Transport Capacity Requirements
Business Message Standard (BMS)

Release 3.1

1-May-2013, Issue 1

Document Summary

Document Item	Current Value
Document Title	Transport Capacity Requirements - Business Message Standard (BMS)
BMS Release	3.1
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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):
08 Jul 2009	Jean-Luc Champion, GS1 Global Office on behalf of Jaco Voorspuij, DHL	09-000189

Business Requirements Document (BRAD) Reference

BRAD Title:	BRAD Date:	BRAD Version
Transport Planning	March 2011	1.0

Document Change History

Date of Change	Version	Changed By	Reason for Change	Summary of Change
08Nov2011	1.0	Coen Janssen	Public Review	Updated chapter 2
1-May-2013	BMS 3.1 issue 1	Coen Janssen	BMS Release 3.1	See summary of changes

Disclaimer

Table of Contents

1. Business Domain View

1.1. Problem Statement / Business Need

This BMS, Transport Capacity Requirements, is part of the global GS1 standard for transport planning, enabling Logistic Services Buyers to share capacity forecasts for transportation equipment required by trade lane, origin and destination with Logistic Services Sellers. In this way, Logistic Services Sellers can anticipate the demand for transportation capacity, and can measure their ability to support projected volumes. By providing this visibility to Logistic Services Sellers, the seller will have a reduced need to react to equipment requirements at a moment's notice, easing capacity constraints, improving the efficiency of equipment deployment and utilization, and ultimately taking out unnecessary cost in the supply chain.

In the Transport Capacity Requirements message the Logistic Services Buyer will define their transportation capacity requirements by developing a forecast based on aggregated demand covering extended periods of time. *(i.e. product/order forecasts are rolled up and extended to shipment forecasts)*. These requirements should take into consideration seasonality, promotions, production capacities, as well as other factors. As a shipping horizon gets closer, the transport capacity forecasts may become more detailed. The transportation capacity requirement message is sent to the Logistic Services Seller.

Subsequently, the Logistic Services Seller will analyse the capacity requirements and measure their ability to support the projected volumes, developing a transport capacity plan, which is sent to the Logistic Services Buyer. The Transport Capacity Plan is described in a separate BMS.

1.2. Objective

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

- Transport Capacity Requirements

1.3. Audience

Implementers of the Business Message Standard.

1.4.   References

Reference Name	Description
BRAD Transport Planning (GS1, 2011)	
Logistics Interoperability Model (GS1, 2007)	
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 the eCom domain and GDSN.

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
Work Group Chair	Fred Kempkes	Unilever
Work Group Chair	Jaco Voorspuij	DHL
Work Group Member	Mia Lenman	GS1 Sweden
Work Group Member	Richard Chresta	GS1 Switzerland & UNCEFACT TGB3
Work Group Member	Jeff Melcher	Army & Air Force Exchange Service
Work Group Member	Yuliya Shevchenko	GS1 Global Office
Work Group Member	Mats Rosen	DSV Sweden
Work Group Member	Helena Lunden	ICA Sweden
Work Group Member	Gerald Borgolte	Atos Origin
Work Group Member	Audun Vennesland	SINTEF & e-Freight
Work Group Member	Mary Vayou	BMT Group Ltd & e-Freight

