignment" building block has three elements:

1. Identifying and clarifying, between the two parties, the coding for items.

2. Agreeing on the attributes to be shared about each item for example specifications, logistical handling information, packaging format.

3. Ongoing alignment of the item and attribute data so that suppliers and manufacturers are working off a common and current understanding of this important base information. One challenge facing all trading relationships is maintaining accuracy and the distribution of base item data given the rapid changes to specifications and logistics information that can arise.

Item information will be composed of "General Item information" which is relationship independent and "Specific Item information" which is relationship dependent item data.

General Item Information

General item information allows the identification and clarification of general, i.e. relationship independent item coding between trading partners, the agreement on the attributes to be shared about each item as well as the alignment of item information between trading partners.

Specific Item Information

Specific item information (relationship dependent) allows the identification and clarification of relationship specific item coding between trading partners, the agreement on the attributes to be shared about each item as well as the alignment of item information between trading partners.

It contains those relationship specific item related parts of the overall (and mostly paper based) Integration Agreement, which might change often and therefore make sense to be exchanged electronically to ensure alignment between both parties while limiting manual effort.

1.2. References

[BMS_Upstream] BRAD for Upstream Master Data Alignment

[BRAD_WIO] BRAD Warehousing Inbound and Outbound Processes, 1.0, GS1 2012

[BMS_Shared] BMS Shared Common Library, 3.2, GS1 2014

[BMS_eCom] BMS eCom Common Library, 3.2, GS1 2014

2. Business Context

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

3. Business Transaction View

3.1. Business Transaction – Upstream Item Alignment

Use Case Diagram
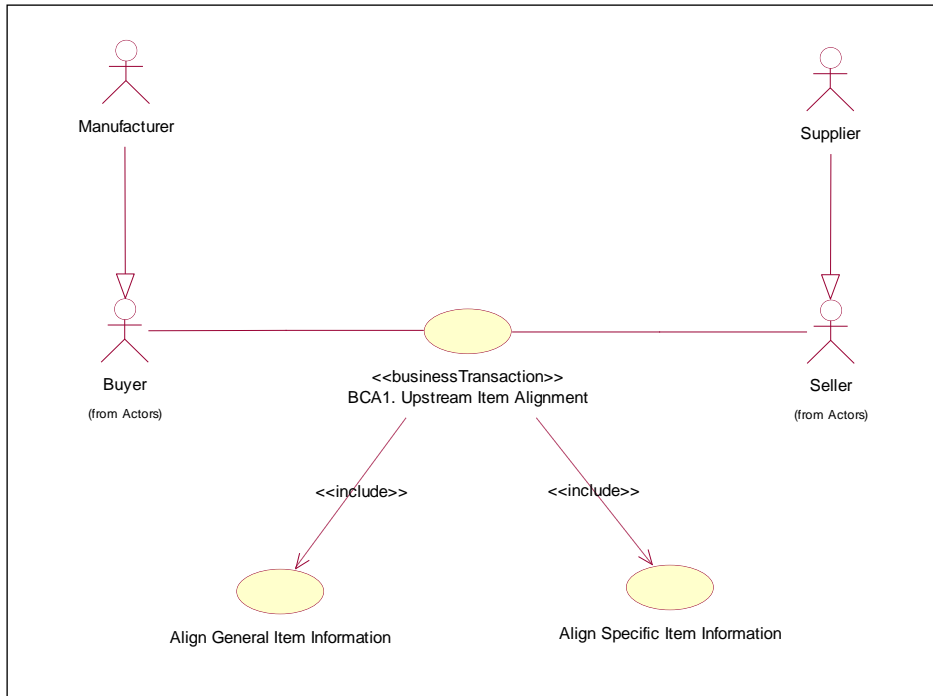
Use Case Description

Use Case ID	BCA1
Use Case Name	Upstream Item Alignment
Use Case Description	The data interchange for Item Alignment includes the item information messages. Item information can be composed of "General Item information" which is relationship independent and "Specific Item information" which is relationship dependent item data.
	Manufacturer and supplier will commonly agree on item information to be shared and drive the process of exchanging these data. While both parties need to agree on item master data, it is understood that only one party, i.e. manufacturer or supplier, will send the item information messages and that the information flow will be in one direction only in order to ensure alignment.
Actors (Goal)	Buyer: to align item information with the seller.
	Seller: to align item information with the buyer.
	Sender: to send the item information to the receiver. Sender could be buyer or seller.
	Receiver: to receive the item information. The receiver could be the buyer or seller.
Preconditions	INTEGRATION AGREEMENT IS IN PLACE
	ITEM DATA ARE ASSEMBLED AND AGREED

Post conditions	ITEM DATA IS ALIGNED.
Scenario	Begins when the sender generates the item information. Continues with…

Step #	Actor	Activity Step
1	Sender	Sends the Item Data Notification.
2	Receiver	Receives the Item Data Notification.
3	Receiver	Integrates item information into own systems.

Ends when the receiver has integrated the item information in own systems.

Alternative Scenario	None
Related Requirements	Not Applicable
Related Rules	Not Applicable

Activity Diagram(s)

Not Applicable

Sequence Diagram(s)

