



Logistics Report Request and Report Business Message Standard (BMS)

BMS Release 3.1

1-May-2013, Issue 1



Document Summary

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Document Change History

Date of Change	Version	Changed By	Reason for Change	Summary of Change
1-May-2013	BMS 3.1 issue 1	Coen Janssen	Publication of BMS release 3.1	First release of this message standard.

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1. Business Domain View

1.1. Problem Statement / Business Need

This standard is part of a global GS1 solution for warehouse management that will support the optimization of warehouse management operations in a scalable way. This will ultimately take out unnecessary cost of the supply chain.

1.2. Objective

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

- Logistics Inventory Report Request – Message that supports the inventory management process and enables a party to request an inventory report from another party, using specific selection criteria.
- Logistics Inventory Report – Message that supports the inventory management process and enables a party to report on inventory status and events as registered in his system.

1.3. Audience

This document is intended for anyone interested in implementing the GS1 eCom standards for Transport and Logistics.

1.4. References

[LIM] GS1 Logistics Interoperability Model, 1.0, GS1 2007

[BRAD_WIM] BRAD Warehousing Inventory Management, 1.0, GS1 2012

[BMS_Shared] BMS Shared Common Library, 3.1, GS1 2012

[BMS_eCom] BMS eCom Common Library, 3.1, GS1 2012

[BMS_Warehousing] BMS Warehousing Common Library, 3.1, GS1 2012

1.5. Acknowledgements

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

1.5.1. Work Group

Function	Name	Company / organisation
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Co-Chair	Fred Kempkes	Unilever
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Member	Bonnie Ryan	GS1 Australia
Member	Kurt Herregodts	GS1 Belgium & Luxembourg
Member	Roman Strand	GS1 Germany

Function	Name	Company / organisation
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Member	Dr. Karlheinz Mevissen	HAVI Logistics
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Member	Mandeep Sodhi	Nestle
Member	Marc Cox	Philips Electronics N.V.
Member	Nitin Vidwans	Walmart Stores, Inc.

1.5.2. Development Team Members

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

2. Business Context

Context Category	Value(s)
Industry	All
Geopolitical	All
Product	All
Process	Warehousing – Outbound Operations
System Capabilities	GS1 System
Official Constraints	None

3. Business Transaction View

3.1. Business Transaction – Issue Inventory Report Request

Use case diagram



Use case description

Use case description	
Use Case Name	Issue Inventory Report Request
Use Case Description	The Inventory Report-to Party informs the Inventory Reporting Party that an inventory report is requested.
Actors (Goal)	Inventory Report-to Party Inventory Reporting Party
Performance Goals	Not applicable
Preconditions	none
Post conditions	The Inventory Reporting Party has been informed on the report request.
Main Scenario	<ul style="list-style-type: none"> ■ Inventory Report-to Party sends the request to the Inventory Reporting Party. ■ Inventory Reporting Party receives the request.
Alternative Scenario(s)	Not applicable
Related Requirements	
Related Rules	

