Replenishment Request

Business Message Standard (BMS)

Release 3.1

1-May-2013, Issue 1

Document Summary

Document Item	Current Value
Document Title	Replenishment Request - Business Message Standard (BMS)
BMS Release	3.1
Document Version	Issue 1, 1-May-2013
Work Group Name	eCom SMG
BMS Template Version	2.3

Change Request Reference

Date of CR Submission to GSMP:	CR Submitter(s):	Refer to Change Request (CR) Number(s):
20-Aug-2008	John Ryu, GS1	08-000209
27-Jul-2007	Eric Maree, Accenture	07-000309
05-Nov-2004	GS1	04-000211

Business Requirements Document (BRAD) Reference

BRAD Title:	BRD Date:	BRAD Version
BRAD Upstream Standards – Demand & Supply Signals	01-Nov-2004	0.1.0
Replenishment – Business Requirement Document	30-Mar-2004	1.0.0
BMS eCom Domain Common Library		BMS Release 3.0.0
BMS Shared Common Library		BMS Release 3.0.0

Document Change History

Date of Change	Version	Changed By	Reason for Change	Summary of Change
6-Jan-2012	BMS 3.0 Issue 1.0.0	Coen Janssen	Publication of BMS 3.0	Noted in summary of change section
1-May-2013	BMS 3.1 issue 1	Coen Janssen	Update to 3.1	Noted in Summary of Changes

Disclaimer

WHILST EVERY EFFORT HAS BEEN MADE TO ENSURE THAT THE GUIDELINES TO USE THE GS1 STANDARDS CONTAINED IN THE DOCUMENT ARE CORRECT, GS1 AND ANY OTHER PARTY INVOLVED IN THE CREATION OF THE DOCUMENT HEREBY STATE THAT THE DOCUMENT IS PROVIDED WITHOUT WARRANTY, EITHER EXPRESSED OR IMPLIED, REGARDING ANY MATTER, INCLUDING BUT NOT LIMITED TO THE OF ACCURACY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND HEREBY DISCLAIM ANY AND ALL LIABILITY, DIRECT OR INDIRECT, FOR ANY DAMAGES OR LOSS RELATING TO OR RESULTING FROM THE USE OF THE DOCUMENT. THE DOCUMENT MAY BE MODIFIED, SUBJECT TO DEVELOPMENTS IN TECHNOLOGY, CHANGES TO THE STANDARDS, OR NEW LEGAL REQUIREMENTS. SEVERAL PRODUCTS AND COMPANY NAMES MENTIONED HEREIN MAY BE TRADEMARKS AND/OR REGISTERED TRADEMARKS OF THEIR RESPECTIVE COMPANIES. GS1 IS A REGISTERED TRADEMARK OF GS1 AISBL.

Table of Contents

1. Business Domain View

1.1. Problem Statement / Business Need

The replenishment process in broader sense addresses the business practice to exchange data between a buying party (e.g. buyer) and a supplying party (e.g. seller/supplier) related to the future demand of finished or semi-finished products, ingredients, packaging and raw materials.

Between retailer and manufacturer (the downstream supply chain) the data is basically based on future demand based on finished products and time series but it can also be restricted to actual sales date for a certain period of time. Feed-back from the manufacturer on his availability to deliver is required, where available inventories (of both sides) are taken in account.

Between manufacturer and material supplier (the upstream supply chain) the data is basically based on material requirements for production and the timing for it. And also the feedback from the material supplier on his availability to deliver and the schedule for de-livery. Inventories (on both sides) are taken in account for the actual delivery schedule.

Based on the delivery schedule (replenishment proposal), a transport and shipping planning can be derived.

1.2. Objective

This standard defines the transaction model and data model for the following business message:

- Replenishment Request

1.3. Audience

Anyone involved in the replenishment process with another party in the (extended) supply chain process. These parties basically are retailers, manufactures and suppliers of ingredients, packaging and raw materials. But can also be parties in between like wholesalers or logistic service providers managing warehouses.

