



Business Message Standard (BMS) Warehousing Operations Instruction and Notification

BMS Release 3.1

1-May-2013, Issue 1



Document Summary

Document Item	Current Value
Document Title	Business Message Standard (BMS) - Warehousing Operations Instruction and Notification
BMS Release	3.1
Document Version	Issue 1, 1-May-2013
Working Group Name	MSWG eCom Logistics
BMS Template Version	2.3

Change Request Reference

Date of CR Submission to GSMP:	CR Submitter(s):	Refer to Change Request (CR) Number(s):

Business Requirements Document (BRAD) Reference

BRAD Title:	BRAD Date:	BRAD Version
Warehousing Inventory Management	September 2012	1.0

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.

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	4
1.1. Problem Statement / Business Need	4
1.2. Objective	4
1.3. Audience	4
1.4. References	4
1.5. Acknowledgements	4
1.5.1. Work Group	4
1.5.2. Development Team Members	5
2. Business Context	5
3. Business Transaction View	6
3.1. Business Transaction – Issue Operations Instruction	6
3.2. Business Transaction – Issue Operations Notification	7
4. Business Information View	9
4.1. Warehousing Operations Instruction	9
4.2. Warehousing Operations Notification	11
4.3. Warehousing Operations Common – Transaction	13
4.4. Enumerations (message specific)	15
4.5. External Code Lists	15
5. Business Message Examples	16
5.1. Warehousing Operations Instruction	16
5.2. Warehousing Operations Notification	17
6. Implementation Considerations	18
7. Appendices	18
8. Summary of Changes	18
8.1. BMS 3.1	18

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):

- Warehousing Operations Instruction – Message that supports the inventory management process, and enables a Logistic Services Client (LSC) to inform his Logistic Services Provider (LSP) that the inventory status of goods needs to be changed.
- Warehousing Operations Notification – Message that supports the inventory management process, and enables a Logistic Services Provider (LSP) to inform his Logistic Services Client (LSC) that the inventory status of goods has been changed.

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_WIO] 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
Co-Chair	Jaco Voorspuij	DHL
Co-Chair	Fred Kempkes	Unilever
Member	Andrew Jones	General Mills, Inc.
Member	Bonnie Ryan	GS1 Australia
Member	Kurt Herregodts	GS1 Belgium & Luxembourg

Function	Name	Company / organisation
Member	Roman Strand	GS1 Germany
Member	Mia Lenman	GS1 Sweden
Member	Shan Welch	GS1 UK
Member	Geert Simmer	GSPRO
Member	Dr. Karlheinz Mevissen	HAVI Logistics
Member	Robin Kidd	Nestle
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