1.5.2.   Development Team Members

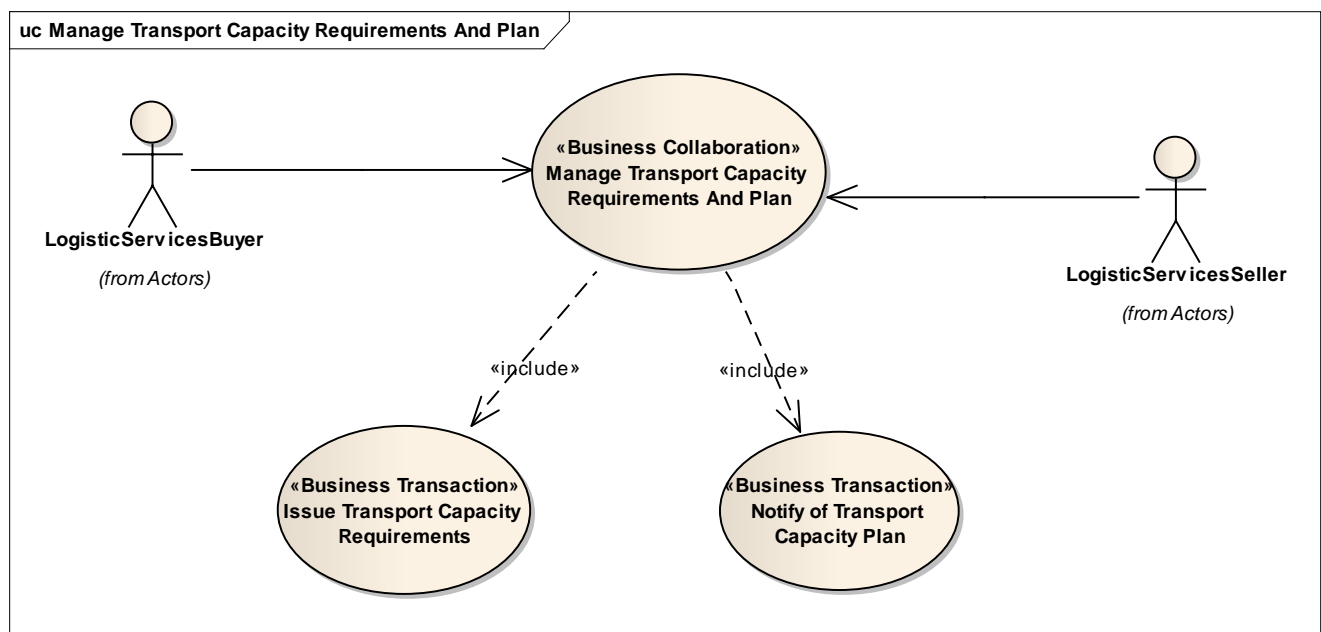| Function	Name	Organisation
GSMP Process Lead	Jean-Luc Champion	GS1 Global Office
Standards Content Lead	Coen Janssen	GS1 Global Office
Technical Development Lead	Ewa Iwicka	GS1 Global Office
Peer Review	Eric Kauz	GS1 Global Office

2. Business Context

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

3. Business Transaction View

3.1. Manage Transport Capacity Plan

Use Case Diagram

Use Case Description

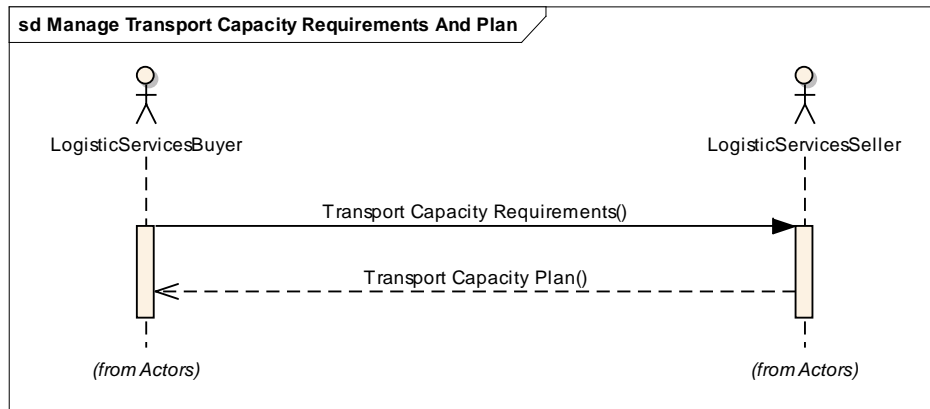| Use Case ID	UC-1A
Use Case Name	Issue Transport Capacity Requirements
Use Case Description	The purpose of this transaction is to define and share transportation capacity requirements based on aggregated demand *(i.e. product/order forecasts rolled up and extended to shipment forecasts).*
Actors (Goal)	Logistic Services Buyer (LSB) Logistic Services Seller (LSS)

Use Case ID	UC-1A
Performance Goals	
Preconditions	The LSB has developed the capacity requirements (based on an aggregation of product/order forecasts) into shipment forecast information. The trading partners have agreed upon: ■ Message schedule or frequency (weekly, monthly, yearly, etc...) ■ Time Horizon of the information within the message ■ Forecast Buckets which organize the data based on the time horizon *(e.g. data in message that is for 3-4 months prior to shipment – "buckets" are per month; 2 months prior – "buckets" are per week; 1 month prior – "buckets" are by week for weeks 3& 4, and by day for weeks 1 & 2)*
Post conditions	The LSS has received the transport capacity requirements.
Scenario	**Begins when**...The LSB has developed a transport capacity requirement (forecast) to be communicated to the LSS based on the agreed upon schedule. Continues with... ■ The LSB issuing the transport capacity requirements ■ The LSS receiving the transport capacity requirements **Ends when**... The LSS has received the transport capacity requirements and begins the process of developing transportation capacity plans.
Alternative Scenario	
Related Requirements	Activities: **LSB** - Prepares transportation capacity forecasts, taking into consideration seasonality, promotions, production capacities, as well as other factors. As shipping horizon gets closer, transportation forecasts become more detailed. For example: ■ 3-4 months prior to shipment: forecasts are declared for the month ■ 2 months prior to shipment: forecasts are declared per week ■ 1 month prior to shipment: forecasts are declared by day for weeks 1 & 2, and by month week for weeks 3 & 4 **LSS** – Analyzes volume forecasts and measures ability to support the projected volumes. As the time horizon for shipping draws closer, the LSS begins development of transport plans. If the LSS has responsibility for carrier relationships, the LSS also begins the process of booking with specific carriers.
Related Rules	