1.4. References

Reference Name	Description
BMS eCom Domain Common Library Release 3.1	The documented design of components that are used in multiple messages within the eCom Domain.
BMS Shared Common Library Release 3.1	The documented design of components that are used in multiple messages within both the eCom Domain and GDSN
BRAD Upstream Standards - Demand & Supply Signals 0.1.0	
Replenishment – Business Requirement Document 1.0.0	

1.5. Acknowledgements

1.5.1. Work Group

Function	Name	Company / organisation
Co-chair	Rossner (Pottier), Natascha	GS1 France
Co-chair	Schmidt, Tom Eric	August Storck KG
Member	Bemrose, Jonathan	R&R Ice Cream
Member	Bodemer, Petra	dm-drogerie markt GmbH + Co. KG
Member	Boikanyo, Rebone	GS1 South Africa / Consumer Goods Council of South Africa
Member	Canada, ON	M3B 3L1
Member	Carlson, Jim	General Mills, Inc.
Member	Chresta, Richard	GS1 Switzerland
Member	Cook, Don	Wal-Mart Stores, Inc.
Member	Cox, Marc	Philips Electronics N.V.
Member	Darnell, David	Systrends
Member	De Flou, Nele	GS1 Belgium & Luxembourg
Member	Dicks, Arne	GS1 Germany
Member	Duvinger, Karina	GS1 Sweden
Member	Foerderer, Klaus	GS1 Germany
Member	Gathmann, Stefan	GS1 Ireland
Member	Grangard, Anders	GS1 Global Office
Member	Harpell, Eileen	GS1 Community Room Staff
Member	Herregodts, Kurt	GS1 Belgium & Luxembourg
Member	Kempkes, Fred	Unilever N.V.
Member	Kernan, Brendan	GS1 Ireland
Member	Kidd, Robin	Nestle
Member	Krid, Anne-Claire	GS1 France
Member	Lanoue, Tom	General Mills, Inc.
Member	Laur, Rita	GS1 Canada
Member	Lenman, Mia	GS1 Sweden
Member	Lerch, Hanjoerg	METRO Group
Member	Moberg, Dale	Axway
Member	Montes de Oca, Alejandra	GS1 Mexico
Member	Ng, Ella	GS1 Australia
Member	Peelen, Esther	GS1 Netherlands
Member	Pelekies, Andreas	GS1 Germany
Member	Perrier, Patricia	GS1 France

Function	Name	Company / organisation
Member	Przybilla, Christian	GS1 Germany
Member	Pujol, Xavier	GS1 Spain
Member	Racek, Greg	Wal-Mart Stores, Inc.
Member	Repetto, Mirko	GS1 Italy
Member	Robba, Steven	1WorldSync Holdings, Inc.
Member	Rosell, Pere	GS1 Spain
Member	Rosenberg, Steven	GS1 US
Member	Schmid, Sue	GS1 Australia
Member	Schneider, Christian	GS1 Switzerland
Member	Sehorz, Eugen	GS1 Austria
Member	Sharma, Vishal	General Mills, Inc.
Member	Shimazaki, Ayako	GS1 Japan
Member	Sion, Emilie	GS1 France
Member	Souza, Nadia	GS1 Brasil
Member	Strand, Roman	GS1 Germany
Member	Tan, Milton	GS1 Malaysia
Member	Tompsett, Simon	Waitrose
Member	Trelle, Ute	1WorldSync Holdings, Inc.
Member	Tse, Steve	GS1 Hong Kong
Member	Tyson, Betty	Knouse Foods Cooperative, Inc
Member	Van den Bergh, Senne	GS1 Belgium & Luxembourg
Member	Van der Eijk, Pim	OASIS - Sonnenglanz Consulting BV
Member	Veldhuis, Saskia	Procter & Gamble Co.
Member	Welch, Shan	GS1 UK
Member	Westerkamp, Jan	GS1 Netherlands
Member	Wilson, Mary	GS1 US
Member	Windsperger, Bekki	Best Buy Co., Inc.
Member	Yang, Shaopeng	GS1 China
Member	Yusdiar, Dani	GS1 Indonesia
Member	Zwanziger, Greg	SUPERVALU