Activity diagram

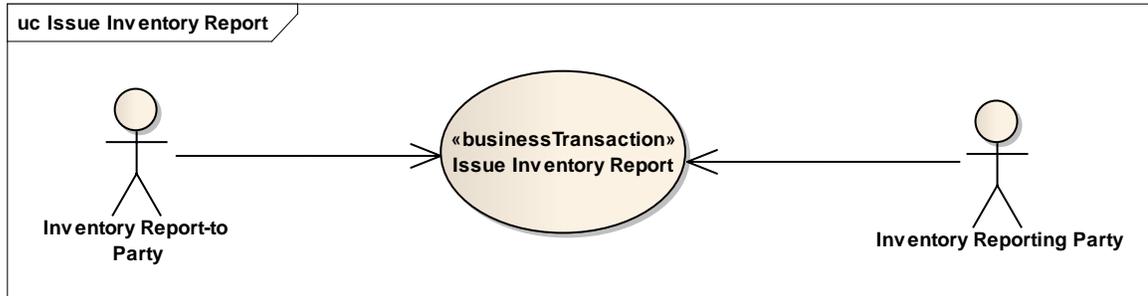
Not applicable

Communication diagram



3.2. Business Transaction – Issue Inventory Report

Use case diagram



Use case description

Use Case Description	
Use Case Name	Issue Inventory Report
Use Case Description	The Inventory Reporting Party provides the Inventory Report-to Party with an inventory report.
Actors (Goal)	Inventory Report-to Party Inventory Reporting Party
Performance Goals	Not applicable
Preconditions	(Optional) The Inventory Reporting Party has received an Inventory Report Request
Post conditions	The Inventory Report-to Party has received the report.
Main Scenario	<u>Based on a report request by the Inventory Report-to Party:</u> <ul style="list-style-type: none"> ■ Inventory Reporting Party generates the report. ■ Inventory Reporting Party sends the report to the Inventory Report-to Party. ■ Inventory Report-to Party receives the report and processes it in his system.
Alternative Scenario(s)	<u>Periodical report:</u> Same steps as in main scenario <u>Ad-hoc report initiated by Inventory Reporting Party:</u> Same steps as in main scenario
Related Requirements	
Related Rules	