Not Applicable

4. Business Information View

4.1. Item Data Notification

Class Diagram
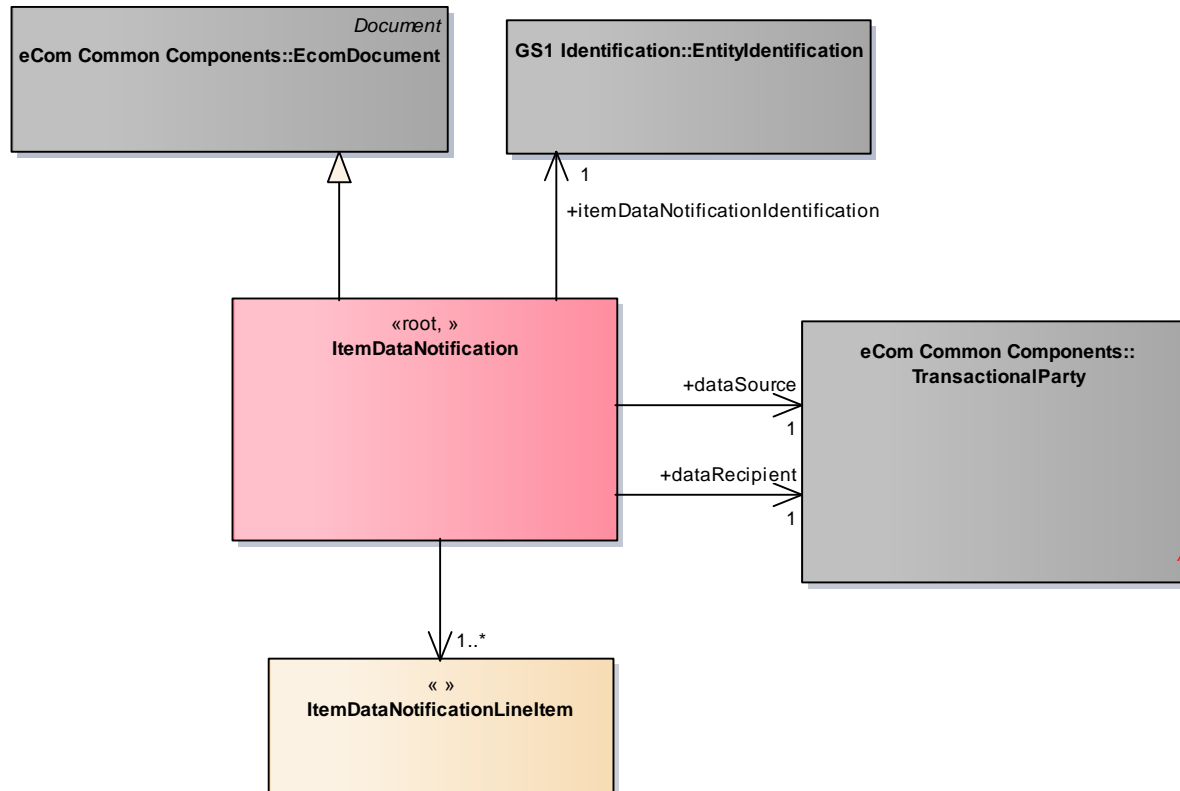
GDD Report

The content of the ItemDataNotification class, its structure and component definitions can be accessed in the Global Data Dictionary:
http://apps.gs1.org/GDD/bms/Version3_2/Pages/bieDetails.aspx?semanticURN=urn:gs1:gdd:bie:ItemDataNotification

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
ItemDataNotification				A message used to align master data including relationship dependent and relationship independent in a peer to peer environment.	
Association		ItemDataNotificationLineItem	1..*	The detail level of an Item Data Notification message.	
Association	dataSource	TransactionalParty	1..1	The party who sends the item information.	
Generalization		EcomDocument		Basic information about the content of the message including version number, creation date and time.	WR 14-000110
Association	itemDataNotificationIdentification	EntityIdentification	1..1	The unique identifier for the Item Data Notification message.	
Association	dataRecipient	TransactionalParty	1..1	The party who receives the item information.	

4.2. Item Data Notification Line Item
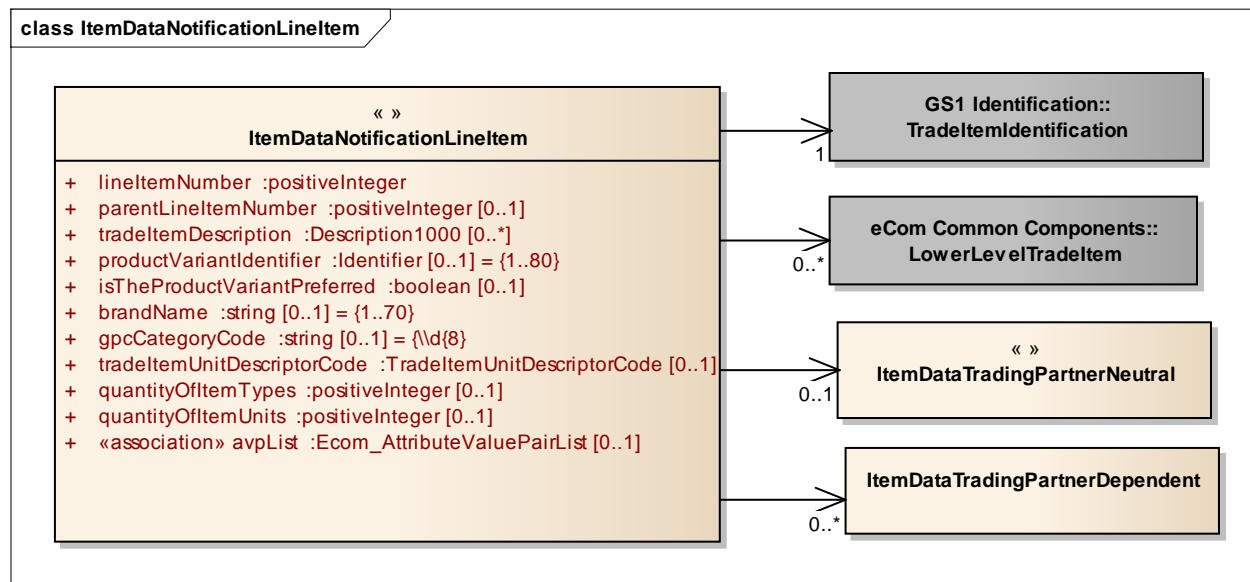
Class Diagram

GDD Report

The content of the ItemDataNotificationLineItem class, its structure and component definitions can be accessed in the Global Data Dictionary:
http://apps.gs1.org/GDD/bms/Version3_2/Pages/bieDetails.aspx?semanticURN=urn:gs1:gdd:bie:ItemDataNotificationLineItem

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
ItemDataNotificationLineItem				The detail level of an Item Data Notification message.	
Association		TradeItemIdentification	1..1	Contains the identification of the trade item.	
Association		LowerLevelTradeItem	0..*	Identification and quantity of trade items contained in the current trade item	WR 13-000188
Association		ItemDataTradingPartnerDependent	0..*	Trade Item Data that has values that can differ depending on the relationship between trading partners.	

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
Association		ItemDataTradingPartnerNeutral	0..1	Trade Item Data that has values that does not differ based on the relationship between trading partners.	
Attribute	lineItemNumber	positiveInteger	1..1	Provides the line number associated to the Item Data Notification Line Item.	
Attribute	parentLineItemNumber	positiveInteger	0..1	The number of line item containing information about the parent of the current item. It allows establishing hierarchical link between the two items.	WR 14-000021 WR 14-000044
Attribute	avpList	Ecom_AttributeValuePairList	0..1	Temporary attributes introduced between minor versions.	WR 14-000110
Attribute	productVariantIdentifier	Identifier	0..1	Text identifying a variant of the product, for example for promotional reasons.	WR 13-000188
Attribute	isTheProductVariantPreferred	boolean	0..1	A statement whether the variant of the product, specified in the productVariantIdentifier is a preferred one.	
Attribute	tradeItemDescription	Description1000	0..*	Additional information necessary to communicate to the industry to help define the product.	
Attribute	brandName	string	0..1	The recognisable name used by a brand owner to uniquely identify a line of trade item or services. This is recognizable by the consumer.	WR 13-000188
Attribute	gpcCategoryCode	string	0..1	A code that identifies a category in the GPC product classification	WR 13-000188
Attribute	tradeItemUnitDescriptorCode	TradeItemUnitDescriptorCode	0..1	Describes the hierarchical level of the trade item.	WR 13-000188
Attribute	quantityOfItemTypes	positiveInteger	0..1	The number of various item types not identified by GTIN, contained in the Trade Item.	WR 13-000188
Attribute	quantityOfItemUnits	positiveInteger	0..1	The number of items not identified by GTIN, contained in the Trade Item.	WR 13-000188