1.5.2. Development Team Members

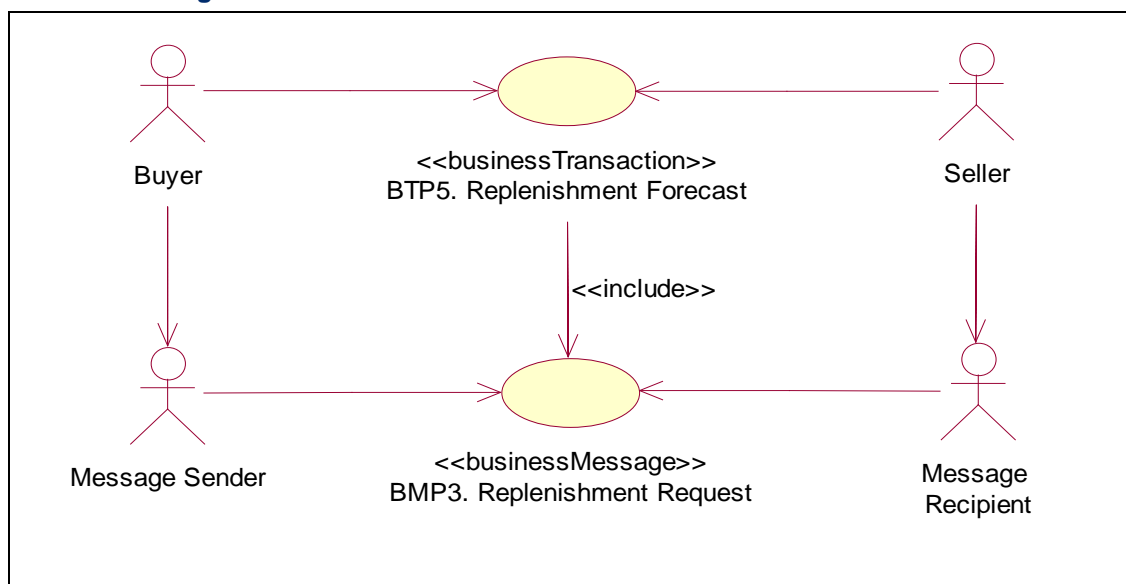| Function	Name	Organisation
GSMP Process Lead	Jean-Luc Champion	GS1 Global Office
Standards Content Lead	Coen Janssen	GS1 Global Office
Technical Development Lead	Ewa Iwicka	GS1 Global Office
Peer Review	Eric Kauz	GS1 Global Office

2. Business Context

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

3. Business Transaction View

3.1. Business Transaction – Replenishment Forecast

Use Case Diagram

Use Case Description

Use Case ID	BTP5
Use Case Name	Replenishment Forecast
Use Case Description	The Replenishment Forecast is sent by the manufacturer to the supplier and communicates at prescribed intervals the forecast for material consumption for given location(s) and/or material(s) for a specific interval as well as the inventory levels of items in these locations to enable production and replenishment planning through the supplier. The forecast figures communicated represent the gross requirements of the manufacturer.
Actors (Goal)	
Performance Goals	
Preconditions	Gross Requirements: CALCULATED

	Inventory Status: CALCULATED
Post conditions	Gross Requirements: COMMUNICATED Inventory Status: COMMUNICATED
Scenario	**Begins when:** Buyer has calculated his replenishment forecast. **Continues with**:

Step #	Actor	Activity Step
1.	Buyer	Sends Replenishment Request message to the Seller.
2.	Seller	Receives Replenishment Request message

