

Business Message Standard (BMS)

for

Inventory Activity Or Inventory Status

**BRG: Deliver
IRT: Upstream Standards**

BMS Release: 2.1

Document Version: 1.2.5

Date: 31.08.2005



Business Message Standard

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Change Request Reference

Refer to Change Request (CR) Number(s):	CR04-000211
CR Submitter(s):	Regenald Kramer
Date of CR Submission to GSMP:	05.11.2004

Business Requirements Document (BRAD) Reference

BRAD Title:	BRAD Upstream Standards - Demand & Supply Signals
BRAD Date:	01.11.2004
BRAD Version:	0.1.0

BRAD Title:	BRD for Inventory Activity or Inventory Status
BRAD Date:	19.11.2004
BRAD Version:	0.6.2

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Document Summary

Document Number:	1.2.5
Document Title:	Inventory Activity or Inventory Status
Owner:	BRG: Deliver Chairperson:
Status:	(check one box) <input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> Approved
BMS Template Version:	1.2
Targeted BMS Publication Version	2.1

Document Change History

Note: During development include revisions in history. Upon Approval, eliminate revisions and include only delta from previous version.

Date of Change	Version	Changed By	Reason for Change	Summary of Change	Model Build #
31.12.2004	1.0.0		Initial Version in BMS/BSD template	Migration of BRD to standard BMS/BSD format	
24.01.2005	1.1.0	Coen Janssen	UIM project	Draft version	
27.01.2005	1.1.1	Coen Janssen	Review	Changes to chapters 6, 7 and 8	
03.03.2005	1.1.2	Coen Janssen	XML development	Chapter 7: Moved InventoryStatusLineItem, InventoryStatusQuantitySpecification, InventoryStatusList and StructureTypeList to the Common Library.	
02.05.2005	1.2.0	Coen Janssen	Public Review Comments	Functional changes, see details in chapter 12.	
30.05.2005	1.2.1	Coen Janssen	Peer review comments	Changed footer text. Corrected code list name. Corrected GDD report. Corrected class diagram. Corrected use case descriptions	
09.06.2005	1.2.2	Coen Janssen	Updated GDD official names.		
21.07.2005	1.2.3	Coen Janssen	Technical Design Public Review	Several cosmetic changes. Fixed requirements references in paragraph 1.5.1.	
31.08.2005	1.2.4	Coen Janssen	Technical Design Public Review	Functional changes, see details in paragraph 1.10. Adjusted the examples in paragraph 1.6.	
24.04.2007	1.2.5	Giovanni Biffi	Editorial Changes	Minor Editorial Changes to the Document	N/A

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1 Business Solution

1.1 Business Domain View

1.1.1 Problem Statement / Business Need

(States the business need, establishing the context for the business transactions and information requirements.)

The current inventory status advice standards allow for communication from the place where items is stored to the owner of Items. There is a need for the messages to be exchanged between both parties, and to add additional trading partners involved in maintaining inventory levels such as the distributor, manufacturer, material supplier, retailer, warehouse, and wholesaler.

There is a need for additional functionality for the item, and additional values need to be incorporated into code lists. The Inventory Activity or Inventory Status includes all the activities and techniques of maintaining the stocks of items.

1.1.2 Objective

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

(Above is standards text for the objective.)

1.1.3 Audience

The audience for this document is the global business community being any business that stores or owns goods at one or more points in the supply chain.

1.1.4 Artefacts

(List of the artefacts that are used as either an input to the process or an output from the process, also indicating the different states that the artefact takes during the process.)

Artefact name	State	Artefact / State description

1.1.5 References

Ref#	Reference Name	Description
Ref1	BMS Common Library	The documented design of components that are used in multiple messages.
Ref2	BRAD Upstream Standards - Demand & Supply Signals 0.1.0	
Ref3	BRD Inventory Activity or Inventory Status 0.6.2	

1.1.6 Acknowledgements

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(List of the individuals—and their companies—who participated in the creation, review and approval of this BMS.)

1.1.6.1 IRT Members

Function	Name	Company / organisation
IRT Chair	Fred Kempkes	Unilever
IRT Participant	Kevin Zeng	Procter & Gamble
IRT Participant	Stephen Bell	CPG Market
IRT Participant	Roland Dachs, Olivier Grienenberger, Don Reed	Crown Cork
IRT Participant	Arthur Doldersum	SCA
IRT Participant	James Kimber	General Mills, Inc.
IRT Participant	Kristen Halwachs	UCCnet
IRT Participant	Nicola Comiotto, Menno Smit	Nestlé
IRT Participant	Pawel Solowinski	Kappa Packaging
IRT Participant	Peter Broend, Johannes Lundgren	Novozymes
IRT Participant	Paul Moodey	Johnson & Johnson
IRT Participant	Wouter Crul	Nspyre
IRT Participant	Thierry Baillif, Gabriel Galeazzi	Firmenich
IRT Participant	Jan Peter Klijn	Royal Sens
IRT Participant	Yasushi Kiyama	Ajinomoto Co.
IRT Participant	Georges Socquet	Givaudan

1.1.6.2 BRG Members

Function	Name	Company / organisation
Deliver BRG Co-Chair	Sue Donarski	Schneider Logistics
Deliver BRG Co-Chair	Debra Noyes	Johnsonville Sausage
Deliver BRG Member	Paul Martin	Generals Mills
Deliver BRG Member	Mike Osiecki	Best Buy
Deliver BRG Member	Apo Xiradakis	Unilever
Deliver BRG Manager	Bruno Julien	EAN France
Deliver BRG Member	Victoria Kendzierski	Thomson Consumer Electronics

1.1.6.3 ITRG Members

Function	Name	Company / organisation
ITRG Chair		
ITRG Member		
ITRG Member		
ITRG Member		
...		