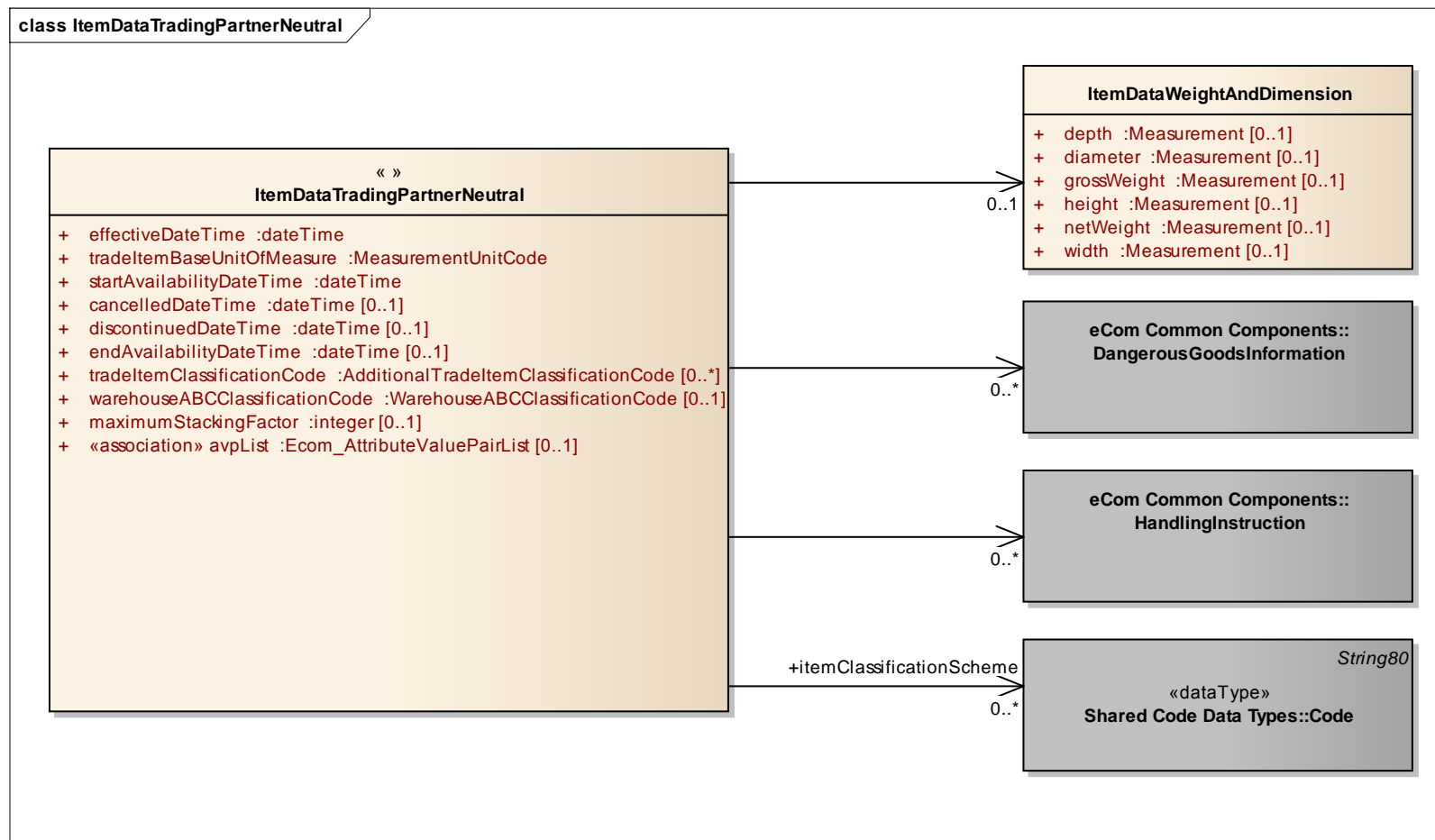## 4.3.   Item Data Trading Partner Neutral
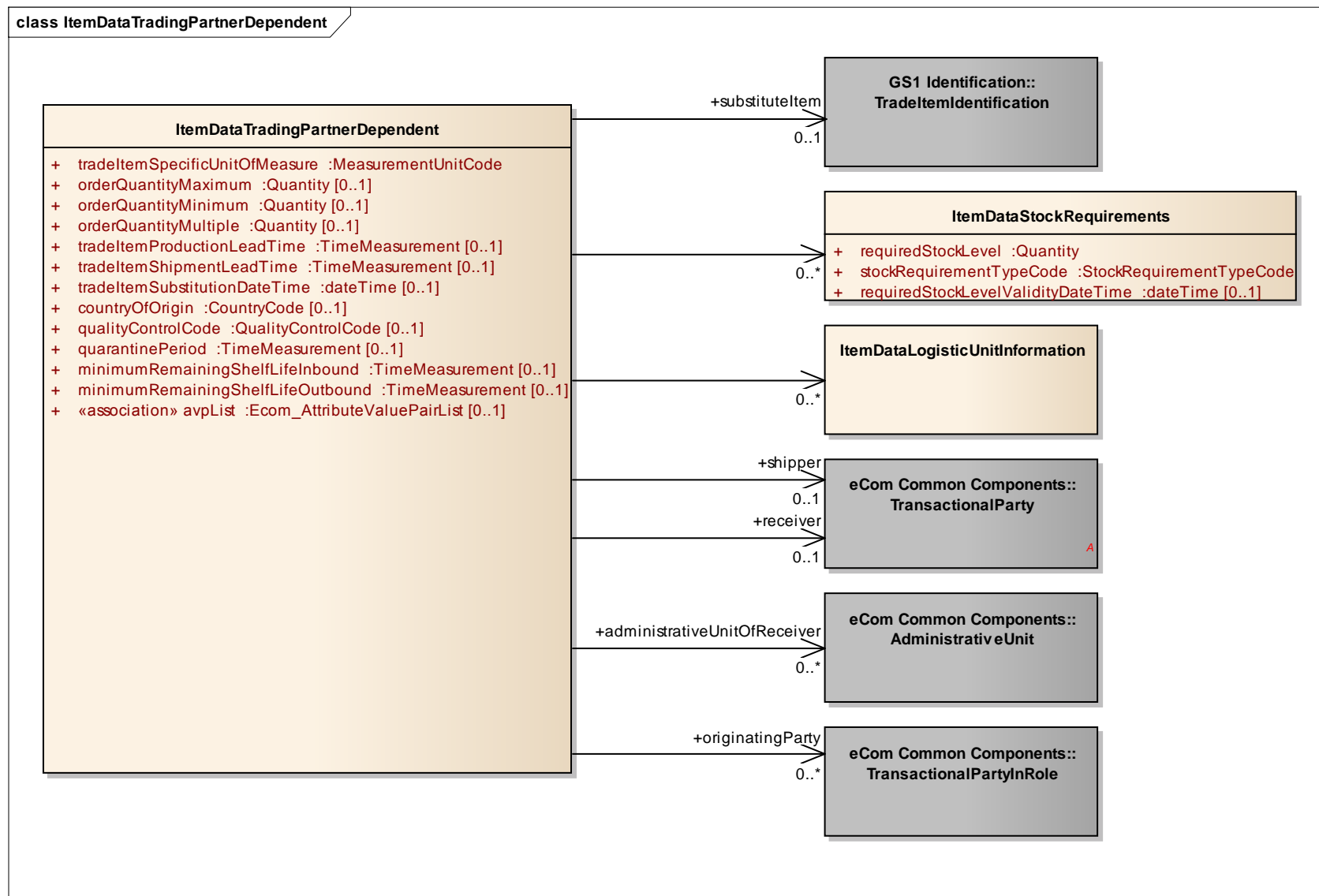
Class Diagram