Activity diagram

Not applicable

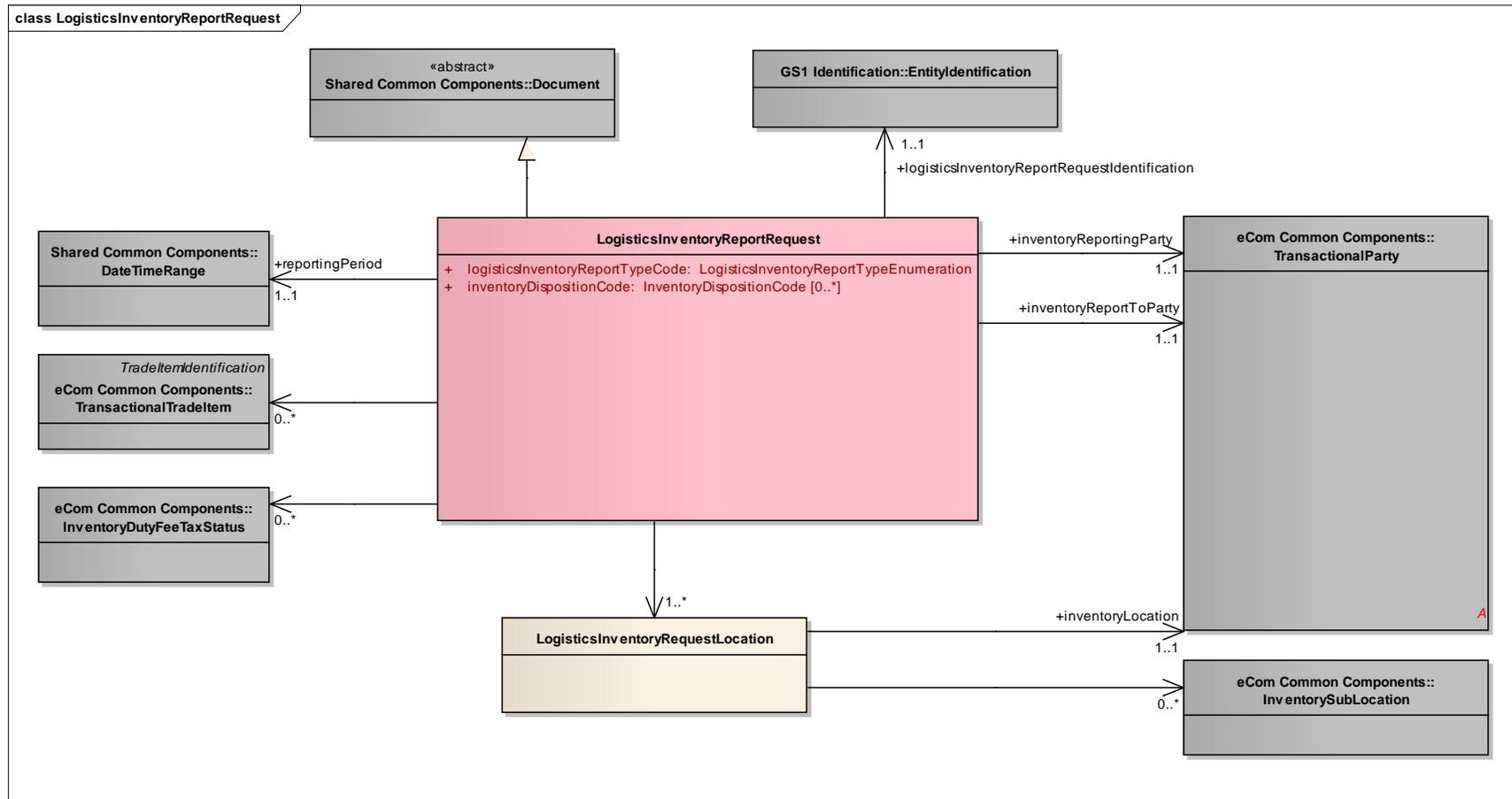
Communication diagram



4. Business Information View

4.1. Logistics Inventory Report Request (message)

Class Diagram

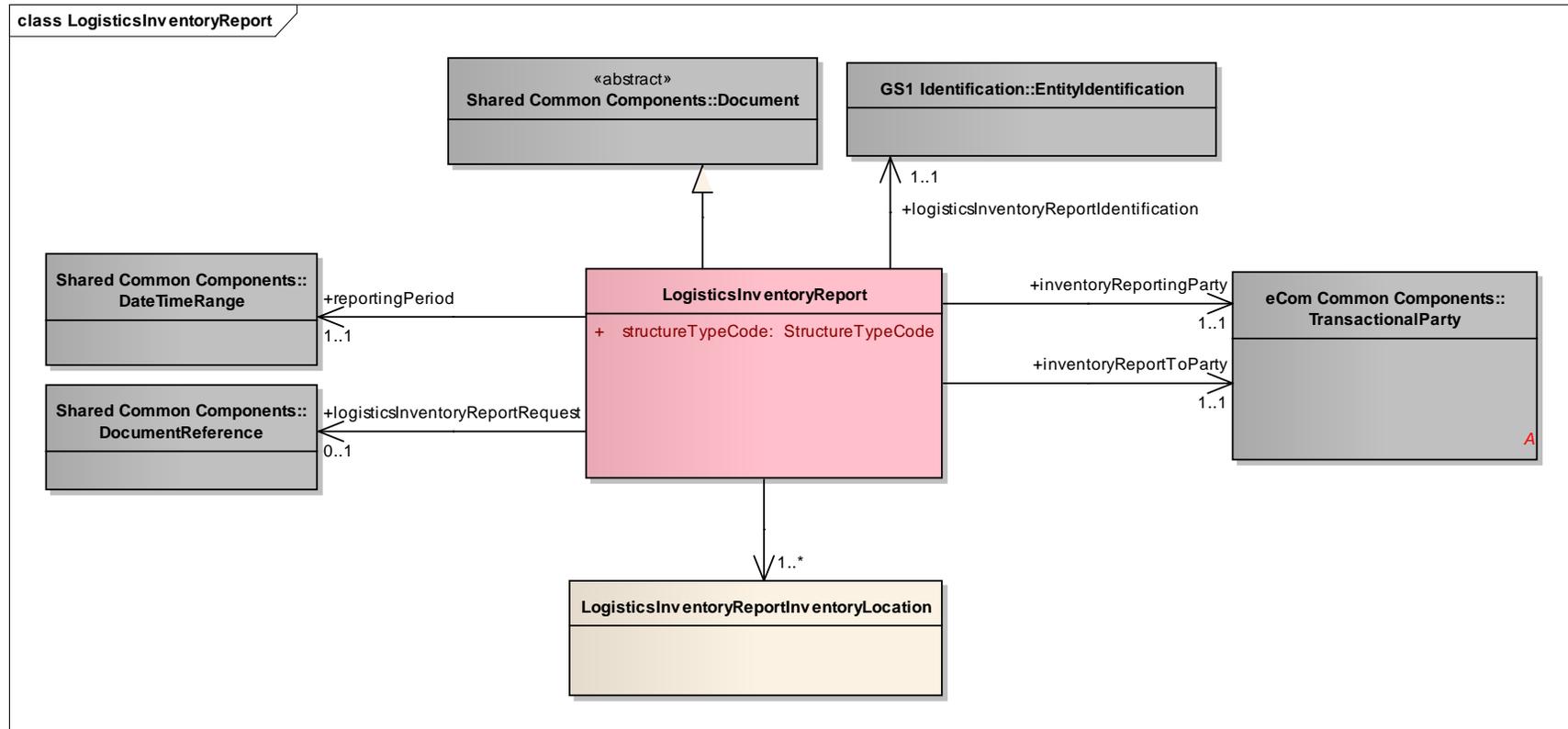


GDD Report

Content	Attribute / Role	Datatype /Secondary class	Multipl icity	Definition	Requirement s
LogisticsInventory ReportRequest				The Logistics Inventory Report Request enables a party (the inventory report to party) to request information on inventory levels and inventory changes to another party (the inventory reporting party).	
Association		LogisticsInventoryRequest Location	1..*	Contains the inventory location and related sub-locations for which inventory information is being requested.	
Association	inventoryReportToParty	TransactionalParty	1..1	The identification of the party to which the inventory is being reported.	[brad-wim:invrpr-2]
Association		InventoryDutyFeeTaxStatus	0..*	The inventory duty, fee or tax status on which inventory information is being requested.	[brad-wim:invrpr-10,11]
Association		TransactionalTradeItem	0..*	The trade items on which inventory information is being requested.	[brad-wim:invrpr-6]
Generalization		Document		Basic information about the content of the message including version number, creation date and time.	[brad-wim:invrpr-1]
Association	logisticsInventoryReportRequestIdentification	EntityIdentification	1..1	Unique identification of the logistics inventory report request, assigned by the inventory report to party.	[brad-wim:invrpr-1]
Association	inventoryReportingParty	TransactionalParty	1..1	The identification of the party reporting about the inventory.	[brad-wim:invrpr-2]
Association	reportingPeriod	DateTimeRange	1..1	The time period for which the inventory information is being requested.	[brad-wim:invrpr-5]
Attribute	logisticsInventoryReportTypeCode	LogisticsInventoryReportTypeCode	1..1	Codespecifying the type of report that is requested.	
Attribute	inventoryDispositionCode	InventoryDispositionCode	0..*	Denotes the business states of trade items for which information is being requested.	
LogisticsInventory RequestLocation				Contains the inventory location and related sub-locations for which inventory information is being requested.	
Association		InventorySubLocation	0..*	The inventory sub-locations for which inventory information is being requested.	[brad-wim:invrpr-8]
Association	inventoryLocation	TransactionalParty	1..1	The inventory location for which inventory information is being requested	[brad-wim:invrpr-7]