Ends when: seller receives Replenishment Request message

Alternative Scenario	Not applicable
Business Rules	Not applicable

Activity Diagram(s)
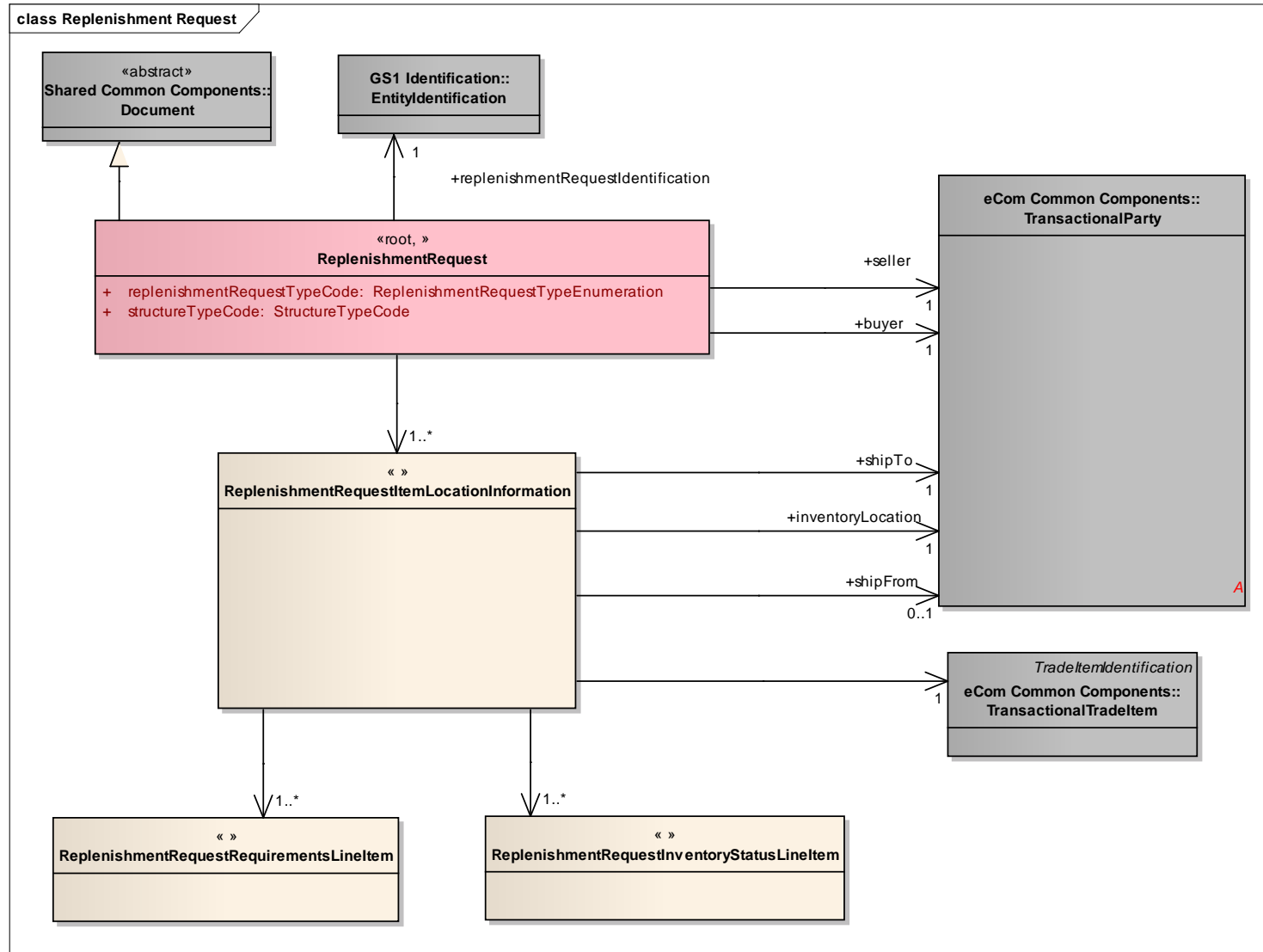
Not Applicable

Sequence Diagram(s)

Not Applicable

4. Business Information View

Note: Reference Shared Common Library Business Message (BMS) Release 3.0.0 and eCom Domain Common Library Business Message (BMS) Release 3.0.0 for all common information.