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1.1.6.4 Design Team Members

Function	Name	Organisation
Modeller	Coen Janssen	GS1 Netherlands
XML Technical Designer	Dipan Anarkat	GS1 Head Office
EANCOM Technical Designer	Marco Schuyt	GS1 Netherlands
Peer Reviewer	Eric Kauz	GS1 Head Office

1.2 Business Context

(Note: The context of the business)

Context Category	Value(s)
Industry	All, Consumer Packaged Goods All
Geopolitical	All, Global, Europe, Unites States, Japan, UK All
Product	All, Direct Materials, Food, Non-Food, Hard lines, Apparel All
Process	All, Order (Direct To Consumer), Order (Direct Store Delivery), Order, Pay (Self Billing), Deliver (Direct Store Delivery) Plan, Deliver
Official Constraints	None, Value Added Tax, Sales Tax None
Roles	Buyer, Seller, Ship From, Ship To, Payer Payee, Data Source, Data Recipient Inventory Reporting Party, Inventory Report To Party
System Capabilities	All, EANCOM, XML, AIDC, EPC-network EANCOM, XML

If no value use, the default of "All" except for Official Constraints where default is "None".

(Process, Geopolitical, Industry, User Role (Retailer, Supplier, etc.))

If context cannot be specified, select from the context classification code list in the GDD.

1.3 Additional Technical Requirements Analysis

1.3.1 Technical Requirements (optional)

(User Interface, Security, Performance, Quality, etc.)

Number	Statement	Rationale
1.		

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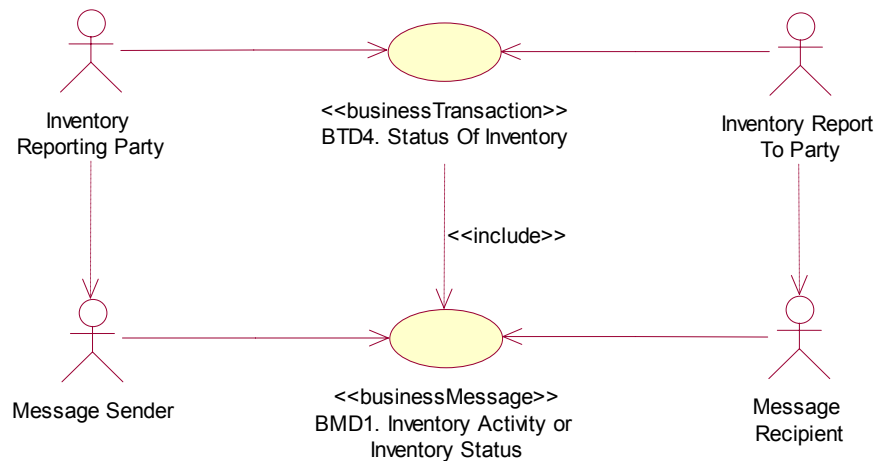
1.4 Business Transaction View

1.4.1 Business Transaction STATUS OF INVENTORY

1.4.2 Business Transaction Use Case Diagram

Detailed Use Case for generic use of the message. Focuses on commands associated with business solution.

Note: Each Use Case shall be given a consecutive paragraph number (e.g., 2.4.1) and heading.)



1.4.3 Use Case Description

Use Case ID	BTD4						
Use Case Name	Status of Inventory						
Use Case Description	This use case describes the exchange of the Inventory Status. The inventory status provides the inventory levels of an item where items are stored.						
Actors (Goal)	<p>Inventory Report To Party: The actor who receives the Inventory Status. This role can be played by various parties (Distributor, Manufacturer, Material Supplier, Owner of items, Place where items are stored, Retailer, Warehouse, and Wholesaler).</p> <p>Inventory Reporting Party: The actor who transmits the Inventory Status. This role can be played by various parties (Distributor, Manufacturer, Material Supplier, Owner of items, Place where items are stored, Retailer, Warehouse, and Wholesaler).</p>						
Preconditions	Both trading partners have agreed upon the reporting dates and times.						
Post conditions	<p>Success: The 'Inventory Report To Party' receives the Inventory Status message.</p> <p>Failure: The 'Inventory Report To Party' does not receive the Inventory Status message.</p>						
Scenario	<p>Begins when:</p> <p>The submitter of the inventory status prepares the inventory status message on the agreed upon date and time.</p> <p>Continues with:</p> <table border="1"> <thead> <tr> <th>Step #</th> <th>Actor</th> <th>Activity Step</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Inventory</td> <td>Sends the inventory status.</td> </tr> </tbody> </table>	Step #	Actor	Activity Step	1.	Inventory	Sends the inventory status.
Step #	Actor	Activity Step					
1.	Inventory	Sends the inventory status.					

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	Reporting Party
	Ends when: The 'Inventory Report To Party' receives the inventory status message.
Alternative Scenario	There are no alternative scenarios.
Business Transaction Rules	

1.4.4 Business Transaction Activity Diagram(s)

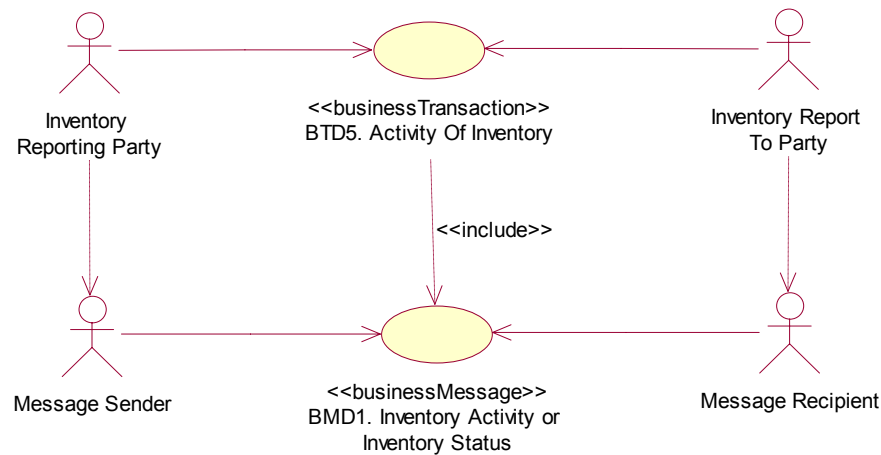
(Note: Activity diagrams are optional. The business process modeller shall determine the use and number of activity diagrams included in the BMS. Each activity diagram shall be given a consecutive paragraph number (e.g., 2.4.1) and heading.)