Activity Diagram(s)

Not applicable

Sequence Diagram(s)

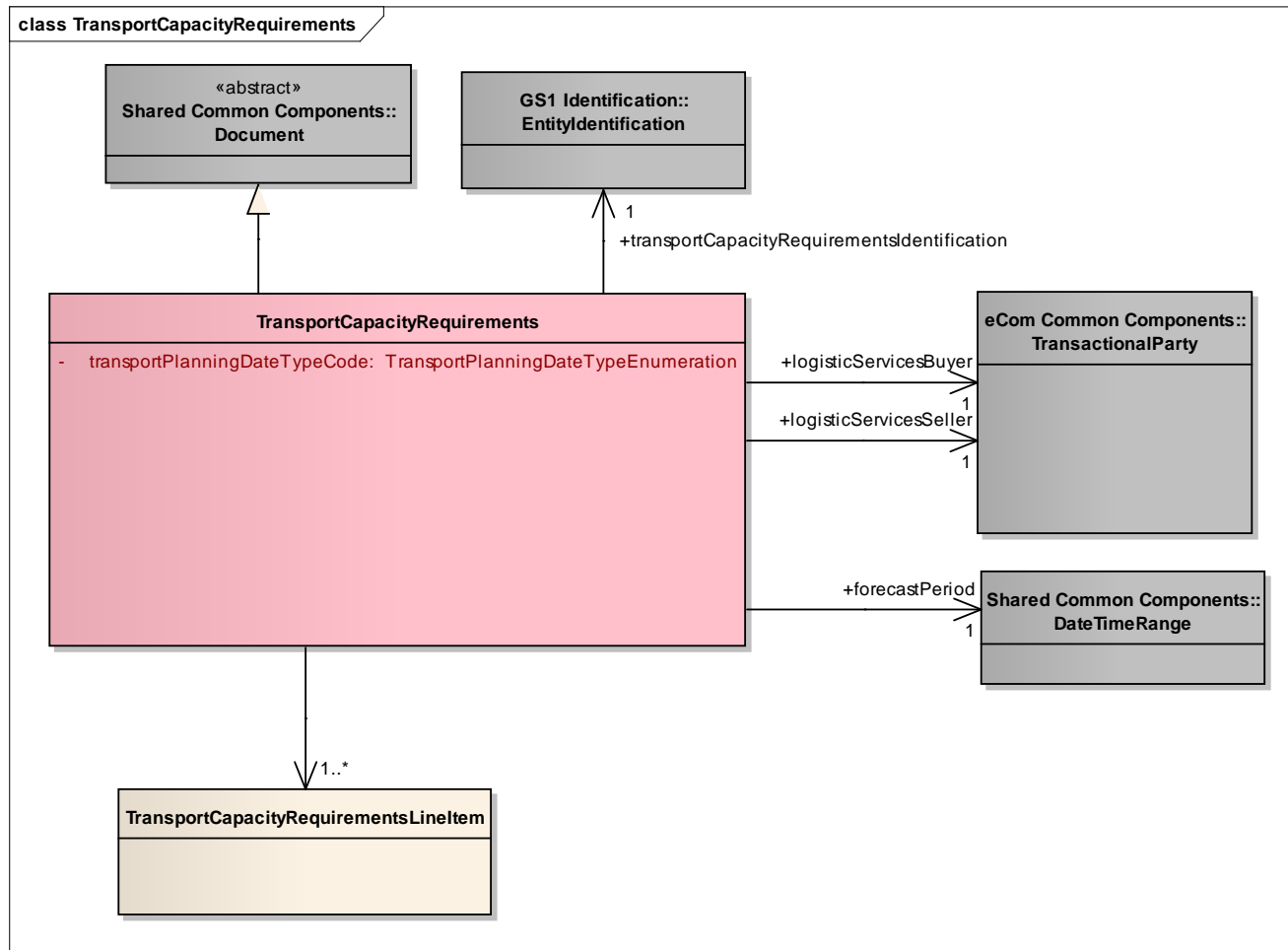**Figure 3-1 Sequence Diagram**

NOTE: Sending of the transport capacity plan is optional. When used it <u>must</u> be in reply to Transport Capacity Requirements.