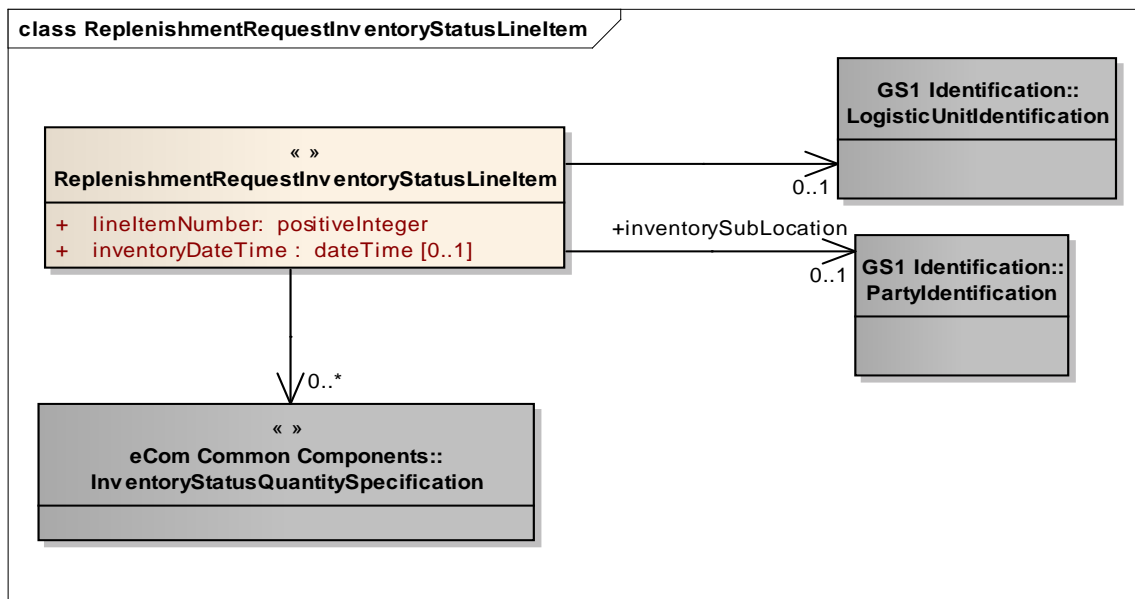## 4.1. Replenishment Request

Class Diagram

GDD Report

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
ReplenishmentRequest					
Association		ReplenishmentRequestItemLocationInformation	1..*	Contains the Replenishment Request for given trade items and locations for specific time periods.	
Association	replenishmentRequestIdentification	EntityIdentification	1..1	Unique replenishment request number assigned by the buying party.	
Association	buyer	TransactionalParty	1..1	Contains the identification of the party that is buying the goods.	
Association	seller	TransactionalParty	1..1	Contains the identification of the party that is selling the goods.	
Generalization		Document		Basic information about the content of the message including version number, creation date and time.	
Attribute	replenishmentRequestTypeCode	ReplenishmentRequestTypeEnumeration	1..1	Contains the type of goods requirements, gross or net.	renamed from replenishmentRequestDocumentType
Attribute	structureTypeCode	StructureTypeCode	1..1	Contains the type of grouping and sequence of the business document.	
ReplenishmentRequestItemLocationInformation				Contains the Replenishment Request for a given trade item and location for specific time periods.	
Association	shipTo	TransactionalParty	1..1	Contains the identification of the location whereto the required goods will be delivered.	
Association		ReplenishmentRequestInventoryStatusLineItem	1..*	Provides the details for the Replenishment Request Inventory Status Line Item.	
Association		TransactionalTradeItem	1..1	Contains the identification of the item for which the replenishment request is specified.	

Content	Attribute / Role	Datatype /Secondary class	Multipl icity	Definition	Requiremen ts
Association	shipFrom	TransactionalParty	0..1	Contains the identification of the location wherefrom the required goods will be delivered.	
Association		ReplenishmentRequestR equirementsLineItem	1..*	The forecasted required quantities per time bucket.	
Association	inventoryLocation	TransactionalParty	1..1	Identification of the physical place at the receiving side where the items are to be stored.	