1.4.5 Business Transaction Sequence Diagram(s) (optional)

(Note: Sequence diagrams are optional. The business process modeller shall determine the use and number of sequence diagrams included. Each sequence diagram shall be given a consecutive paragraph number (e.g., 2.5.1) and heading.)

1.4.6 Business Transaction ACTIVITY OF INVENTORY

1.4.7 Business Transaction Use Case Diagram



1.4.8 Use Case Description

Use Case ID	BTD5
Use Case Name	Activity of Inventory
Use Case Description	This use case describes the exchange of the Inventory Activity. The inventory activity provides the activity of an item.
Actors (Goal)	Inventory Report To Party: The actor who receives the Inventory Activity. This role can be played by various parties (Distributor, Manufacturer, Material Supplier, Owner of items, Place where items are stored, Retailer, Warehouse, and Wholesaler).

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	Inventory Reporting Party: The actor who transmits the Inventory Activity. This role can be played by various parties (Distributor, Manufacturer, Material Supplier, Owner of items, Place where items are stored, Retailer, Warehouse, and Wholesaler).						
Preconditions	Both trading partners have agreed upon the reporting dates and times.						
Post conditions	Success: The 'Inventory Report To Party' receives the Inventory Activity message. Failure: The 'Inventory Report To Party' does not receive the Inventory Activity message.						
Scenario	<p>Begins when:</p> <p>The submitter of the inventory activity prepares the inventory activity message on the agreed upon date and time.</p> <p>Continues with:</p> <table border="1"> <thead> <tr> <th>Step #</th> <th>Actor</th> <th>Activity Step</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Inventory Reporting Party</td> <td>Sends the inventory activity.</td> </tr> </tbody> </table> <p>Ends when: The 'Inventory Report To Party' receives the inventory activity message.</p>	Step #	Actor	Activity Step	1.	Inventory Reporting Party	Sends the inventory activity.
Step #	Actor	Activity Step					
1.	Inventory Reporting Party	Sends the inventory activity.					
Alternative Scenario	There are no alternative scenarios.						
Business Transaction Rules							

1.4.9 Business Transaction Activity Diagram(s)

(Note: Activity diagrams are optional. The business process modeller shall determine the use and number of activity diagrams included in the BMS. Each activity diagram shall be given a consecutive paragraph number (e.g., 2.4.1) and heading.)

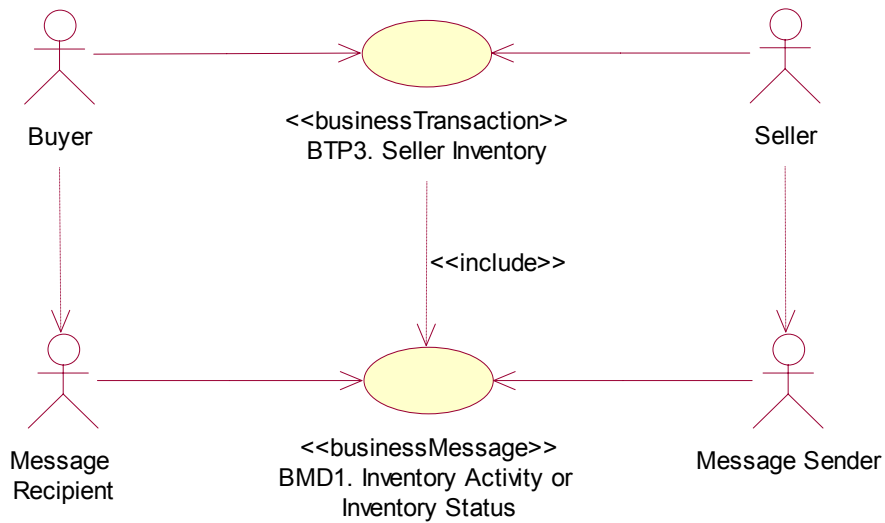
1.4.10 Business Transaction Sequence Diagram(s) (optional)

(Note: Sequence diagrams are optional. The business process modeller shall determine the use and number of sequence diagrams included. Each sequence diagram shall be given a consecutive paragraph number (e.g., 2.5.1) and heading.)

1.4.11 Business Transaction SELLER INVENTORY

1.4.12 Business Transaction Use Case Diagram

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1.4.13 Use Case Description

Use Case ID	BTP3									
Use Case Name	Seller Inventory									
Use Case Description	The Seller Inventory transaction communicates at prescribed intervals the inventory levels of trade items in a specific location (plant, warehouse) to enable material requirements planning.									
Actors (Goal)	Buyer: To receive the inventory level information of the Seller. Seller: To communicate his inventory level information.									
Preconditions	Inventory Status: CALCULATED									
Post conditions	Inventory Status: COMMUNICATED									
Scenario	<p>Begins when: The seller has calculated his inventory level.</p> <p>Continues with:</p> <table border="1"> <thead> <tr> <th>Step #</th> <th>Actor</th> <th>Activity Step</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Seller</td> <td>Sends the Inventory message to the buyer.</td> </tr> <tr> <td>2.</td> <td>Buyer</td> <td>Receives the Inventory message.</td> </tr> </tbody> </table> <p>Ends when: buyer receives the Inventory message.</p>	Step #	Actor	Activity Step	1.	Seller	Sends the Inventory message to the buyer.	2.	Buyer	Receives the Inventory message.
Step #	Actor	Activity Step								
1.	Seller	Sends the Inventory message to the buyer.								
2.	Buyer	Receives the Inventory message.								
Alternative Scenario	There are no alternative scenarios.									
Business Transaction Rules	In the Inventory message the Buyer is the Inventory Report to Party and the Seller is the Inventory Reporting Party.									