GDD Report

The content of the ItemDataTradingPartnerNeutral class, its structure and component definitions can be accessed in the Global Data Dictionary:
http://apps.gs1.org/GDD/bms/Version3_2/Pages/bieDetails.aspx?semanticURN=urn:gs1:gdd:bie:ItemDataTradingPartnerNeutral

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
ItemDataTradingPartnerNeutral				Trade Item Data that has values that does not differ based on the relationship between trading partners.	renamed from RelationshipIndependentItemData
Association	itemClassificationScheme	Code	0..*	Classification of an item according to the scheme not listed in tradeItemClassificationCode	
Association		HandlingInstruction	0..*	Instruction on the way to treat goods during transport and storage.	WR 13-000188
Association		ItemDataWeightAndDimension	0..1	The dimension and weight attributes for a trade item.	
Association		DangerousGoodsInformation	0..*	Hazardous instructions applicable to delivered goods, such as where or how specified packages or containers are to be handled because of restriction from dangerous goods.	WR 13-000188
Association	administrativeUnitOfLogisticServiceBuyer	AdministrativeUnit	0..1		
Attribute	effectiveDateTime	dateTime	1..1	Date as of which the information of the master data is valid.	
Attribute	avpList	Ecom_AttributeValuePairList	0..1	Temporary attributes introduced between minor versions.	WR 14-000110
Attribute	tradeItemBaseUnitOfMeasure	MeasurementUnitCode	1..1	The default Unit of Measure used for the full order to pay process.	
Attribute	startAvailabilityDateTime	dateTime	1..1	Date as of which the trade item is available.	
Attribute	cancelledDateTime	dateTime	0..1	Date on which the cancellation of the launch of a trade item (that was never and will never be manufactured) is made.	
Attribute	discontinuedDateTime	dateTime	0..1	Date as of which the trade item is no longer to be manufactured.	
Attribute	endAvailabilityDateTime	dateTime	0..1	Date from which onwards the trade item will no longer be available.	
Attribute	tradeItemClassificationCode	AdditionalTradeItemClassificationCode	0..*	Code specifying the product class of the trade item according to a specific classification scheme. The classification scheme needs to be indicated as a coded value as well.	

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
Attribute	warehouseABC ClassificationCo de	WarehouseABCClass ificationCode	0..1	Provides classification of items based on their speed of movement in and out of the warehouse.	WR 13-000188
Attribute	maximumStacki ngFactor	integer	0..1		WR 13-000188
ItemDataWeightAndDimensi on				Logical grouping of dimension and weight attributes for a trade item.	
Attribute	depth	Measurement	0..1	The measurement from front to back of the trade item. Measurements are relative to how the customer normally views the trade item. Needs to be associated with a valid UOM.	
Attribute	diameter	Measurement	0..1	The measurement of the diameter of the trade item at its largest point. For example, 165 "mmt", value - mmt, diameter. Has to be associated with valid UOM.	
Attribute	grossWeight	Measurement	0..1	Used to identify the gross weight of the trade item. The gross weight includes all packaging materials of the trade item. At pallet level the gross weight includes the weight of the pallet itself.	
Attribute	height	Measurement	0..1	The measurement of the height of the trade item. The vertical dimension from the lowest extremity to the highest extremity, including packaging. At a pallet level the trade item height will include the height of the pallet itself.	
Attribute	netWeight	Measurement	0..1	Used to identify the net weight of the trade item. Net weight excludes any packaging materials. Has to be associated with a valid UoM	
Attribute	width	Measurement	0..1	The measurement from left to right of the trade item.	

4.4. Item Data Trading Partner Dependent

Class Diagram

GDD Report

The content of the ItemDataTradingPartnerDependent class, its structure and component definitions can be accessed in the Global Data Dictionary: http://apps.gs1.org/GDD/bms/Version3_2/Pages/bieDetails.aspx?semanticURN=urn:gs1:gdd:bie:ItemDataTradingPartnerDependent

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
ItemDataTradingPartnerDependent				Trade Item Data that has values that can differ depending on the relationship between trading partners.	
Association	countryOfOrigin	CountryCode	0..1		WR 13-000188
Association		ItemDataStockRequirements	0..*	The stock level details for the trade item.	
Association		QualityControlCode	0..1		
Association	administrativeUnitOfReceiver	AdministrativeUnit	0..*	An organizational grouping of the receiving party used for internal planning, control and accounting purposes.	WR 13-000188
Association	shipper	TransactionalParty	0..1	A party who engages in shipping goods. In a commercial scenario this would be the supplier.	WR 13-000188
Association	receiver	TransactionalParty	0..1	A party who engages in receiving goods. In a commercial scenario this would be the customer.	WR 13-000188
Association	originatingParty	TransactionalPartyInRole	0..*	A party that supplies the goods or services, depending on its role in the supply chain.	WR 13-000188
Association		ItemDataLogisticUnitInformation	0..*	The logistical packaging details for the trade item.	
Association	substituteItem	TradeItemIdentification	0..1	A trade item which can replace a given item for a specified period of time.	
Attribute	tradeItemSpecificUnitOfMeasure	MeasurementUnitCode	1..1	The Unit of Measure (EDIFACT code list 6411) associated with a specific instance of the trade item. This unit of measure will over ride the relationship independent Unit of Measure.	
Attribute	avpList	Ecom_AttributeValuePairList	0..1	Temporary attributes introduced between minor versions.	WR 14-000110

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
Attribute	orderQuantityMaximum	Quantity	0..1	The maximum quantity of the trade item that can be ordered. A number or a count. This value can represent the total number of units ordered over a set period of time with multiple orders.	
Attribute	orderQuantityMinimum	Quantity	0..1	Represent an agreed to minimum quantity of the trade item that can be ordered. A number or a count. This applies to each individual order. Can be a fixed amount for all customers in a target market.	
Attribute	orderQuantityMultiple	Quantity	0..1	The order quantity multiples in which the trade item may be ordered. If the Order Quantity Minimum is 100, and the Order Quantity Multiple is 20, then the trade item can only be ordered in quantities which are divisible by the Order Quantity Multiple of 20.	
Attribute	tradeItemProductionLeadTime	TimeMeasurement	0..1	The normal delivery time measured from receipt of the order by the seller until the trade item is shipped by the seller, in case the product is not in stock.	
Attribute	tradeItemShipmentLeadTime	TimeMeasurement	0..1	The normal delivery time measured from receipt of order by the seller until the trade item is shipped by the seller, in case the product is in stock.	
Attribute	tradeItemSubstitutionDateTime	dateTime	0..1	The date on which an item will be replaced by a substitute item.	
Attribute	countryOfOrigin	CountryCode	0..1	Country from which the goods are supplied.	
Attribute	qualityControlCode	QualityControlCode	0..1	Code specifying a type of required quality control. Allowed code values are specified in GS1 Code List QualityControlCode.	WR 13-000188
Attribute	quarantinePeriod	TimeMeasurement	0..1	The length of time a material, substance, product, or reagent needs to be stored before use.	WR 13-000188
Attribute	minimumRemainingShelfLifeInbound	TimeMeasurement	0..1	The length of time a material, substance, product, or reagent can be stored under specified environmental conditions and continue to meet all applicable specification requirements and/or remain suitable for its intended function. This is the shelf life for products intended to be used by the receiving party.	WR 13-000188