4.2. Replenishment Request Inventory Status Line Item
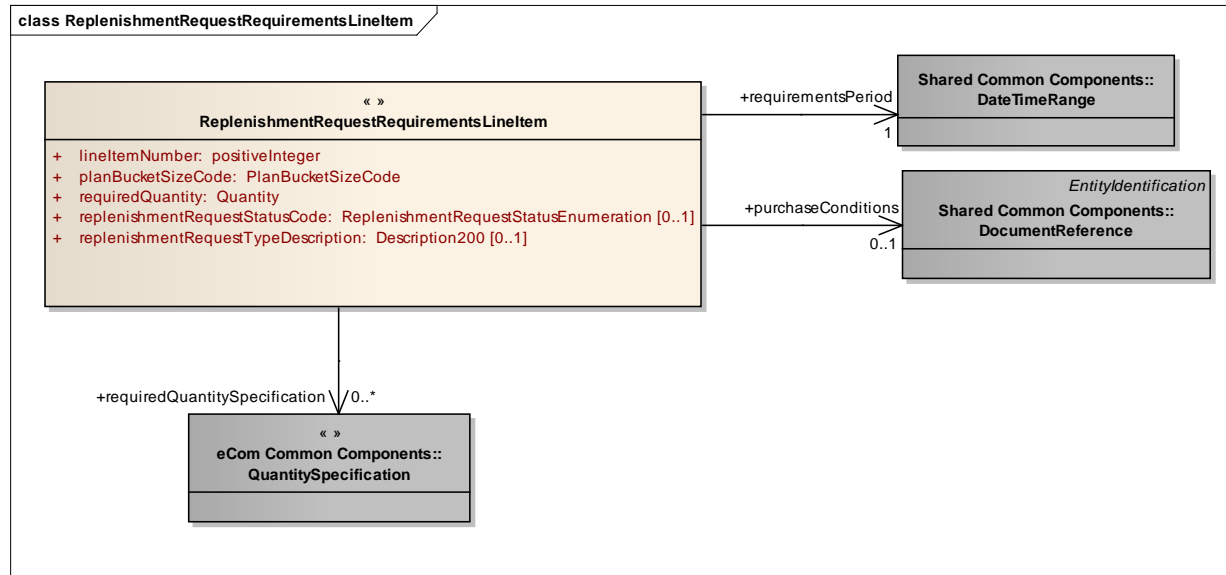
Class Diagram

GDD Report

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
ReplenishmentRequestInventory StatusLineItem				Information specifying the inventory status of a specific trade item at a specific location at a specific point in time.	
Association		LogisticUnitIdentification	0..1	Detailed identification of the logistic unit that contains the goods.	
Association	inventorySubLocation	PartyIdentification	0..1	Detailed identification of the location at which the goods are stored.	
Association		InventoryStatusQuantitySpecification	0..*	Information about the stored goods per inventory status.	
Attribute	lineItemNumber	positiveInteger	1..1	Provides the line number associated to the Replenishment Request Inventory Status Line Item.	
Attribute	inventoryDateTime	dateTime	0..1	Date and time the inventory for this line item was assessed. If this is not provided the beginDateTime provided at the business document level represents the inventoryDateTime.	

4.3. Replenishment Request Requirements Line Item

Class Diagram

GDD Report

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
ReplenishmentRequestRequirementsLineItem				The forecasted required quantities per time bucket.	
Association	requiredQuantitySpecification	QuantitySpecification	0..*	Specifies the cumulative quantity already received for the specified time bucket.	