1.4.14 Business Transaction Activity Diagram(s)

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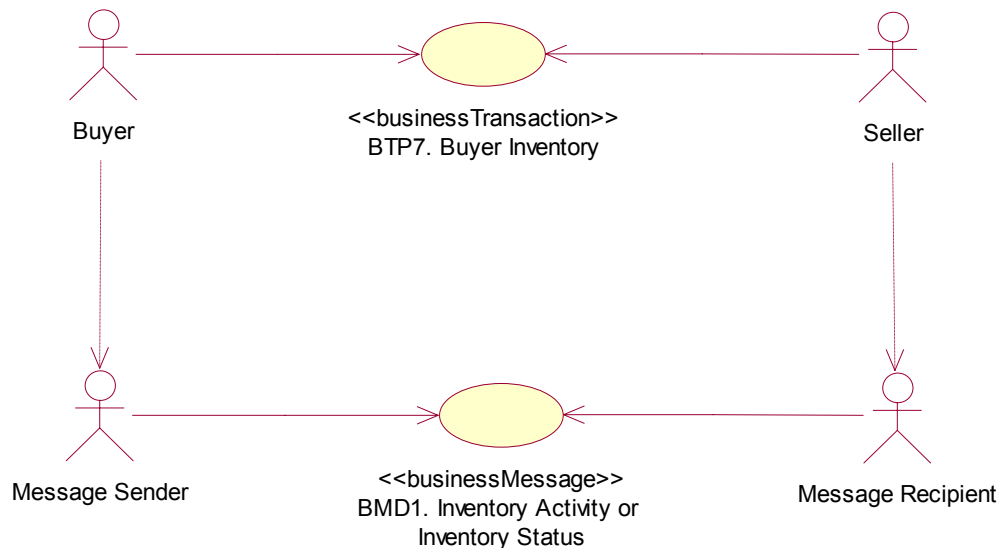
(Note: Activity diagrams are optional. The business process modeller shall determine the use and number of activity diagrams included in the BMS. Each activity diagram shall be given a consecutive paragraph number (e.g., 2.4.1) and heading.)

1.4.15 Business Transaction Sequence Diagram(s) (optional)

(Note: Sequence diagrams are optional. The business process modeller shall determine the use and number of sequence diagrams included. Each sequence diagram shall be given a consecutive paragraph number (e.g., 2.5.1) and heading.)

1.4.16 Business Transaction BUYER INVENTORY

1.4.17 Business Transaction Use Case Diagram



1.4.18 Use Case Description

Use Case ID	BTP7
Use Case Name	Buyer Inventory
Use Case Description	The Buyer Inventory transaction communicates at prescribed intervals the inventory levels of trade items in a specific location (plant, warehouse) to enable material requirements planning.
Actors (Goal)	Seller: To receive the inventory level information of the buyer. Buyer: To communicate his inventory level information.
Preconditions	Inventory Status: CALCULATED
Post conditions	Inventory Status: COMMUNICATED
Scenario	Begins when: The buyer has calculated his inventory level. Continues with:

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	Step #	Actor	Activity Step
	1.	Buyer	Sends the Inventory message to the seller.
	2.	Seller	Receives the Inventory message.
	Ends when: seller receives the Inventory message.		
Alternative Scenario	There are no alternative scenarios.		
Business Transaction Rules	In the Inventory message the Seller is the Inventory Report to Party and the Buyer is the Inventory Reporting Party.		

1.4.19 Business Transaction Activity Diagram(s)

(Note: Activity diagrams are optional. The business process modeller shall determine the use and number of activity diagrams included in the BMS. Each activity diagram shall be given a consecutive paragraph number (e.g., 2.4.1) and heading.)

1.4.20 Business Transaction Sequence Diagram(s) (optional)

(Note: Sequence diagrams are optional. The business process modeller shall determine the use and number of sequence diagrams included. Each sequence diagram shall be given a consecutive paragraph number (e.g., 2.5.1) and heading.)

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1.5 Information Model (including GDD Report)

1.5.1 Data Description

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirement
InventoryActivityOrInventoryStatus				
	beginDateTime			[ref3] {2.1.1-5}
	inventoryDocumentType			[ref3] {2.1.1-3}
	structureType			[ref3] {2.1.1-3}
	endDateTime			[ref3] {2.1.1-5}
		<<is a>>	Document	[ref2] {7.1.1- 2+3}
		inventoryActivityOrInventoryStatusIdentification	EntityIdentification	[ref3] {2.1.1-4} [ref2] {7.1.1-1}
		inventoryReportingParty	PartyIdentification	[ref3] {2.1.1-2} [ref2] {7.1.1-4}
		inventoryReportToParty	PartyIdentification	[ref2] {7.1.1-5}
			InventoryItemLocationInformation	
InventoryItemLocationInformation				[ref2] {7.1.1-18 <i>partially covered</i> }
		inventoryLocation	PartyIdentification	[ref3] {2.1.1-2} [ref2] {7.1.1-6}
			TradeItemIdentification	[ref3] {2.1.1-7} [ref2] {7.1.1-10}
		<<choice>>	InventoryStatusLineItem	[ref2] {7.1.1-7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18}
		<<choice>>	InventoryActivityLineItem	
InventoryActivityLineItem				
	inventoryBeginDateTime			
	inventoryEndDateTime			
		<<is a>>	LineItem	
			InventoryActivityQuantitySpecification	
		inventorySublocation	PartyIdentification	
			LogisticUnitIdentification	
InventoryActivityQuantitySpecification				[ref3] {2.1.1-8}

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Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirement
	inventoryActivityType			
	quantityOfUnits			
	inventoryMovementIndicator			
			DeliverReference	
			TransactionalItemData	[ref3] {2.1.1-9}

1.5.2 GDD Report

(Output from GDD should be pasted in this section.)