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
Attribute	minimumRemainingShelfLifeOutbound	TimeMeasurement	0..1	The length of time a material, substance, product, or reagent can be stored under specified environmental conditions and continue to meet all applicable specification requirements and/or remain suitable for its intended function. This is the shelf life for products intended to be shipped to other receiver party.	WR 13-000188
ItemDataStockRequirements				A logical grouping of data detailing the stock level of an item which must be adhered to.	
Attribute	requiredStockLevel	Quantity	1..1	The stock level of an item which must be adhered to.	
Attribute	stockRequirementTypeCode	StockRequirementTypeCode	1..1	The type of stock requirement that must be adhered to. For example, safety stock, maximum stock.	
Attribute	requiredStockLevelValidityDateTime	dateTime	0..1	The point in time (date) as of which a required stock level (for example safety or maximum) is valid.	

4.5.   Item Data Logistic Unit Information

Class Diagram
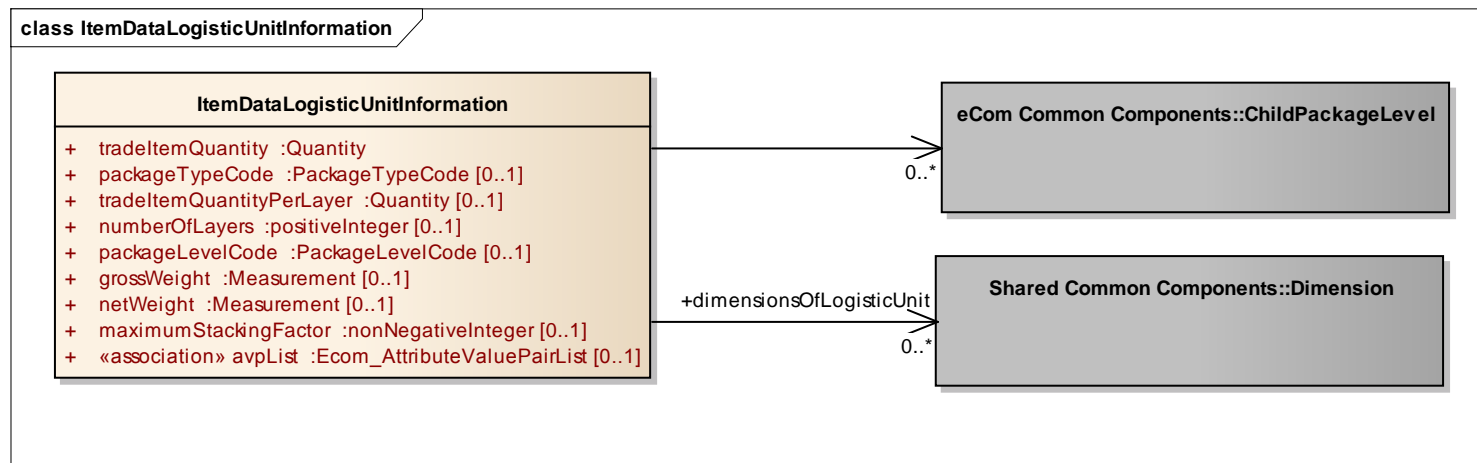
GDD Report

The content of the ItemDataLogisticUnitInformation class, its structure and component definitions can be accessed in the Global Data Dictionary:
http://apps.gs1.org/GDD/bms/Version3_2/Pages/bieDetails.aspx?semanticURN=urn:gs1:gdd:bie:ItemDataLogisticUnitInformation

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
ItemDataLogisticUnitInformation				A logical grouping of information regarding an item of any composition established for transport and/or storage which needs to be managed through the supply chain.	
Association		ChildPackageLevel	0..*	Information about the hierarchical level and packaging quantity of the current item.	WR 13-000188
Association	dimensionsOfLogisticUnit	Dimension	0..*	Information specifying the physical dimensions of a specific logistic unit.	WR 13-000188
Attribute	tradeItemQuantity	Quantity	1..1	The number of trade items contained in the logistic unit.	
Attribute	packageTypeCode	PackageTypeCode	0..1	The package Type (for example case, display) associated with the item contents of a single despatch unit.	
Attribute	tradeItemQuantityPerLayer	Quantity	0..1	The number of trade items contained on a single layer of a pallet. Only used if the pallet has no GTIN. It indicates the number of trade items placed on a pallet layer according to supplier or retailer preferences.	
Attribute	numberOfLayers	positiveInteger	0..1	The number of layers that a pallet contains. Only used if the pallet has no GTIN. It indicates the number of layers that a pallet contains, according to supplier or retailer preferences.	
Attribute	packageLevelCode	PackageLevelCode	0..1	Code specifying the hierarchical level of this logistical unit within a consignment or shipment.	WR 13-000188
Attribute	grossWeight	Measurement	0..1	Used to identify the gross weight of the trade item. The gross weight includes all packaging materials of the trade item. At pallet level the gross weight includes the weight of the pallet itself.	WR 13-000188
Attribute	netWeight	Measurement	0..1	Used to identify the net weight of the trade item. Net weight excludes any packaging materials.	WR 13-000188

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
Attribute	maximumStackingFactor	nonNegativeInteger	0..1	A factor that determines the maximum stacking for the product. Indicates the number of levels the product may be stacked.	WR 13-000188
Attribute	avpList	Ecom_AttributeValuePairList	0..1	Temporary attributes introduced between minor versions.	WR 14-000110

Note: Reference Shared Common Library Business Message (BMS) Release 3.2.0 and eCom Domain Common Library Business Message (BMS) Release 3.2.0 for all common information.

4.6. Code Lists

Class	Codelist	GDD Link
ItemDataLogisticUnitInformation	PackageLevelCode	http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:PackageLevelCode
ItemDataStockRequirements	StockRequirementTypeCode	http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:StockRequirementTypeCode
ItemDataTradingPartnerDependent	CountryCode	http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:CountryCode
ItemDataTradingPartnerDependent, ItemDataTradingPartnerNeutral	MeasurementUnitCode	http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:MeasurementUnitCode
ItemDataTradingPartnerDependent	QualityControlCode	http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:QualityControlCode
ItemDataNotificationLineItem	TradeItemUnitDescriptorCode	http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:TradeItemUnitDescriptorCode
ItemDataTradingPartnerNeutral	AdditionalTradeItemClassificationCode	http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:AdditionalTradeItemClassificationCode
ItemDataTradingPartnerNeutral	WarehouseABCClassificationCode	http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:WarehouseABCClassificationCode

Note: Refer to the Global Data Dictionary (GDD) for the code values.