4.2. Logistics Inventory Report (message)

Class Diagram



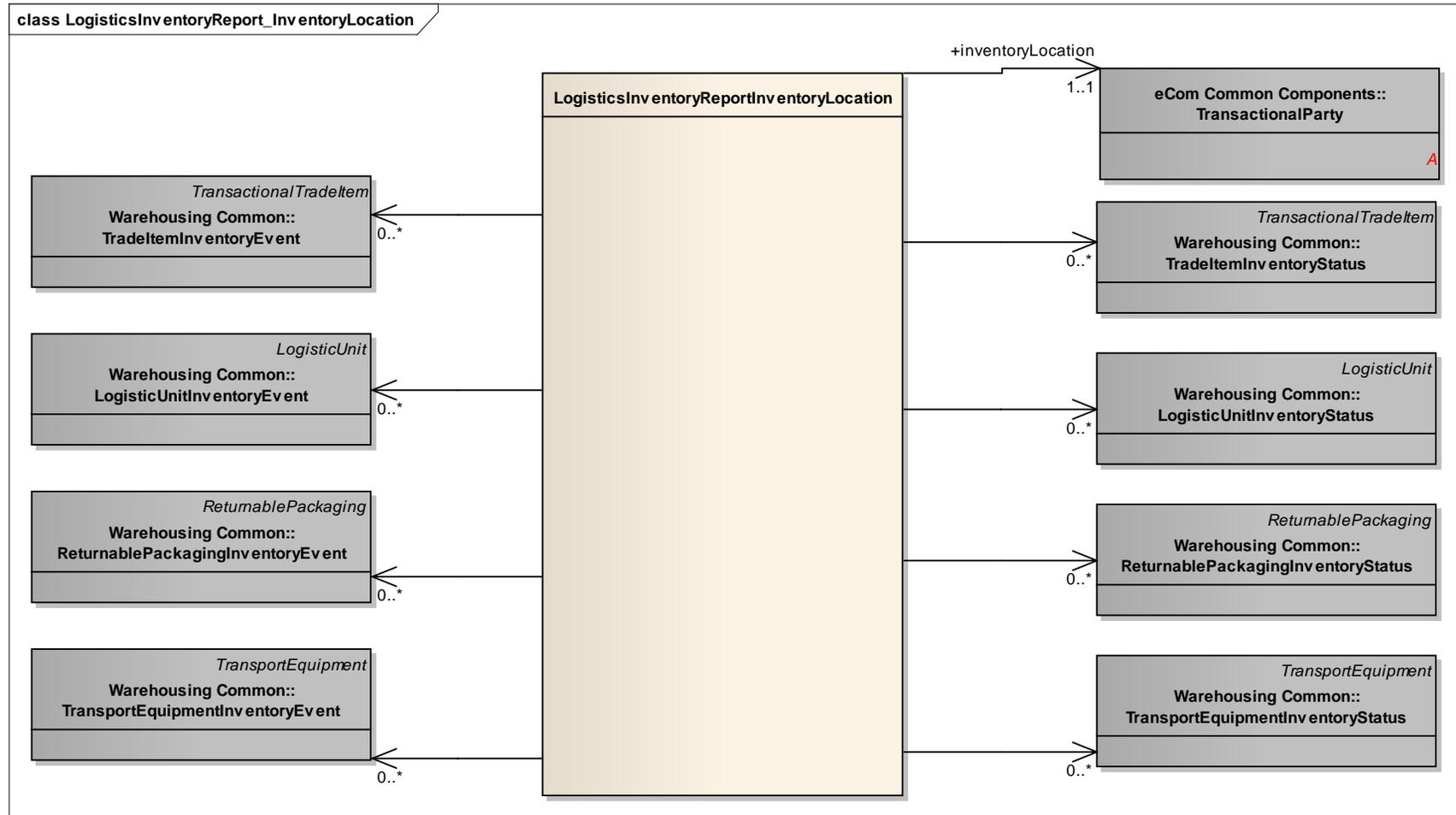
GDD Report

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
LogisticsInventoryReport				The Logistics Inventory Report enables a party (the inventory reporting party) to provide information on inventory levels and inventory changes to another party (the inventory report to party).	
Association		LogisticsInventoryReportInventoryLocation	1..*	Contains the inventory information per inventory location.	

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
Association	reportingPeriod	DateTimeRange	1..1	The time period for which the inventory report provides information.	
Association	inventoryReportToParty	TransactionalParty	1..1	The identification of the party to which the inventory is being reported.	
Association	inventoryReportingParty	TransactionalParty	1..1	The identification of the party reporting about the inventory.	
Association	logisticsInventoryReport Request	DocumentReference	0..1	Reference to the logistics inventory report request, if applicable.	
Generalization		Document		Basic information about the content of the message including version number, creation date and time.	
Association	logisticsInventoryReportIdentification	EntityIdentification	1..1	Unique identification of the inventory report, assigned by the inventory reporting party.	
Attribute	structureTypeCode	StructureTypeCode	1..1	Contains the type of sequencing of the inventory report.	

4.3. Logistics Inventory Report Inventory Location

Class Diagram



GDD Report

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
LogisticsInventoryReportInventoryLocation				Contains the inventory information for an inventory location.	

Content	Attribute / Role	Datatype /Secondary class	Multipl city	Definition	Requirements
Association		ReturnablePackagingInventoryStatus	0..*	Information specifying the inventory status of a set of returnable packaging items (of the same type) at a specific sub-location at a specific point in time.	[brad-wim:eCom-1]
Association		LogisticUnitInventoryEvent	0..*	Information specifying an inventory activity of a specific logistic unit at a specific sub-location at a specific point in time.	
Association		TransportEquipmentInventoryEvent	0..*	Information specifying an inventory activity of one or more pieces of transport equipment (of the same type) at a specific sub-location at a specific point in time.	[brad-wim:eCom-1]
Association		ReturnablePackagingInventoryEvent	0..*	Information specifying an inventory activity of one or more returnable packaging items (of the same type) at a specific sub-location at a specific point in time.	[brad-wim:eCom-1]
Association		TradeItemInventoryEvent	0..*	Information specifying an inventory activity of one or more trade items (of the same type) at a specific sub-location at a specific point in time.	[brad-wim:IR-301,302,3003,304]
Association		TransportEquipmentInventoryStatus	0..*	Information specifying the inventory status of a set of pieces of transport equipment (of the same type) at a specific sub-location at a specific point in time.	[brad-wim:eCom-1]
Association		LogisticUnitInventoryStatus	0..*	Information specifying the inventory status of a logistic unit at a specific sub-location at a specific point in time.	
Association		TradeItemInventoryStatus	0..*	Information specifying the inventory status of a set of trade items (of the same type) at a specific sub-location at a specific point in time.	[brad-wim:IR-100,200]
Association	inventoryLocation	TransactionalParty	1..1	Identification of the site where the items are located.	