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity
InventoryActivityOrInventoryStatus				Inventory Activity Or Inventory Status. Details	Provides the Inventory Activity or Inventory Status information.	
	begin-DateTime			Inventory Activity Or Inventory Status. Begin Date Time. Date Time	Represents the begin date time of the inventory activity or inventory status.	1..1
	inventory-Document-Type			Inventory Activity Or Inventory Status. Inventory Document Type. Inventory Document Type List Code	Inventory Document type identifies the process as an inventory status or an inventory activity.	1..1
	structure-Type			Inventory Activity Or Inventory Status. Structure Type. Structure Type List Code	The structure format of the inventory activity or Inventory Status message.	1..1
	end-DateTime			Inventory Activity Or Inventory Status. End Date Time. Date Time	Represents the end date time of the inventory activity or inventory status.	0..1
		<<is a>>	Document	Inventory Activity Or Inventory Status. Generalization. Document		
		inventoryActivityOrInventoryStatusIdentification	EntityIdentification	Inventory Activity Or Inventory Status. Inventory Activity Or Inventory Status Identification. Entity Identification	Uniquely identifies the Inventory Activity or Inventory Status message.	1..1
		inventoryReportingParty	PartyIdentification	Inventory Activity Or Inventory Status. Inventory Reporting Party. Party Identification	The identification of the party reporting about the inventory.	1..1

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Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity
		inventoryReportToParty	PartyIdentification	Inventory Activity Or Inventory Status. Inventory Report To Party. Party Identification	The identification of the party to which the inventory is being reported.	1..1
			InventoryItemLocationInformation	Inventory Activity Or Inventory Status. Association. Inventory Item Location	Location where the items are stored.	1..*
InventoryItemLocationInformation				Inventory Item Location Information. Details		
		inventoryLocation	PartyIdentification	Inventory Item Location Information. Inventory Location. Party Identification	The party identification for the place where items are stored.	1..1
			TradeItemIdentification	Inventory Item Location Information. Association. Trade Item Identification	Identification of the inventory item.	1..1
		<<choice>>	InventoryStatusLineItem	Inventory Item Location Information. Choice_ Association. Inventory Status Line Item		1..*
		<<choice>>	InventoryActivityLineItem	Inventory Item Location Information. Choice_ Association. Inventory Activity Line Item		1..*
InventoryActivityLineItem				Inventory Activity Line Item. Details		
	inventoryBeginDateTime			Inventory Activity Line Item. Inventory Begin Date Time. Date Time		0..1
	inventoryEndDateTime			Inventory Activity Line Item. Inventory End Date Time. Date Time		0..1
		<<is a>>	LineItem	Inventory Activity Line Item. Generalization. Line Item		
			InventoryActivityQuantitySpecification	Inventory Activity Line Item. Association. Inventory Activity Quantity Specification		1..*
		inventorySublocation	PartyIdentification	Inventory Activity Line Item. Inventory Sublocation .Party Identification		0..1
			LogisticUnitIdentification	Inventory Activity Line Item. Association. Logistic Unit Identification		0..1

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Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multi- plicity
InventoryActivity-QuantitySpecification				Inventory Activity Quantity Specification. Details	Supplies the inventory activity item information with the quantity of units, inventory activity type, an optional inventory movement indicator, and an optional reference number.	
	inventoryActivityType			Inventory Activity Quantity Specification. Inventory Activity Type. Inventory Activity List Code	The inventory activity type for the Inventory Activity Item from the Inventory Activity List.	1..1
	quantityOfUnits			Inventory Activity Quantity Specification. Quantity Of Units	The number of units and the unit of measure associated to the Inventory Item.	1..1
	inventoryMovementIndicator			Inventory Activity Quantity Specification. Inventory Movement Indicator. Inventory Movement Type List	This indicator will identify to increase or decrease the quantity in their systems.	0..1
			DeliverReference	Code Inventory Activity Quantity Specification. Association. Deliver Reference	The reference number of activity associated to the inventory item.	0..*
			TransactionalItemData	Inventory Activity Quantity Specification. Association. Transactional Item Data	This contains the extended attributes for an item.	0..*