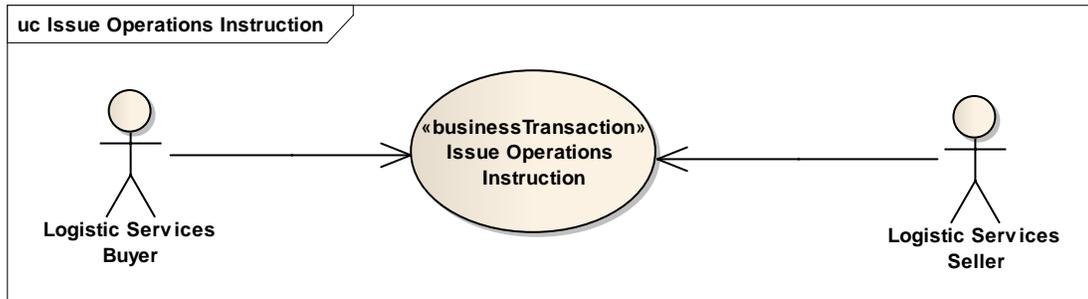
2. Business Context

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

3. Business Transaction View

3.1. Business Transaction – Issue Operations Instruction

Use case diagram



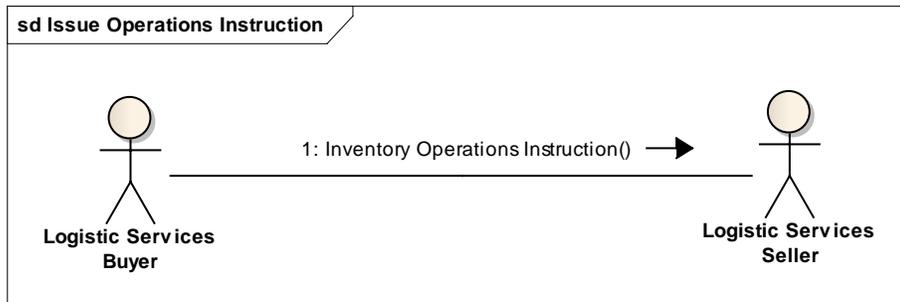
Use case description

Use Case Name	Issue Warehousing Operations Instruction
Use Case Description	The Logistic Services Buyer (LSB) informs the Logistic Services Seller (LSS) that inventory management operations need to be carried out.
Actors (Goal)	Logistic Services Buyer (LSB) Logistic Services Seller (LSS)
Performance Goals	Not applicable
Preconditions	Item master data of the goods been communicated to the Logistic Services Seller.
Post conditions	The Logistic Services Seller has been informed on the operations to be performed.
Main Scenario	<ul style="list-style-type: none"> ■ LSB generates the Warehousing Operations Instruction from his (enterprise resource planning) system. ■ LSB sends the Warehousing Operations Instruction to the LSS. ■ LSS receives the Warehousing Operations Instruction. ■ LSS processes the Warehousing Operations Instruction in his (warehouse management) system.
Alternative Scenario(s)	<u><<scenario name>></u> steps