4.4. Enumerations (message specific)

4.4.1. Logistics Inventory Report Type Enumeration

Code Value	Code Definition
FULL_REPORT	Report containing activity and status information on multiple trade items and non-trade items.
FULL_STATUS_REPORT	Report containing status information on multiple trade items and non-trade items.
TRADE_ITEM_REPORT	Report containing activity and status information on one or more trade items.
TRADE_ITEM_STATUS_REPORT	Report containing status information on one or more trade items.
NON_TRADE_ITEM_REPORT	Report containing containing activity and status information on multiple non-trade items.
NON_TRADE_ITEM_STATUS_REPORT	Report containing containing status information on multiple non-trade items.

4.5. External Code Lists

Codelist	Referenced in

5. Business Message Examples

5.1. Inventory Report – Periodical Status

Element	Value
LogisticsInventoryReport	creationDateTime: 2012-07-11T00:00:00 documentStatusCode: ORIGINAL documentActionCode: ADD structureTypeCode: LOCATION_BY_ITEM
EntityIdentification (+logisticsInventoryReportIdentification)	entityIdentification: INVRPT-0123
DateTimeRange (+reportingPeriod)	beginDate: 2012-07-11 beginTime: 00:00:00
TransactionalParty (+inventoryReportingParty)	gln: 3333333000001
TransactionalParty (+inventoryReportToParty)	gln: 2222222000004
LogisticsInventoryReportInventoryLocation	
TransactionalParty (+inventoryLocation)	gln: 3333333000018
TradeItemInventoryStatus	gtin: 01111111001110 tradeItemQuantity 400 inventoryDispositionCode: sellable_accessible
InventorySubLocation (+)	glnExtension: AB-1
TransactionalItemData (+)	tradeItemQuantity 200 batchNumber bno120032
TransactionalItemData (+)	tradeItemQuantity 200 batchNumber bno120033
TradeItemInventoryStatus	gtin: 01111111001110 tradeItemQuantity 400 inventoryDispositionCode: non-sellable_quarantined
InventorySubLocation (+)	glnExtension: AB-2
TransactionalItemData (+)	tradeItemQuantity 200 batchNumber bno120034
TransactionalItemData (+)	tradeItemQuantity 200 batchNumber bno120035

Including Cycle Count Data:

Element	Value
TradeItemInventoryEvent	gtin: 01111111001110 tradeItemQuantity: 400

Element	Value
	eventDateTime: 2012-07-11T12:20:00 inventoryBusinessStepCode: counting inventoryDispositionCode: sellable_accessible
- InventorySubLocation (+)	glnExtension: AB-1
TradeItemInventoryEvent	gtin: 01111111001110 tradeItemQuantity: 399 eventDateTime: 2012-07-11T12:20:00 inventoryBusinessStepCode: counting inventoryDispositionCode: sellable_accessible
- InventorySubLocation (+)	glnExtension: AB-2
TradeItemInventoryEvent	gtin: 01111111001110 tradeItemQuantity: 1 eventDateTime: 2012-07-11T12:20:00 inventoryBusinessStepCode: counting inventoryDispositionCode: non-sellable_damaged
- InventorySubLocation (+)	glnExtension: AB-2