4. Business Information View
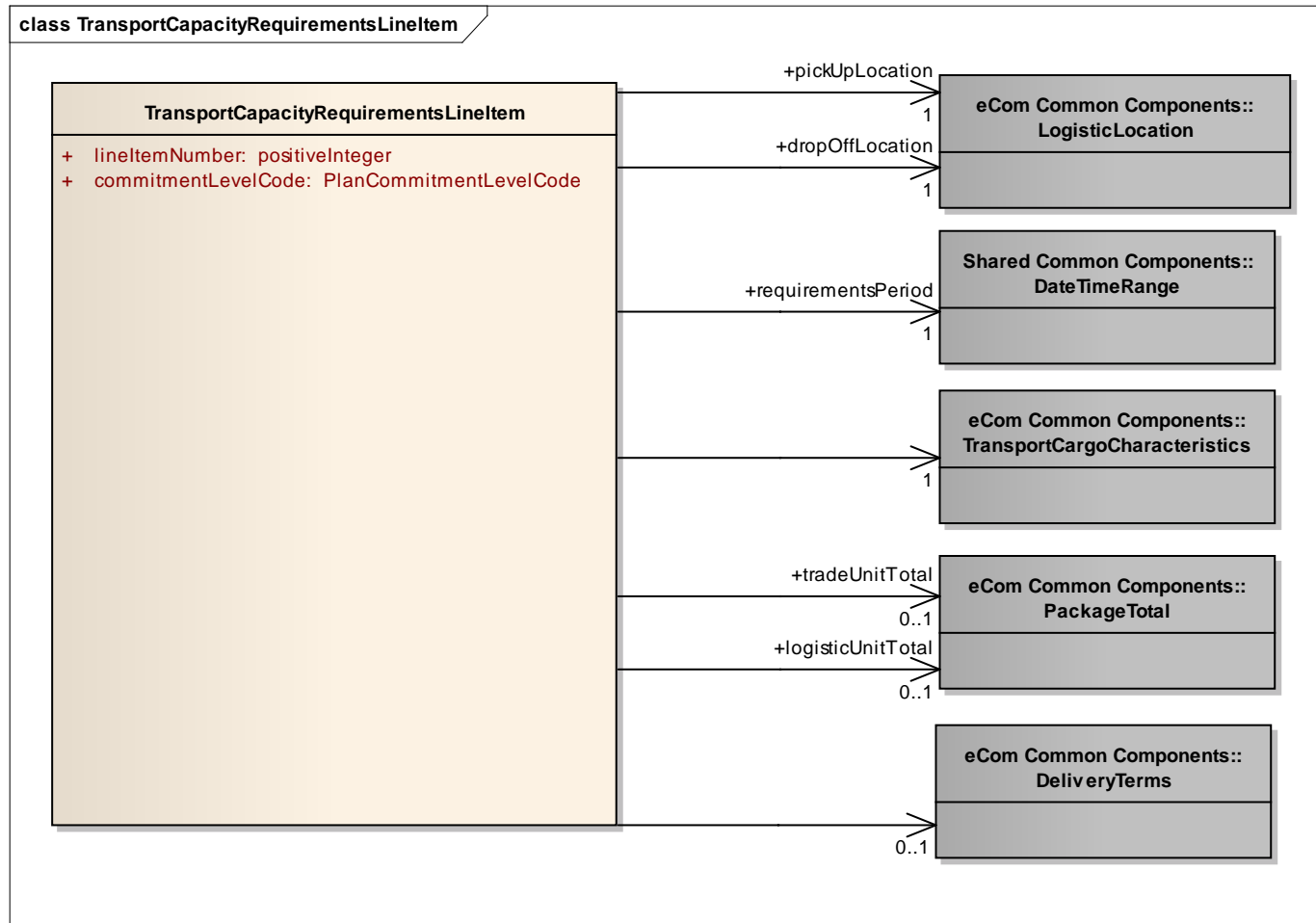
4.1. Transport Capacity Requirements

Class Diagram

GDD Report

Content	Attribute / Role	Datatype /Secondary class	Mul tipli city	Definition	Requirements
TransportCapacityRequire ments				Transport Capacity Requirements enables the Logistic Services Buyer to define their transportation capacity requirements by developing a forecast based on aggregated demand covering extended periods of time.	
Generalization		Document		Used to specify basic information about the content of the message including version number, creation date and time.	BRAD Transport Planning - TRH2, TRH3
Association	transportCapacityRequirem entsIdentification	EntityIdentification	1	Provides the unique identification of the transport capacity requirements.	BRAD Transport Planning - TRH1
Association	logisticServicesBuyer	TransactionalParty	1	A party that purchases logistics services from another party.	BRAD Transport Planning - TRH6
Association	logisticServicesSeller	TransactionalParty	1	A party that provides logistics services to another party.	BRAD Transport Planning - TRH7
Association	forecastPeriod	DateTimeRange	1	The period to which the forecast applies.	BRAD Transport Planning - TRH4
Association		TransportCapacityRequir ementsLineItem	1..*	Specifies the projected transport capacity requirements on detail level.	BRAD Transport Planning - TRH8
Attribute	transportPlanningDateType Code	TransportPlanningDateT ypeEnumeration	1..1	Code specifying the type of date used for transport planning, i.e. the delivery date or the pick-up date.	BRAD Transport Planning - TRH5

4.2. Transport Capacity Requirements Line Item

Class Diagram

GDD Report

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition	Requirements
TransportCapacityRequirementsLineItem				Specifies the projected transport capacity requirements for a given route and cargo type.	
Association		TransportCargoCharacteristics	1	Aggregate information on the goods to be transported.	BRAD Transport Planning - RLI2, RLI3, RLI5, RLI6, RLI7
Association	logisticUnitTotal	PackageTotal	0..1	The total number of logistic units to be transported.	BRAD Transport Planning - RLI9
Association	tradeUnitTotal	PackageTotal	0..1	The total number of trade units (e.g. cases) to be transported.	BRAD Transport Planning – RLI8