1.5.3 Class Diagrams

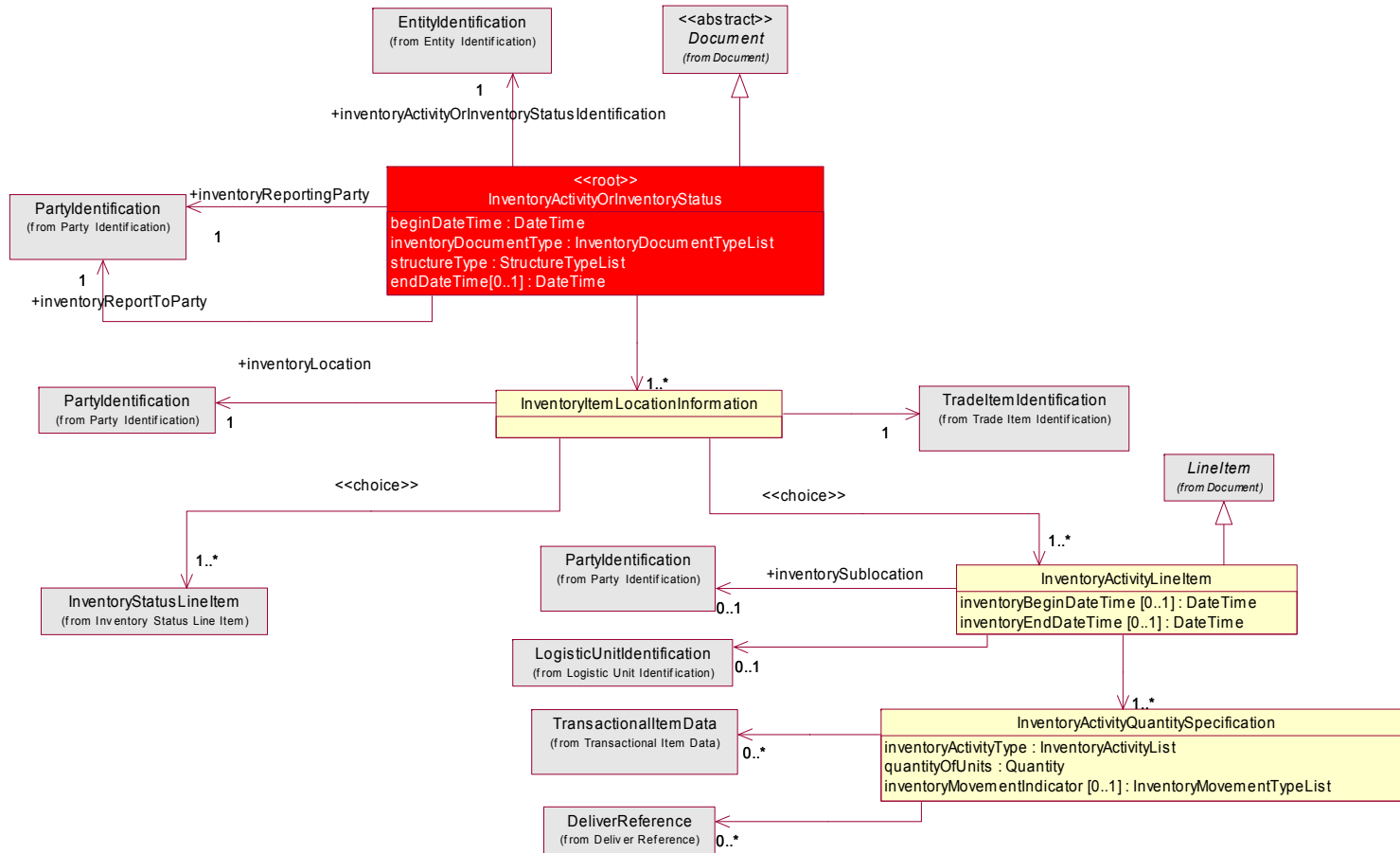


Figure 1 – Class Diagram: Business Document

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1.5.4 Code Lists

(Output from GDD should be pasted in this section.)

Code List Name	Code List Description
InventoryDocumentTypeList	Identifies the document type for the Inventory Activity or Inventory Status message.
Code Name	Code Description
INVENTORY_ACTIVITY	Inventory Activity is used to report on all the changes on the inventory level per item.
INVENTORY_STATUS	Inventory Status is used to report on the actual inventory per item.

Code List Name	Code List Description
InventoryMovementTypeList	A list that identifies the inventory movement for the Inventory Activity Item.
Code Name	Code Description
MOVING_INVENTORY_INTO_INVENTORY	An inventory or product movement into the place where item is stored.
MOVING_INVENTORY_OUT_OF_INVENTORY	An inventory or product movement out of the place where item is stored.

Code List Name	Code List Description
InventoryActivityList	A list that identifies the inventory activity type for the Inventory Activity Item.
Code Name	Code Description
DAMAGED_IN_FACILITY	A decrease or increase due to product being damaged in the warehouse or warehouse location.
DAMAGED_IN_TRANSIT	A decrease or increase due to product being damaged during transfer or transportation in-bound or out-bound to a warehouse or warehouse location.
DESTROYED	A decrease or increase due to product being dumped or destroyed and physically no longer exists.
DESPATCHES	A decrease or increase of inventory because of shipment of goods to another location.
DESPATCH_DISCREPANCY	A decrease or increase in inventory as a result of shipping product to or from the warehouse or warehouse location.
DISTRESSED	A decrease or increase for product in inventory that is about to expire.
EXPIRATION	A decrease or increase for product in inventory that has expired.
ON_HOLD	A decrease or increase due to product being placed on hold.
PHYSICAL_COUNT	A decrease or increase due to the result of a physical count of inventory.
QUARANTINE	A decrease or increase in a status of product that has been produced, but has not yet cleared quality /performance testing and is therefore not available for transport or

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	sale
RECALL	A decrease or increase for inventory received back to the warehouse or warehouse location.
RECEIPTS	A decrease or increase in inventory because of shipment of goods from another location.
RECEIPT_DISCREPANCY	A decrease or increase in inventory as a result of discrepancies made at receipt of product at the warehouse or warehouse location.
RECOUP_REWORK_OF_DAMAGED_PRODUCT	A decrease or increase in inventory as a result of restoring damaged product.
REIDENTIFICATION	A decrease or increase in inventory as a result of changing the identification of a product; e.g. regarding, stock number change, material identification change.
TRANSFER	A decrease or increase in inventory as a result of moving inventory between warehouses, warehouse locations, or cost centres.

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1.6 Business Document Examples

1.6.1 Inventory Status Example

The following is an example of an inventory status 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 (Inventory Reporting Party 9999999999991).

The inventory information is sent by the manufacturer (Inventory Reporting Party 9999999999991) to the material supplier (Inventory Report To Party 9999999999992).

The inventory status information is for two inventory locations; X (Inventory Location 9999999999993) and Y (Inventory Location 9999999999994).

The inventory status information is for three items; A (GTIN 01111111111111), B (GTIN 02222222222222) and C (GTIN 03333333333333).

All inventories have been assessed at February 9th at 8 AM, except for the inventory of item C at location X, this has been assessed at 12 PM the previous day.

Location X

For item A the inventory status is:

- Total inventory 25 of which 15 available for sale and 10 expired.

For item B the inventory status is:

- Total inventory 50, completely on hand, containing 30 units with production date 2004-11-24 and 20 units with production date 2004-11-17.

For item C the inventory status is:

- Total inventory 325, of which 300 units are on hold and 25 units are damaged..

Location Y

For item A the inventory status is:

- Total inventory 160 of which 80 are located on pallet 8888888888888881 and 80 on pallet 8888888888888882. Of the items on pallet 1 25 are available for sale, and 55 are expired. The items on pallet 2 are all available for sale.