Content	Attribute / Role	Datatype /Secondary class	Multipl icity	Definition	Requirements
Association	requirementsPeriod	DateTimeRange	1..1	Contains the start and end dates and optionally start and end times of the requirements period.	
Association	purchaseConditions	DocumentReference	0..1	Contains a reference to the commercial agreement under which the goods are supplied.	
Attribute	lineItemNumber	positiveInteger	1..1	Provides the line number associated to the Replenishment Request Line Item.	
Attribute	planBucketSizeCode	PlanBucketSizeCode	1..1	Code specifying the duration of the requirements period.	renamed from timeBucketSize Type
Attribute	requiredQuantity	Quantity	1..1	The number of units required in the specified requirements period.	
Attribute	replenishmentRequestStatus Code	ReplenishmentRequestStatu sEnumeration	0..1	Contains the status of the commitment: committed or planned.	attribute moved here from ReplenismentC ondition
Attribute	replenishmentRequestType Description	Description200	0..1	Kind of requirement. Also see Replenishment Request List.	attribute moved here from ReplenismentC ondition, added Description to name

4.4. Code Lists

4.4.1. ReplenishmentRequestTypeEnumeration

Code Value	Code Name	Code Definition
ACTUAL_SALES_AND_INVENTORY	Actual sales and inventory	Not Available
FORECAST_AND_INVENTORY	Forecast and inventory	Not Available
GROSS_REQUIREMENTS_AND_INVENTORY	Gross requirements and inventory	Not Available

4.4.2. ReplenishmentRequestStatusEnumeration

Code Value	Code Name	Code Definition
COMMITTED	Committed	Not Available
PLANNED	Planned	Not Available

4.4.3. Referenced common codes

Note: Reference Shared Common Library Business Message (BMS) Release 3.0.0 and eCom Domain Common Library Business Message (BMS) Release 3.0.0 for all Code Lists

Class	Codelist	Referenced in
ReplenishmentRequest	StructureTypeCode	eCom Domain Common Library Business Message (BMS) Release 3.0.0
ReplenishmentRequest RequirementsLineItem	PlanBucketSizeCode	eCom Domain Common Library Business Message (BMS) Release 3.0.0

5. Business Message Example

The following is an example of a gross requirements and inventory message. The message is sent out on February 9th at 11 AM. The message is identified with the unique identifier 2005001. The content owner is the sending party, in this case the manufacturer (Buyer 8712345678913).

The gross requirements are sent by the manufacturer (Buyer 8712345678913) to the material supplier (Seller 8812345678903).

For informational purposes the manufacturer includes the name of his material requirements planner (Mr. Kramer). The gross requirements are for two delivery sites, X (Ship To 8712345670009) and Y (Ship To 8712345678951).

The gross requirements are for one item, A (GTIN 08712345678906).

For item A and delivery site X the gross requirements are:

- Week February 11-17: 1000 units, of which 500 units have already been received.
- Week February 18-25: 200 units.

The inventory for item A on site X is 100 units (available for sale) and 15 (expired).

The contract to be used for the requirements in week February 11-17 (2004000012) was issued by the business unit of the material supplier (content owner 8712345678999). Within the contract line 23 refers to this item.

For the requirements in week February 18-25 no contract has been specified.

For item A and delivery site Y the gross requirements are:

- Week February 11-17: 300 units.
- Week February 18-25: 1200 units.

The inventory for item A on site Y is 50 units (available for sale).

The contract used for the requirements in week February 11-17 (2004000012) is the same as for delivery site X.

For the requirements in week February 18-25 no contract has been specified.

ReplenishmentRequest	
- creationDateTime	2005-02-09T11.00.00
- documentStatusCode	ORIGINAL
- replenishmentRequestTypeCode	GROSS_REQUIREMENTS_AND_INVENTORY
- structureTypeCode	ITEM_BY_LOCATION
EntityIdentification (+replenishmentRequestIdentification)	
- entityIdentification	2005001
PartyIdentification (+contentOwner)	
- gln	8712345678913
TransactionalParty (+seller)	
- gln	8812345678903
TransactionalParty (+buyer)	
- gln	8712345678913
Contact	
- personName	Kramer
- responsibility	Material Requirements Planner
ReplenishmentRequestItemLocationInformation *1	
TransactionalParty (+shipTo)	
- gln	8712345670009
TransactionalParty(+inventoryLocation)	
- gln	8712345634537
TransactionalTradeItemIdentification	
- gtin	08712345678906