Activity diagram

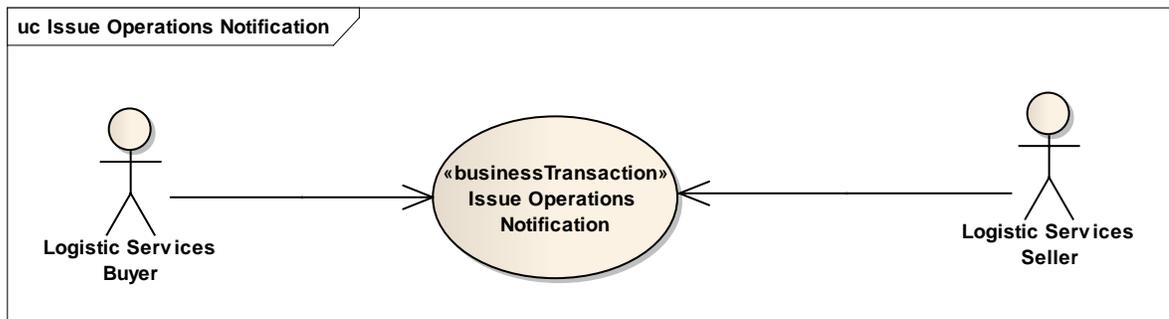
Not applicable

Communication diagram



3.2. Business Transaction – Issue Operations Notification

Use case diagram



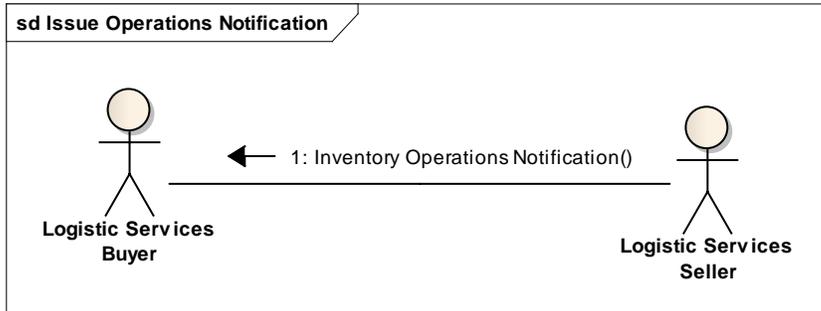
Use case description

Use Case Name	Issue Warehousing Operations Notification
Use Case Description	The Logistic Services Seller (LSS) informs the Logistic Services Buyer (LSB) on the status of inventory management operations that have been carried out.
Actors (Goal)	Logistic Services Buyer (LSB) Logistic Services Seller (LSS)
Performance Goals	Not applicable
Preconditions	<ul style="list-style-type: none"> ■ The Logistic Services Seller has been informed on the goods to be shipped.
Post conditions	The Logistic Services Buyer has been informed on the status of the Operations shipment.
Main Scenario	<ul style="list-style-type: none"> ■ LSS generates the Warehousing Operations Notification from his (warehouse management) system. ■ LSS sends the Warehousing Operations Notification to the LSB. ■ LSB receives the Warehousing Operations Notification. ■ LSB processes the Warehousing Operations Notification in his (enterprise resource planning) system.
Alternative Scenario(s)	Not applicable