5.2. Inventory Report Request – Adhoc Query

Element	Value
LogisticsInventoryReportRequest	2012-07-11T00:00:00 documentStatusCode: ORIGINAL documentActionCode: ADD logisticsInventoryReportTypeCode: TRADE_ITEM_REPORT
EntityIdentification (+logisticsInventoryReportRequestIdentification)	entityIdentification: INVRPRQ-21
TransactionalParty (+inventoryReportingParty)	gln: 3333333000001
TransactionalParty (+inventoryReportToParty)	gln: 2222222000004
TransactionalTradeItem (+)	gtin: 01111111001110
DateTimeRange (+reportingPeriod)	beginDate: 2012-07-01 beginTime: 00:00:00 endDate: 2012-08-01 endTime: 00:00:00
LogisticsInventoryRequestLocation	
TransactionalParty (+inventoryLocation)	gln: 3333333000018
InventorySubLocation (+)	glnExtension: AB-1

Response to the request:

Element	Value
LogisticsInventoryReport	creationDateTime: 2012-07-11T00:00:00 documentStatusCode: ORIGINAL documentActionCode: ADD structureTypeCode: LOCATION_BY_ITEM
EntityIdentification (+logisticsInventoryReportIdentification)	entityIdentification: INVRPT-01256
TransactionalParty (+inventoryReportingParty)	gln: 3333333000001
TransactionalParty (+inventoryReportToParty)	gln: 2222222000004
DateTimeRange (+reportingPeriod)	beginDate: 2012-07-01 beginTime: 00:00:00 endDate: 2012-08-01 endTime: 00:00:00
DocumentReference (+logisticsInventoryReportRequest_	entityIdentification: INVRPRQ-21
LogisticsInventoryReportInventoryLocation	
TransactionalParty (+inventoryLocation)	gln: 3333333000018
TradeItemInventoryStatus	gtin: 01111111001110 tradeItemQuantity 300 inventoryDispositionCode: sellable_accessible inventoryDateTime: 2012-08-01T00:00:00
InventorySubLocation (+)	glnExtension: AB-1
TransactionItemData (+)	tradeItemQuantity 200 batchNumber bno120032
TransactionItemData (+)	tradeItemQuantity 200 batchNumber bno120033
- InventoryDutyFeeTaxStatus (+)	dutyFeeTaxTypeCode = IMP customsWarehouseStatusCode: FREE_CIRCULATION
TradeItemInventoryEvent	gtin: 01111111001110 tradeItemQuantity: 200 eventDateTime: 2012-07-11T12:15:00 inventoryBusinessStepCode: status_changing inventoryDispositionCode: sellable_accessible inventoryMovementTypeCode: DECREASE
- InventorySubLocation (+)	glnExtension: AB-1
- InventoryDutyFeeTaxStatus (+)	dutyFeeTaxTypeCode = IMP customsWarehouseStatusCode: BONDED
TradeItemInventoryEvent	gtin: 01111111001110 tradeItemQuantity: 200 eventDateTime: 2012-07-11T12:15:00 inventoryBusinessStepCode: status_changing

Element	Value
	inventoryDispositionCode: sellable_accessible inventoryMovementTypeCode: INCREASE
- InventorySubLocation (+)	glnExtension: AB-1
- InventoryDutyFeeTaxStatus (+)	dutyFeeTaxTypeCode = IMP customsWarehouseStatusCode: FREE_CIRCULATION
TradeItemInventoryEvent	gtin: 01111111001110 tradeItemQuantity: 100 eventDateTime: 2012-07-21T14:15:00 inventoryBusinessStepCode: transferring inventoryDispositionCode: sellable_accessible inventoryMovementTypeCode: INCREASE
- InventorySubLocation (+)	glnExtension: AB-1
- InventoryDutyFeeTaxStatus (+)	dutyFeeTaxTypeCode = IMP customsWarehouseStatusCode: FREE_CIRCULATION
TradeItemInventoryEvent	gtin: 01111111001110 tradeItemQuantity: 100 eventDateTime: 2012-07-21T13:15:00 inventoryBusinessStepCode: transferring inventoryDispositionCode: sellable_accessible inventoryMovementTypeCode: DECREASE
- InventorySubLocation (+)	glnExtension: AB-2
- InventoryDutyFeeTaxStatus (+)	dutyFeeTaxTypeCode = IMP customsWarehouseStatusCode: FREE_CIRCULATION

6. Implementation Considerations

Not applicable.

7. Appendices

Not applicable.

8. Summary of Changes

8.1. BMS Release 3.1

First release of this message standard.