ReplenishmentRequest	
ReplenishmentRequestRequirementsLineItem *1.1	
- lineItemNumber	1
- planBucketSizeCode	WEEK
- requiredQuantity	1000
DateTimeRange(+requirementsPeriod)	
TimePeriod	
- beginDate	2005-02-11
- endDate	2005-02-17
DocumentReference (+purchaseConditions)	
- entityIdentification	2004000012
- lineItemNumber	23
PartyIdentification (+contentOwner)	
- gln	8712345678999
QuantitySpecification(+requiredQuantitySpecification)	
- quantitySpecificationType	RECEIVED
- specificQuantity (value, unitOfMeasure)	500
ReplenishmentRequestRequirementsLineItem *1.2	
- lineItemNumber	2
- planBucketSizeCode	WEEK
- requiredQuantity	1200
DateTimeRange (+requirementsPeriod)	
- beginDate	2005-02-18
- endDate	2005-02-25
ReplenishmentRequestInventoryStatusLineItem *1.3	
- lineItemNumber	3
InventoryStatusQuantitySpecification	
- inventoryStatusType	AVAILABLE_FOR_SALE
- quantityOfUnits	100
InventoryStatusQuantitySpecification	
- inventoryStatusType	EXPIRED
- quantityOfUnits	10
ReplenishmentRequestItemLocationInformation *2	
TransactionalParty(+shipTo)	
- gln	8712345678951
TransactionalParty(+inventoryLocation)	
- gln	8712345674451
TransactionalTradeItem	

ReplenishmentRequest	
- gtin	08712345678906
ReplenishmentRequestRequirementsLineItem *2.1	
- lineItemNumber	4
- planBucketSizeCode	WEEK
- requiredQuantity	300
DateTimeRange (+requirementsPeriod)	
- beginDate	2005-02-11
- endDate	2005-02-17
DocumentReference (+purchaseConditions)	
- entityIdentification	2004000012
- lineItemNumber	23
PartyIdentification (+contentOwner)	
- gln	8712345678999
ReplenishmentRequestRequirementsLineItem *2.2	
- lineItemNumber	5
- planBucketSizeCode	WEEK
- requiredQuantity	1200
DateTimeRange (+requirementsPeriod)	
- beginDate	2005-02-18
- endDate	2005-02-25
ReplenishmentRequestInventoryStatusLineItem *2.1	
- lineItemNumber	6
InventoryStatusQuantitySpecification	
- inventoryStatusType	AVAILABLE_FOR_SALE
- quantityOfUnits	50

6.   Implementation Considerations

Not Applicable

7.   Appendices

Not Applicable

8. Summary of Changes

8.1. BMS Release 3.0

Change	BMS Version	Associated CR Number
For BMS Release 3.0.0 Update to modelling methodology for Release 3.0.0	1.0.0	Not Applicable
For Issue Resolution: Cleaned up summary of changes Edited Business Example to reflect sequencing changes	1.0.0	Not Applicable
For XSD Peer Review: Updated Business Example: Under GoodsRequirementsItemLocationInformation *2, inventoryLocation was missing; this is a mandatory attribute.	1.0.0	Not Applicable
XSD Development (10-Oct-2011) Updated Business Example, renamed GoodsRequirementsItemLocationInformation into ReplenishmentRequestItemLocationInformation Removed {1..80} restriction in replenishmentRequestTypeDescription	1.0.0	Not Applicable
Public Review Removed the following code values from ReplenishmentRequestTypeEnumeration ▪ MATERIAL_REQUIREMENTS ▪ MATERIAL_REQUIREMENTS_AND_INVENTORY	1.0.0 (21-nov-2011)	Not applicable
Corrected example. Under GoodsRequirementsItemLocationInformation *1, inventoryLocation was missing; this is a mandatory attribute.	1.0.0 (28-nov-2011)	Not applicable
Publication ▪ Added Copyright R in GS1 Logo ▪ Changed Status to Approved ▪ Removed year reference in footer copyright statement ▪ Replaced Section 10 with updated AG Principles	1.0.0	Not Applicable

8.2. BMS Release 3.1

No work requests. Indirect changes due to upgrade to new Shared and eCom Common libraries.