Activity diagram

Not applicable

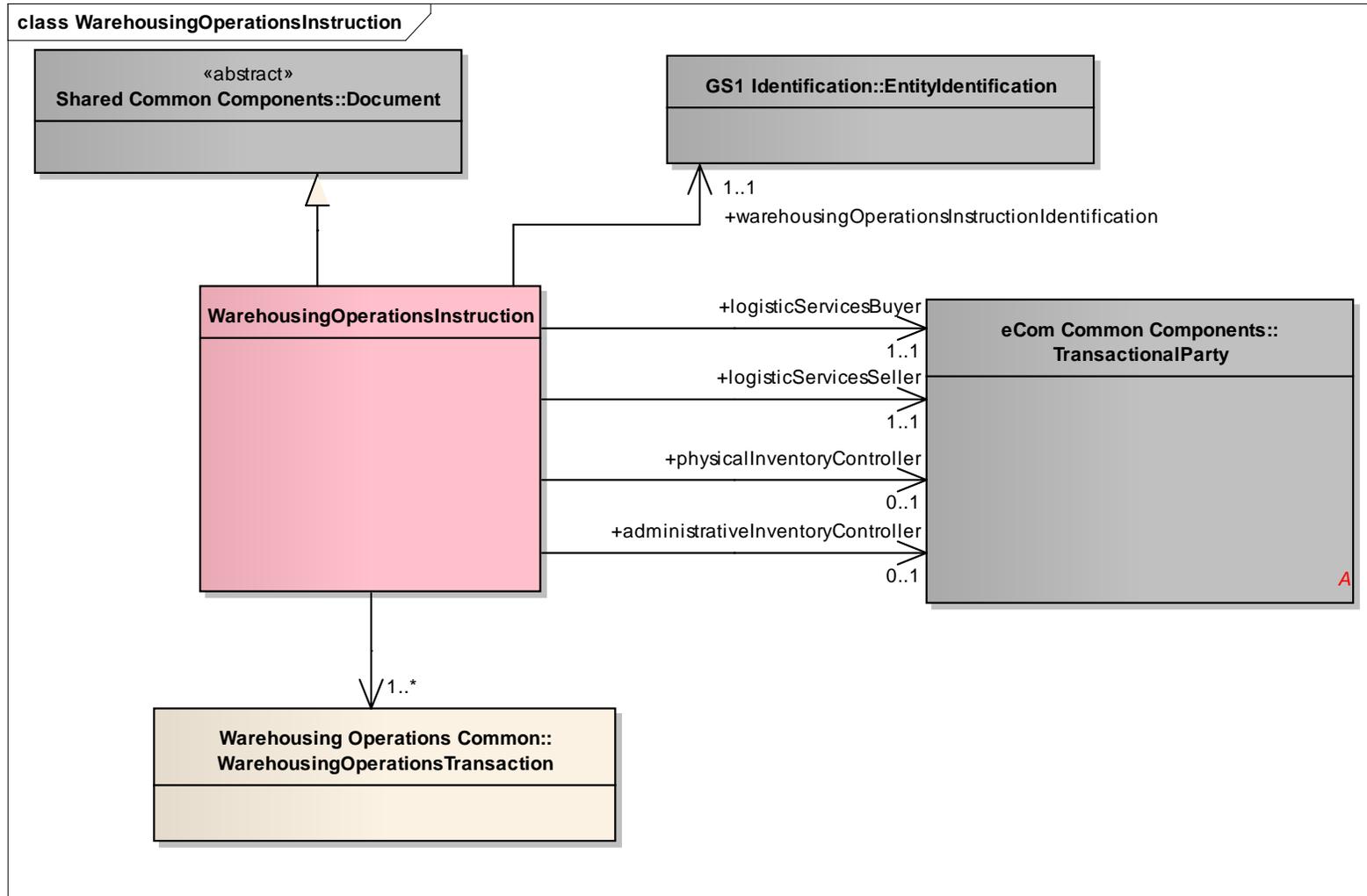
Communication diagram



4. Business Information View

4.1. Warehousing Operations Instruction

Class Diagram

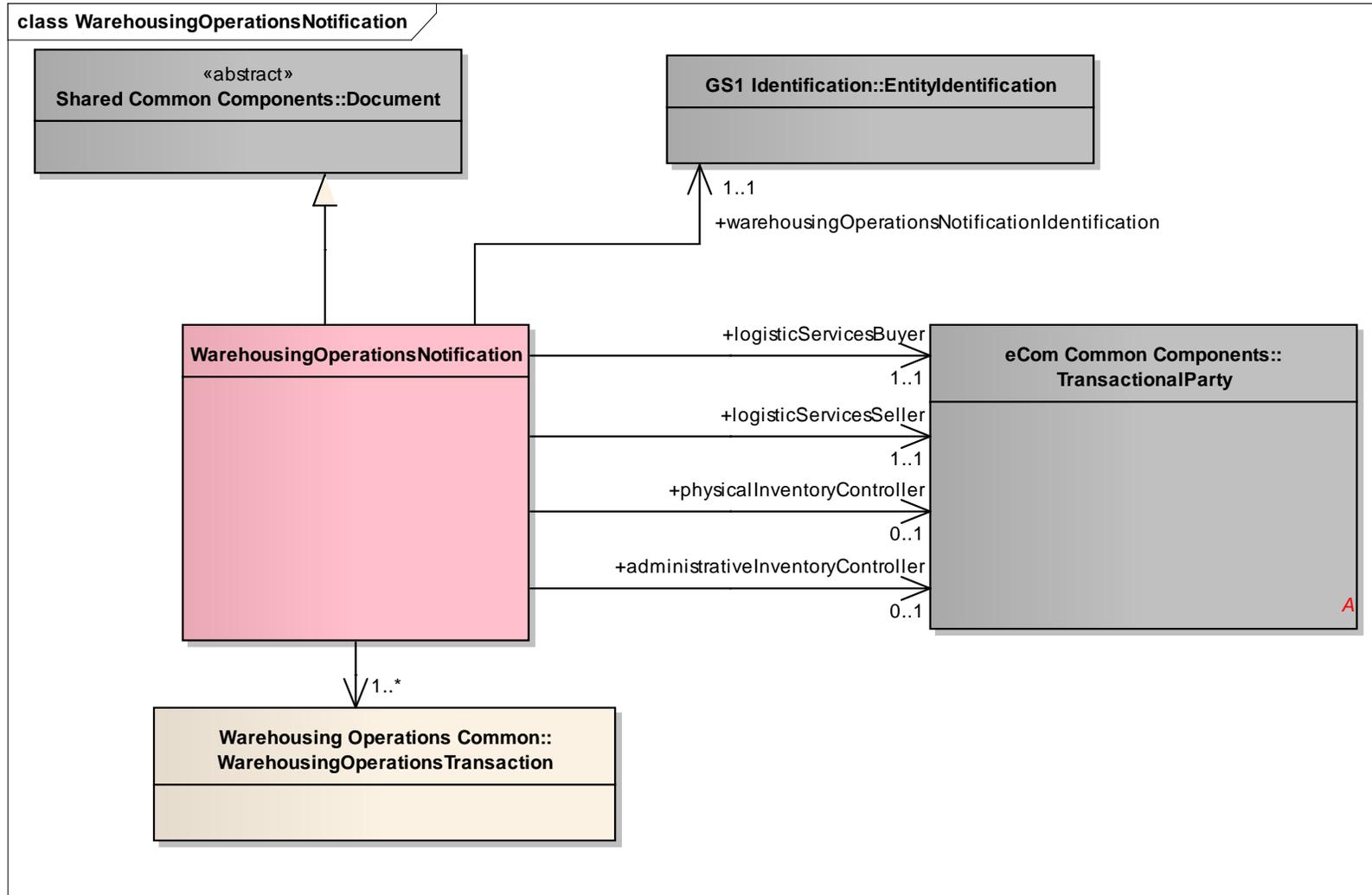


GDD Report

Content	Attribute / Role	Datatype /Secondary class	Multipl icity	Definition	Requirements
WarehousingOperationsIn struction				Message that supports the inventory management process, and enables a Logistic Services Client (LSC) to inform his Logistic Services Provider (LSP) that the inventory status of goods needs to be changed.	
Association		WarehousingOperati onsTransaction	1..*	Transactions specifying the required changes to the inventory status.	
Association	logisticServicesSeller	TransactionalParty	1..1	A party that provides logistics services to another party.	[brad-wim:iopins-3]
Generalization		Document		Used to specify basic information about the content of the message including version number, creation date and time.	[brad-wim:iopins-1]
Association	warehousingOperatio nsInstructionIdentifica tion	EntityIdentification	1..1	The identification of the warehousing operations instruction document.	[brad-wim:iopins-1]
Association	administrativeInvento ryController	TransactionalParty	0..1	A party responsible for the control, accounting and reporting of inventory.	[brad-wim:iopins-5]
Association	physicalInventoryCon troller	TransactionalParty	0..1	A party responsible for storing of goods and related (physical) inventory operations.	[brad-wim:iopins-4]
Association	logisticServicesBuyer	TransactionalParty	1..1	A party that purchases logistics services from another party.	[brad-wim:iopins-2]