5. Business Message Examples

5.1. Example 1

This is an example of the Item Data Notification message. The message is identified with the unique identification number ID37788. The message is sent from Data Source – a product manufacturer and seller (GLN 4098765000010) to Data Receipient, a potential buyer (GLN 5412345000013). Message is sent on 20th of February 2011 at 8.45 AM. It contains details about a product identified with GTIN 40987650000346. If this product is not available, it can be substituted with another product, GTIN 40987650003484.

Party Information

GS1 Global Location Number	Party Type
5412345000013	Data Receipient
4098765000010	Data Source

Message Example

Attribute	Value
ItemDataNotification	
creationDateTime	24.05.2004, 18:12
documentStatusCode	ORIGINAL

Attribute	Value
EntityIdentification (+itemDatanotificationIdentification)	
entityIdentification	ID37788
TransactionalParty (+dataSource)	
gln	4098765000010
TransactionalParty (+dataRecipient)	
gln	5412345000013
ItemDataNotificationLineItem	
lineItemNumber	1
TradeItemIdentification	
gtin	40987650000346
tradeItemDescription	Ingredient ABC
ItemDataTradingPartnerDependent	
tradeItemSpecificUnitOfMeasure	KGM
orderQuantityMaximum	CS 100
orderQuantityMinimum	CS 5
orderQuantityMultiple	CS 5
tradeItemProductionLeadTime	DAY 15
tradeItemShipmentLeadTime	DAY 20
tradeItemSubstitutionDateTime	24.05.2005, 18:12
TradeItemIdentification (+substituteItem)	
gtin	40987650003484
ItemDataStockRequirements	
requiredStockLevel	CS 5
stockRequirementTypeCode	SAFETY_STOCK
requiredStockLevelValidityDateTime	24.05.2005, 18:12
ItemDataLogisticUnitInformation	
tradeItemQuantity	5
packageTypeCode	CS
tradeItemQuantityPerLayer	4
numberOfLayers	4
ItemDataTradingPartnerNeutral	
effectiveDateTime	01.01.2004, 18:12
tradeItemBaseUnitOfMeasure	CS
startAvailabilityDateTime	01.02.2004
cancelledDateTime	24.05.2004, 18:12
tradeItemClassificationCode	10005267
ItemDataWeightAndDimension	
depth	CMT 20
diameter	CMT 12
grossWeight	KGM 1.5
height	CM 10
netWeight	KGM 1.5

Attribute	Value
width	CMT 10

6. Implementation Considerations

6.1. User Guide

The Functional User Guide contains more information about the structure and content of the Item Data Notification message: http://www.gs1.org/docs/ecom/xml/3/3.2/eCom-Trade_messages.html#ItemDataNotification

6.2. Examples of item hierarchy in Item Data Notification
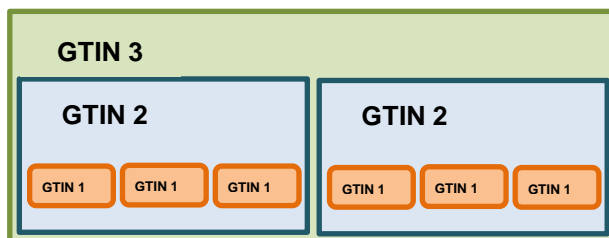
6.2.1. Scenario 1

Description
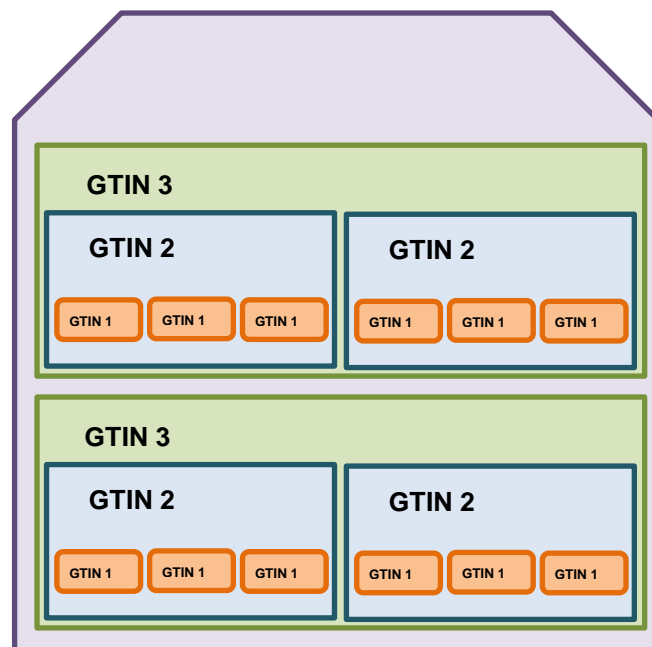
A trade Item **unit** is marked with GTIN 1

3 units are packed in a **carton**, marked with GTIN 2

2 cartons are packed in a **case**, marked with GTIN 3:

2 cases are placed on a **pallet**:

Message example

Atribute / Class	Data
ItemDataNotificationLineItem	
lineItemNumber	1
TradeItemIdentification	
gtin	GTIN 1
ItemDataNotificationLineItem	
lineItemNumber	2
TradeItemIdentification	
gtin	GTIN 2
LowerLevelTradeItem	
TradeItemIdentification	
gtin	GTIN 1
quantityOfLowerLevelTradeItem	3
ItemDataNotificationLineItem	
lineItemNumber	3
TradeItemIdentification	
gtin	GTIN 3
LowerLevelTradeItem	
TradeItemIdentification	
gtin	GTIN 2
quantityOfLowerLevelTradeItem	2
ItemDataTradingPartnerDependent	
ItemDataLogisticUnitInformation	
tradeItemQuantity	2
packageTypeCode	PALLET
packageLevelCode	3 (Outer)
tradeItemQuantityPerLayer	2
numberOfLayers	2
maximumStackingFactor	4

6.2.2. Scenario 2

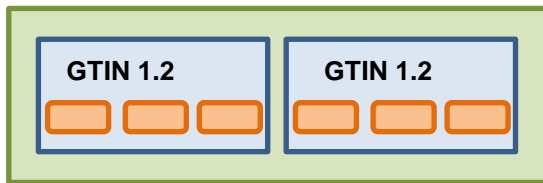### Description

A **carton** is marked with GTIN => it is a Trade Item

The **carton** contains **3 units**, not marked with GTIN:

GTIN 1.2

2 cartons are packed in a **case**, not marked with GTIN:

GTIN 1.2   **GTIN 1.2**

2 cases are placed on the **pallet**:
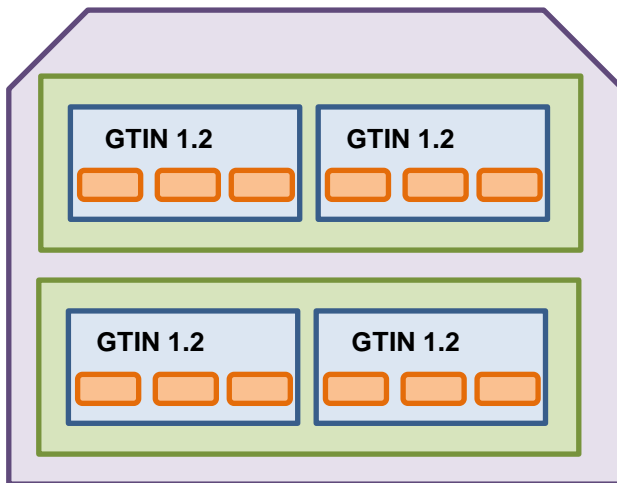
GTIN 1.2   **GTIN 1.2**