Summarized:

Line	InventoryLocation	TradeItem	LogisticUnit
1	9999999999993	01111111111111	n/a
2	9999999999993	02222222222222	n/a
3	9999999999993	03333333333333	n/a
4	9999999999994	03333333333333	8888888888888881
5	9999999999994	03333333333333	8888888888888882

InventoryActivityOrInventoryStatus	
- creationDateTime	2005-02-09T11.00.00
- documentStatus	ORIGINAL
- beginDateTime	2005-02-09T08.00.00
- inventoryDocumentType	INVENTORY_STATUS
- structureType	LOCATION_BY_ITEM

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EntityIdentification (+InventoryActivityOrInventoryStatusIdentification)	
- uniqueCreatorIdentification	2005001
PartyIdentification (+contentOwner)	
- gLN	9999999999991
PartyIdentification (+inventoryReportToParty)	
- gLN	9999999999992
PartyIdentification (+inventoryReportingParty)	
- gLN	9999999999991
InventoryItemLocationInformation *1	
PartyIdentification (+inventoryLocation)	
- gLN	9999999999993
TradeItemIdentification	
- gTIN	01111111111111
InventoryStatusLineItem *1.1	
- lineItemNumber	1
InventoryStatusQuantitySpecification	
- inventoryStatusType	AVAILABLE_FOR_SALE
- quantityOfUnits (value, unitOfMeasure)	15
InventoryStatusQuantitySpecification	
- inventoryStatusType	EXPIRED
- quantityOfUnits (value, unitOfMeasure)	10
InventoryItemLocationInformation *2	
PartyIdentification (+inventoryLocation)	
- gLN	9999999999993
TradeItemIdentification	
- gTIN	02222222222222
InventoryStatusLineItem *2.1	
- lineItemNumber	2
InventoryStatusQuantitySpecification	
- inventoryStatusType	ON_HAND
- quantityOfUnits (value, unitOfMeasure)	50
TransactionItemData	
- productionDate	2004-11-24
MultiMeasurementValue	
measurementValue (value, unitOfMeasure)	30, PCS
TransactionItemData	
- productionDate	2004-11-17
MultiMeasurementValue	
measurementValue (value, unitOfMeasure)	20, PCS

Business Solution Design

InventoryItemLocationInformation *3	
PartyIdentification (+inventoryLocation)	
- gLN	9999999999993
TradeItemIdentification	
- gTIN	03333333333333
InventoryStatusLineItem *3.1	
- lineItemNumber	3
- inventoryDateTime	2005-02-09T00.00.00
InventoryStatusQuantitySpecification	
- inventoryStatusType	ON_HOLD
- quantityOfUnits (value, unitOfMeasure)	300
InventoryStatusQuantitySpecification	
- inventoryStatusType	DAMAGED
- quantityOfUnits (value, unitOfMeasure)	25
InventoryItemLocationInformation *4	
PartyIdentification (+inventoryLocation)	
- gLN	9999999999994
TradeItemIdentification	
- gTIN	03333333333333
InventoryStatusLineItem *4.1	
- lineItemNumber	4
LogisticUnitIdentification	
- sSSC	88888888888888881
InventoryStatusQuantitySpecification	
- inventoryStatusType	AVAILABLE_FOR_SALE
- quantityOfUnits (value, unitOfMeasure)	25, PCS
InventoryStatusQuantitySpecification	
- inventoryStatusType	EXPIRED
- quantityOfUnits (value, unitOfMeasure)	55, PCS
InventoryStatusLineItem *4.2	
- lineItemNumber	5
LogisticUnitIdentification	
- sSSC	88888888888888882
InventoryStatusQuantitySpecification	
- inventoryStatusType	AVAILABLE_FOR_SALE
- quantityOfUnits (value, unitOfMeasure)	80, PCS

1.6.2 Inventory Activity Example

Business Solution Design

The following is an example of an inventory activity 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 (Inventory Reporting Party 9999999999991).

The inventory information is sent by the retailer (Inventory Reporting Party 9999999999991) to the manufacturer (Inventory Report To Party 9999999999992).

The inventory activity information is for three inventory locations; X (Inventory Location 9999999999993), Y (Inventory Location 9999999999994) and Z (Inventory Location 9999999999995).

The inventory status information is for four items; A (GTIN 0111111111111), B (GTIN 0222222222222), C (GTIN 0333333333333) and D (GTIN 0444444444444).

The activities reported all took place between 10 PM on February 7th and 10 PM February 8th, except for Item A at location Y, there the end time is 11 PM.

Item A

On location X the following activity is reported:

- Quarantine 15, Recall 10

On location Y the following activity is reported:

- Destroyed 10 (decrease of inventory)

Item B

On location X the following activity is reported:

- Distressed 20 KGM, originating from lotnumber 123456789

Item C

On location X the following activity is reported:

- Despatch discrepancy of 300 units, received 25 units

On location Y the following activity is reported:

- Physical count 250 units

Item D

On location Z the following activity is reported:

- Damaged in facility 250 units.

Summarized:

Line	TradeItem	InventoryLocation
1	0111111111111	9999999999993
2	0111111111111	9999999999994
3	0222222222222	9999999999993
4	0333333333333	9999999999993
5	0333333333333	9999999999994
6	0444444444444	9999999999995

InventoryActivityOrInventoryStatus	
- creationDateTime	2005-02-09T11.00.00
- documentStatus	ORIGINAL
- beginDateTime	2005-02-07T22.00.00