4.2. Warehousing Operations Notification

Class Diagram

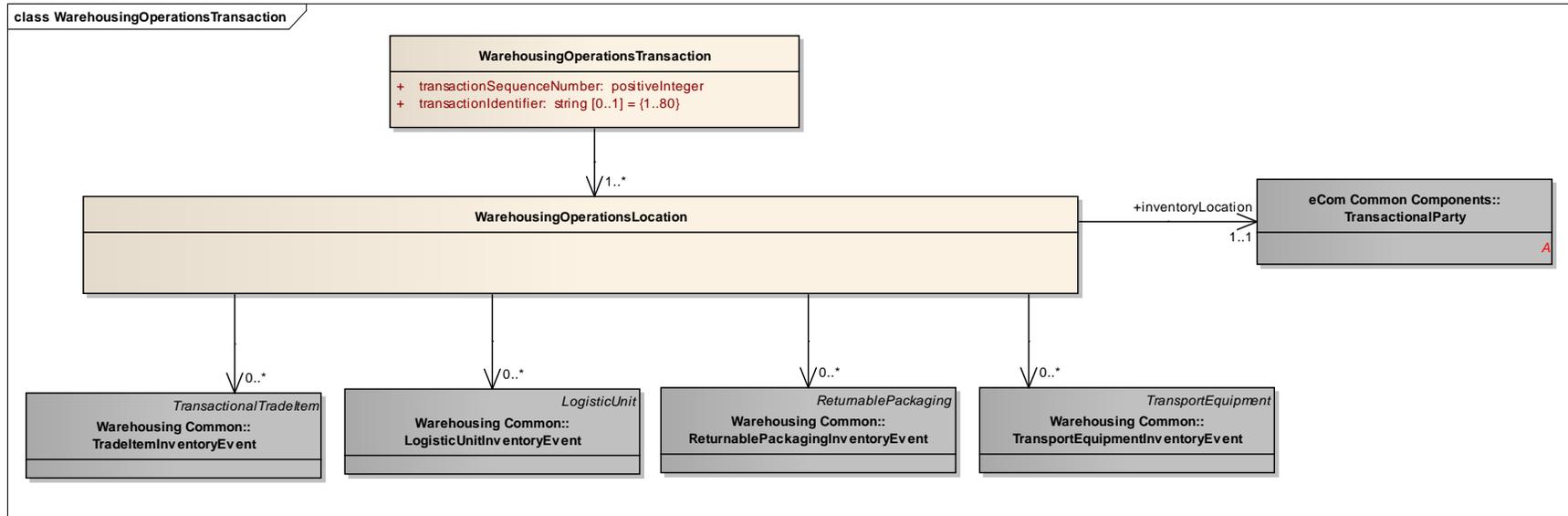


GDD Report

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
WarehousingOperationsNotification				Message that supports the inventory management process, and enables a Logistic Services Provider (LSP) to inform his Logistic Services Client (LSC) that the inventory status of goods has been changed.	
Association	administrativeInventoryController	TransactionalParty	0..1	A party responsible for the control, accounting and reporting of inventory.	[brad-wim:iopins-5]
Association	physicalInventoryController	TransactionalParty	0..1	A party responsible for storing of goods and related (physical) inventory operations.	[brad-wim:iopins-4]
Association	logisticServicesSeller	TransactionalParty	1..1	A party that provides logistics services to another party.	[brad-wim:iopins-3]
Association	logisticServicesBuyer	TransactionalParty	1..1	A party that purchases logistics services from another party.	[brad-wim:iopins-2]
Association		WarehousingOperationsTransaction	1..*	Transactions specifying the changes to the inventory status.	
Generalization		Document		Used to specify basic information about the content of the message including version number, creation date and time.	[brad-wim:iopinn-1]
Association	warehousingOperationsNotificationIdentification	EntityIdentification	1..1	The identification of the warehousing operations notification document.	[brad-wim:iopinn-1]

4.3. Warehousing Operations Common – Transaction

Class Diagram



GDD Report

Content	Attribute / Role	Datatype /Secondary class	Multiplcity	Definition	Requirements
WarehousingOperationsTransaction				A set of inventory updates that need to be carried out together for the transaction to complete successfully.	[brad-wim:iopins-6]
Association		WarehousingOperationsLocation	1..*	Details on the inventory events for this transaction, organized by inventory location.	
Attribute	transactionSequenceNumber	positiveInteger	1..1	Number that prescribes the sequence in which the transactions included in the message need to be processed.	[brad-wim:iopins-6.2]
Attribute	transactionIdentifier	string	0..1	Identifier of the transaction to be used for reference purposes.	[brad-wim:iopins-6.1]
WarehousingOperationsLocation				Details on the inventory events for this transaction, organized by inventory location.	
Association		TradeltemInventoryEvent	0..*	Information specifying an inventory activity	[brad-

Content	Attribute / Role	Datatype /Secondary class	Multiplcity	Definition	Requirements
				of one or more trade items (of the same type) at a specific sub-location at a specific point in time.	wim:iopins-6.3.2, 6.3.3, 6.3.6, 6.3.8, 6.3.9, 6.3.10, 6.3.11]]
Association	inventoryLocation	TransactionalParty	1..1	The inventory location related to the included inventory events.	[brad-wim:iopins-6.3.4]
Association		LogisticUnitInventoryEvent	0..*	Information specifying an inventory activity of a specific logistic unit at a specific sub-location at a specific point in time.	[brad-wim:iopins-6.3.7]
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.	
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.	

4.4. Enumerations (message specific)

Not applicable

4.5. External Code Lists

Not applicable

5. Business Message Examples

5.1. Warehousing Operations Instruction

Instruction by the administrative inventory controller to change the customs status of item 01111111001110, location AB-1, from BONDED to FREE_CIRCULATION.