GTIN 1.2   **GTIN 1.2**

Message example

Atribute / Class	Data
ItemDataNotificationLineItem	
lineItemNumber	1
TradeItemIdentification	
gtin	GTIN 1.2
ItemDataTradingPartnerDependent	
ItemDataLogisticUnitInformation	
tradeItemQuantity	2
packageTypeCode	CARTON
packageLevelCode	2 (Intermediate)
ChildPackageLevel	

Atribute / Class	Data
packageLevelCode	1 (Inner)
childPackageLevelQuantity	3
ItemDataNotificationLineItem	
lineItemNumber	2
TradeItemIdentification	
gtin	GTIN 1.2
ItemDataTradingPartnerDependent	
ItemDataLogisticUnitInformation	
tradeItemQuantity	4
packageTypeCode	PALLET
packageLevelCode	3 (Outer)
ChildPackageLevel	
packageLevelCode	2 (Intermediate)
childPackageLevelQuantity	2
tradeItemQuantityPerLayer	2
numberOfLayers	2
maximumStackingFactor	4

6.2.3. Scenario 3

Description

A trade Item **unit** is marked with GTIN

GTIN 1.3

3 units are packed in a **carton**, not marked with GTIN:

GTIN 1.3   GTIN 1.3   GTIN 1.3

4 cartons are placed on the **pallet**:
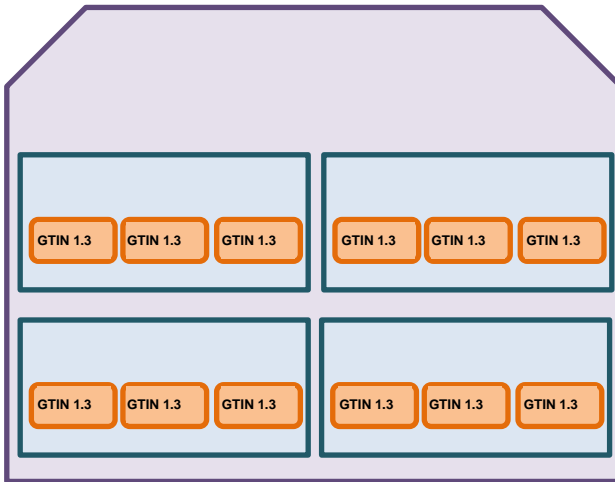
GTIN 1.3 GTIN 1.3 GTIN 1.3   GTIN 1.3 GTIN 1.3 GTIN 1.3

GTIN 1.3 GTIN 1.3 GTIN 1.3   GTIN 1.3 GTIN 1.3 GTIN 1.3

Message example

Atribute / Class	Data
ItemDataNotificationLineItem	
lineItemNumber	1
TradeItemIdentification	
gtin	GTIN 1.3
ItemDataTradingPartnerDependent	
ItemDataLogisticUnitInformation	
tradeItemQuantity	1
packageTypeCode	…
packageLevelCode	1 (Inner)
ItemDataNotificationLineItem	
lineItemNumber	2

Atribute / Class	Data
TradeItemIdentification	
gtin	GTIN 1.3
ItemDataTradingPartnerDependent	
ItemDataLogisticUnitInformation	
packageTypeCode	CASE
packageLevelCode	2 (Intermediate)
ChildPackageLevel	
packageLevelCode	1 (Inner)
childPackageLevelQuantity	3
ItemDataNotificationLineItem	
lineItemNumber	3
TradeItemIdentification	
gtin	GTIN 1.3
ItemDataTradingPartnerDependent	
ItemDataLogisticUnitInformation	
tradeItemQuantity	12
packageTypeCode	PALLET
packageLevelCode	3 (Outer)
ChildPackageLevel	
packageLevelCode	2 (Intermediate)
childPackageLevelQuantity	4
tradeItemQuantityPerLayer	2
numberOfLayers	2
maximumStackingFactor	4

6.2.4. Scenario 4

Description

A **carton** is marked with GTIN

The **carton** contains 3 units: **1 unit A** + **2 units B**, not marked with GTIN

Message example

Atribute / Class	Data
ItemDataNotificationLineItem	
lineItemNumber	1
TradeItemIdentification	
gtin	GTIN 1.4
quantityOfItemTypes	2
quantityOfItemUnits	3

7. Summary of Changes

Any change in the GS1 standards is done based on the Work Request (WR) submitted by the GS1 User Companies or Member Organisations. All Work Requests are documented in the Work Request system available on the GS1 website: **http://wr.gs1.org**. The system is accessible to registered users. New visitors need to register first, to be able to access it. WRs can be searched by the number referenced in tables below, see: Search Work Requests. The number starts with the two last digits of the year when it was submitted, followed by the consecutive number within that year.

Note: WRs submitted earlier than February 2012 should be searched in Old Change Requests.

7.1. BMS Release 3.0

Change	Version	Associated CR Number
Update for Major release 3.0: updated to reflect changes in modelling methodology.	3.0 – Issue 1.0.0	n/a

7.2. BMS Release 3.1

Change	Version	Associated CR Number
class ItemDataNotificationLineItem - Maintenance ... « » **ItemDataNotificationLineItem** + lineItemNumber: positiveInteger + tradeItemDescription: Description1000 [0..*] + productVariantIdentifier: string [0..1] = {1..80} **maintenance** Change: (New) Added productVariantIdentifier	3.1 - Issue 1	[BRAD WIO ecom-3]

7.3. BMS Release 3.2

Change	Associated WR
Add Attribute Value Pair at the root, line item and sub line item levels class ItemDataNotification - maintenance view «root, » **ItemDataNotification** *maintenance* Change: (Verified) 3.2 changed generalisation from Document to eComDocument class to include AVP (WR 14-110)	14-000110

Change	Associated WR

■ Added: (WR 13-188)
    □ isTheProductVariantPreferred
    □ lower level trade item
    □ trade unit descriptor code
    □ Brand name
    □ GPC
    □ quantity of item types
    □ quantity of item units
■ Added a reference to parent line number to support hierarchical items. (WRs 14-021 14-044)
■ Added Attribute Value Pair at the root, line item and sub line item levels (WR 14-110)
	13-000188
	14-000021
	14-000044
	14-000110

class ItemDataNotificationLineItem - Maintenance View

« »
ItemDataNotificationLineItem

+   lineItemNumber :positiveInteger
+   parentLineItemNumber :positiveInteger [0..1]
+   tradeItemDescription :Description1000 [0..*]
+   productVariantIdentifier :Identifier [0..1] = {1..80}
+   isTheProductVariantPreferred :boolean [0..1]
+   brandName :string [0..1] = {1..70}
+   gpcCategoryCode :string [0..1] = {\\d{8}
+   tradeItemUnitDescriptorCode :TradeItemUnitDescriptorCode [0..1]
+   quantityOfItemTypes :positiveInteger [0..1]
+   quantityOfItemUnits :positiveInteger [0..1]
+   «association» avpList :Ecom_AttributeValuePairList [0..1]