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- endDateTime	2005-02-08T22.00.00
- inventoryDocumentType	INVENTORY_STATUS
- structureType	ITEM_BY_LOCATION
EntityIdentification (+InventoryActivityOrInventoryStatusIdentification)	
- uniqueCreatorIdentification	2005001
PartyIdentification (+contentOwner)	
- gLN	9999999999991
PartyIdentification (+inventoryReportToParty)	
- gLN	9999999999992
PartyIdentification (+inventoryReportingParty)	
- gLN	9999999999991
InventoryItemLocationInformation *1	
PartyIdentification (+inventoryLocation)	
- gLN	9999999999993
TradeItemIdentification	
- gTIN	01111111111111
InventoryActivityLineItem *1.1	
- lineItemNumber	1
InventoryActivityQuantitySpecification	
- inventoryActivityType	QUARANTINE
- quantityOfUnits (value, unitOfMeasure)	15
InventoryActivityQuantitySpecification	
- inventoryActivityType	RECALL
- quantityOfUnits (value, unitOfMeasure)	10
InventoryItemLocationInformation *2	
PartyIdentification (+inventoryLocation)	
- gLN	9999999999994
TradeItemIdentification	
- gTIN	01111111111111
InventoryActivityLineItem *2.1	
- lineItemNumber	2
- inventoryBeginDateTime	2005-02-07T22.00.00
- inventoryEndDateTime	2005-02-08T23.00.00
InventoryActivityQuantitySpecification	
- inventoryActivityType	DESTROYED
- quantityOfUnits (value, unitOfMeasure)	10
- inventoryMovementIndicator	MOVING_PRODUCT_OUT_OF_INVENTORY
DeliverReference	
- deliverReferenceIdentification	444

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- deliverReferenceType	RETURN_MATERIAL_AUTHORIZATION_NUMBER
InventoryItemLocationInformation *3	
PartyIdentification (+inventoryLocation)	
- gLN	9999999999993
TradeItemIdentification	
- gTIN	02222222222222
InventoryActivityLineItem *3.1	
- lineItemNumber	3
InventoryActivityQuantitySpecification	
- inventoryActivityType	DISTRESSED
- quantityOfUnits (value, unitOfMeasure)	20, KGM
TransactionItemData	
- lotNumber	123456789
MultiMeasurementValue	
measurementValue (value, unitOfMeasure)	20, KGM
InventoryItemLocationInformation *4	
PartyIdentification (+inventoryLocation)	
- gLN	9999999999993
TradeItemIdentification	
- gTIN	03333333333333
InventoryActivityLineItem *4.1	
- lineItemNumber	4
InventoryActivityQuantitySpecification	
- inventoryActivityType	DESPATCH_DISCREPANCY
- quantityOfUnits (value, unitOfMeasure)	300, PCS
DeliverReference	
- deliverReferenceIdentification	3391
- deliverReferenceType	PACKAGE_NUMBER
InventoryActivityQuantitySpecification	
- inventoryActivityType	RECEIPTS
- quantityOfUnits (value, unitOfMeasure)	25, PCS
- inventoryMovementIndicator	MOVING_PRODUCT_INTO_INVENTORY
DeliverReference	
- deliverReferenceIdentification	HIGH TICKET ITEM 4433
- deliverReferenceType	RETURNED_GOODS_AUTHORIZATION_NUMBER
InventoryItemLocationInformation *5	
PartyIdentification (+inventoryLocation)	
- gLN	9999999999994
TradeItemIdentification	

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- gTIN	03333333333333
InventoryActivityLineItem *5.1	
- lineItemNumber	5
InventoryActivityQuantitySpecification	
- inventoryActivityType	PHYSICAL_COUNT
- quantityOfUnits (value, unitOfMeasure)	250, PCS
InventoryItemLocationInformation *4	
PartyIdentification (+inventoryLocation)	
- gLN	999999999995
TradeItemIdentification	
- gTIN	04444444444444
InventoryActivityLineItem *4.1	
- lineItemNumber	6
InventoryActivityQuantitySpecification	
- inventoryActivityType	DAMAGED_IN_FACILITY
- quantityOfUnits (value, unitOfMeasure)	250, PCS
- inventoryMovementIndicator	MOVING_PRODUCT_OUT_OF_INVENTORY

1.7 Implementation Considerations

1.8 Testing

1.8.1 Pass / Fail Criteria

Unit testing criteria for business solution.

Number	Test Criteria	Related Requirement	Design Element	Pass Criteria	Fail Criteria
1	Reflects a specific business requirement from a related BRAD. For example: When goods are ordered, the buyer requires an answer from the suppliers that the order has been received.	BRAD Name.Version. Req #	Message, role, attribute	Result which determines that requirement has been satisfied: For example: Seller is able to create and send an Order Receipt Acknowledgement.	Result which shows that requirement has not been satisfied: For example: Buyer does not receive the Order Receipt Acknowledgement.
2					
3					

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1.8.2 Test Data

Attribute	Value
<i>Attribute Name. For example "orderQuantity"</i>	<i>Valid value associated with the attribute. For example "5".</i>

1.9 Appendices

1.10 Summary of Changes

(Details changes to BMS for each version by BMS Section)

Change	BMS Ver- sion	Associated CR Number
InventoryActivityLineItem <ul style="list-style-type: none">Added association to LogisticUnitIdentification [0..1]Added two attributes: inventoryBegin-DateTime [0..1] and inventoryEndDateTime [0..1] InventoryStatusLineItem (Common Library) <ul style="list-style-type: none">removed attribute inventoryStatusQuantitychanged multiplicity of association to InventoryStatusQuantitySpecification from [0..*] into [1..*]	1.2.0	
InventoryActivitySpecification: <ul style="list-style-type: none">removed attribute referenceNumer [0..1]added association to class DeliverReference with multiplicity of [0..*].	1.2.4	

2 Technical Solution Design

This section provides the specifications for the standards content ITRG approves. It is called the Technical Solution Design (TSD).

The Technical Solution Design contains:

- TSD Zip file Table of Contents
- Business Message Standard Section Technical Level GDD Report
- XSD (XML Schema Documents)
- XML Instance File and HTML Form View (XML and HTML files containing sample data specified in Section 1.6)

In the process of approving the Technical Solution Design, the ITRG will be provided the following artefacts:

- Any relevant Business Requirements Analysis Document (BRAD)
- Any relevant Business Requirements Document (BRD)
- Section 1 of Business Message Standard (Business Solution Design)
- Comment Resolution Template from Technical Public Review
- XML Test Report
- Change Request
- Other informative or reference documents