Element	Value
WarehousingOperationsInstruction	creationDateTime: 2012-07-11T12:15:00 documentStatusCode: ORIGINAL documentActionCode: ADD
EntityIdentification (+warehousingOperationsInstructionIdentification)	Document ID: INOPI00123
TransactionalParty (+logisticServicesBuyer)	gln: 2222222000004
TransactionalParty (+logisticServicesSeller)	gln: 3333333000001
TransactionalParty (+administrativeInventoryController)	gln: 2222222000004
TransactionalParty (+physicalInventoryController)	gln: 3333333000001
WarehousingOperationsTransaction	transactionSequenceNumber 1 transactionIdentifier INOPI00123-1
WarehousingOperationsLocation	
- TransactionalParty (+inventoryLocation)	gln: 3333333000018
TradeItemInventoryEvent	gtin 01111111001110 tradeItemQuantity 200 eventIdentifier: 1 inventoryBusinessStepCode: status_changing inventoryDispositionCode: sellable_accessible inventoryMovementTypeCode: DECREASE
- InventorySubLocation (+)	glnExtension: AB-1
- AdministrativeUnit (+)	administrativeUnitTypeCode: OPERATING_UNIT internalAdministrativeUnitIdentification: 123-E
- InventoryDutyFeeTaxStatus (+)	dutyFeeTaxTypeCode = IMP customsWarehouseStatusCode: BONDED
TradeItemInventoryEvent	gtin 01111111001110 tradeItemQuantity 200 eventIdentifier: 2 inventoryBusinessStepCode: status_changing inventoryDispositionCode: sellable_accessible inventoryMovementTypeCode: INCREASE
- InventorySubLocation (+)	glnExtension: AB-1

Element	Value
- AdministrativeUnit (+)	administrativeUnitTypeCode: OPERATING_UNIT internalAdministrativeUnitIdentification: 123-NE
- InventoryDutyFeeTaxStatus (+)	dutyFeeTaxTypeCode = IMP customsWarehouseStatusCode: FREE_CIRCULATION

5.2. Warehousing Operations Notification

Notification by the physical inventory controller on the damaging of 1 unit of item 01111111001110, location AB-1, customs status BONDED.

Element	Value
WarehousingOperationsNotification	creationDateTime: 2012-07-11T12:15:00 documentStatusCode: ORIGINAL documentActionCode: ADD
EntityIdentification (+warehousingOperationsNotificationIdentification)	Document ID: INOPN54031
TransactionalParty (+administrativeInventoryController)	gln: 2222222000004
TransactionalParty (+physicalInventoryController)	gln: 3333333000001
TransactionalParty (+logisticServicesSeller)	gln: 2222222000004
TransactionalParty (+logisticServicesBuyer)	gln: 3333333000001
WarehousingOperationsTransaction	transactionSequenceNumber 1 transactionIdentifier INOPN54031-1
WarehousingOperationsLocation	
- TransactionalParty (+inventoryLocation)	gln: 3333333000018
TradeItemInventoryEvent	gtin: 01111111001110 tradeItemQuantity: 1 eventIdentifier: 2 inventoryBusinessStepCode: status_changing inventoryDispositionCode: sellable_accessible inventoryMovementTypeCode: DECREASE
- InventorySubLocation (+)	glnExtension: AB-1
- AdministrativeUnit (+)	administrativeUnitTypeCode: OPERATING_UNIT internalAdministrativeUnitIdentification: 123-E
- InventoryDutyFeeTaxStatus (+)	dutyFeeTaxTypeCode = IMP customsWarehouseStatusCode: BONDED
TradeItemInventoryEvent	gtin: 01111111001110

Element	Value
	tradeItemQuantity: 1 eventIdentifier: 2 inventoryBusinessStepCode: status_changing inventoryDispositionCode: non_sellable_damaged inventoryMovementTypeCode: INCREASE
- InventorySubLocation (+)	glnExtension: AB-1
- AdministrativeUnit (+)	administrativeUnitTypeCode: OPERATING_UNIT internalAdministrativeUnitIdentification: 123-E
- InventoryDutyFeeTaxStatus (+)	dutyFeeTaxTypeCode = IMP customsWarehouseStatusCode: BONDED

6. Implementation Considerations

(Insert Content Here)

7. Appendices

(Insert Content Here)

8. Summary of Changes

8.1. BMS 3.1

First publication