maintenance
Change: (Complete) 3.1 added +productVariantIdentifier
Change: (Verified) 3.2 added +avpList (WR 14-110)
Change: (Verified) 3.2 added +brandName (WR 13-188)
Change: (Verified) 3.2 added +gpcCategoryCode (WR 13-188)
Change: (Verified) 3.2 added +isTheProductVariantPreferredr (WR 13-188)
Change: (Verified) 3.2 added +parentLineItemNumber (WR 14-021 & 14-044)
Change: (Verified) 3.2 added +quantityOfItemTypes (WR 13-188)
Change: (Verified) 3.2 added +quantityOfItemUnits (WR 13-188)
Change: (Verified) 3.2 added +tradeItemUnitDescriptorCode (WR 13-188)
Change: (Verified) 3.2 added assiciation to LowerLevelTradeItem (WR 13-188)
Change: (Verified) 3.2 changed multiplicity of ItemDataTradingPartnerDependent class from 0..1 to 0..* (WR 13-188)

Change	Associated WR

■ Added: (WR 13-188)
   □ Dangerous goods information
   □ Warehouse ABC Classification Code
   □ Maximum Stacking Factor
   □ Handling instruction
■ Added Attribute Value Pair at the root, line item and sub line item levels (WR 14-110)
	13-000188
	14-000110

class ItemDataTradingPartnerNeutral - Maintenance view

« »
ItemDataTradingPartnerNeutral

+ effectiveDateTime :dateTime
+ «association» avpList :Ecom_AttributeValuePairList [0..1]
+ tradeItemBaseUnitOfMeasure :MeasurementUnitCode
+ startAvailabilityDateTime :dateTime
+ cancelledDateTime :dateTime [0..1]
+ discontinuedDateTime :dateTime [0..1]
+ endAvailabilityDateTime :dateTime [0..1]
+ tradeItemClassificationCode :AdditionalTradeItemClassificationCode [0..*]
+ warehouseABCClassificationCode :WarehouseABCClassificationCode [0..1]
+ maximumStackingFactor :integer [0..1]

maintenance
Change: (Verified) 3.2 added +avpList (WR 14-110)
Change: (Verified) 3.2 added +maximumStackingFactor (WR 13-188)
Change: (Verified) 3.2 added +warehouseABCClassificationCode (WR 13-188)
Change: (Verified) 3.2 added association to DangerousGoodsInformation (WR 13-188)
Change: (Verified) 3.2 added association to HandlingInstructions (WR 13-188)
Change: (Verified) 3.2. added association to Code named +itemClassificationScheme (WR 13-188)

Change	Associated WR

■ Changed class multiplicity from 0..1 to 0..*. Added: (WR 13-188)
    □ Administrative unit of Receiver
    □ Shipper
    □ Receiver
    □ Originating Party
    □ Country of origin
    □ Quarantine period
    □ Quality Control code
    □ Minimum remaining shelf life inbound and outbound
■ Added Attribute Value Pair at the root, line item and sub line item levels (WR 14-110)
	13-000188
	14-000110

class ItemDataTradingPartnerDependent - maintenance view

ItemDataTradingPartnerDependent

+ tradeItemSpecificUnitOfMeasure :MeasurementUnitCode
+ «association» avpList :Ecom_AttributeValuePairList [0..1]
+ orderQuantityMaximum :Quantity [0..1]
+ orderQuantityMinimum :Quantity [0..1]
+ orderQuantityMultiple :Quantity [0..1]
+ tradeItemProductionLeadTime :TimeMeasurement [0..1]
+ tradeItemShipmentLeadTime :TimeMeasurement [0..1]
+ tradeItemSubstitutionDateTime :dateTime [0..1]
+ countryOfOrigin :CountryCode [0..1]
+ qualityControlCode :QualityControlCode [0..1]
+ quarantinePeriod :TimeMeasurement [0..1]
+ minimumRemainingShelfLifeInbound :TimeMeasurement [0..1]
+ minimumRemainingShelfLifeOutbound :TimeMeasurement [0..1]

maintenance

Change: (Verified) 3.2 added +avpList (WR 14-110)
Change: (Verified) 3.2 added +countryOfOrigin (WR 13-188)
Change: (Verified) 3.2 added +minimumRemainingShelfLifeInbound (WR 13-188)
Change: (Verified) 3.2 added +minimumRemainingShelfLifeOutbound (WR 13-188)
Change: (Verified) 3.2 added +qualityControlCode (WR 13-188)
Change: (Verified) 3.2 added +quarantinePeriod (WR 13-188)
Change: (Verified) 3.2 added association to AdministrativeUnit named +administrativeUnitOfReceiver (WR 13-188)
Change: (Verified) 3.2 added association to TransactionalParty named +receiver (WR 13-188)
Change: (Verified) 3.2 added association to TransactionalParty named +shipper (WR 13-188)
Change: (Verified) 3.2 added association to TransactionalPartyInRole named +originatingParty (WR 13-188)

Change	Associated WR

■ Changed class multiplicity from 0..1 to 0..*. Added: (WR 13-188)
   □ Package level code
   □ Child package level code
   □ Gross weight + net weight + dimensions of logistic unit
   □ Maximum stacking factor
 ■ Add Attribute Value Pair at the root, line item and sub line item levels (WR 14-110)
	13-000188
	 14-000110

class ItemDataLogisticUnitInformation - maintenance view

ItemDataLogisticUnitInformation

+ tradeItemQuantity :Quantity
+ packageTypeCode :PackageTypeCode [0..1]
+ tradeItemQuantityPerLayer :Quantity [0..1]
+ numberOfLayers :positiveInteger [0..1]
+ packageLevelCode :PackageLevelCode [0..1]
+ grossWeight :Measurement [0..1]
+ netWeight :Measurement [0..1]
+ maximumStackingFactor :nonNegativeInteger [0..1]
+ «association» avpList :Ecom_AttributeValuePairList [0..1]

maintenance
Change: (Verified) 3.2 added +avpList (WR 14-110)
Change: (Verified) 3.2 added +grossWeight (WR13-188)
Change: (Verified) 3.2 added +maximumStackingFactor (WR13-188)
Change: (Verified) 3.2 added +netWeight (WR13-188)
Change: (Verified) 3.2 added +packageLevelCode (WR13-188)
Change: (Verified) 3.2 added association to ChildPackageLevel (WR13-188)
Change: (Verified) 3.2 added association to Dimension with role name +dimensionOfLogisticUnit (WR13-188)

8. Appendices

8.1. Glossary of Terms

Term	Description
Direct Materials	Raw materials and packaging materials directly used by the manufacturer in production and packaging.
Logistic Unit	Unit of any composition made up for the purposes of transport and/or storage and which must be managed throughout the entire supply chain.
Maximum Stock	The amount able to store at a maximum at the storage location.
Minimum Stock	See safety stock
Safety Stock	The amount necessary to meet immediate customer demand (short term).
Substitution Item	The item that replaces the original item because of not being available or successions.

9. 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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