Association		DeliveryTerms	0..1	The applicable legal, customs, financial and insurance terms for the delivery of the goods.	BRAD Transport Planning - RLI4
Association	pickUpLocation	LogisticLocation	1	The location where the goods need to be collected.	BRAD Transport Planning - RLI10 (LOC1, LOC2)
Association	dropOffLocation	LogisticLocation	1	The location where the goods need to be delivered.	BRAD Transport Planning - RLI10
Association	requirementsPeriod	DateTimeRange	1	Defines the start and end dates of the planning time bucket.	BRAD Transport Planning - RLI11 (TRS1)
Attribute	lineItemNumber	positiveInteger	1..1	Provides the line number associated to the Line Item.	BRAD Transport Planning - RLI1
Attribute	commitmentLevelCode	PlanCommitmentLevelCode	1..1	Code specifying the level of commitment for this grouping or bucket of transport requirements.	BRAD Transport Planning - TRS2

4.3. Enumerations & Codes (message specific classes)

Please refer to eCom Domain Common for the following code lists:

- TransportPlanningDateTypeCode
- PlanCommitmentLevelCode

5. Business Message Examples

5.1. Example 1

A Logistic Service Buyer, ABC_Company identified by GLN 1234567890123, is providing a forecast of capacity requirements for 6 months to Logistics_International identified by GLN 9876543212345.

TransportCapacityRequirements	
creationDateTime	2009-12-12T12:00:00
documentStatusCode	ORIGINAL
documentActionCode	ADD
transportPlanningDateTypeCode	DELIVERY_DATE
EntityIdentification (+transportCapacityRequirementstIdentification)	
entityIdentification	RQMT1234
TransactionalParty (+logisticServicesBuyer)	
gln	1234567890123
TransactionalParty (+logisticServicesSeller)	
gln	9876543212345
DateTimeRange (+forecastPeriod)	
beginDate	2010-01-01
endDate	2010-06-30
TransportCapacityRequirementsLineItem	
lineItemNumber	1
commitmentLevelCode	PLANNED
LogisticLocation(+pickUpLocation)	
unLocationCode	US LAX
LogisticLocation(+dropOffLocation)	
unLocationCode	US EWR
DateTimeRange(+requirementsPeriod)	
beginDate	2010-01-01
endDate	2010-01-07
TransportCargoCharacteristics	
cargoTypeCode	12

cargoTypeDescription	`Furniture`
totalGrossWeight	`50 KGM`
totalGrossVolume	`9.22 CBM`
totalItemQuantity	`75`
totalPackageQuantity	`5`
LogisticUnitTotal (+tradeUnitTotal)	
packageTypeCode	`CS`
totalPackageQuantity	`25`
LogisticUnitTotal (+logisticUnitTotal)	
packageTypeCode	`200`
totalPackageQuantity	`25`
DeliveryTerms	
incotermsCode	`CFR`
LogisticLocation	
unLocationCode	`US RDG`

6.   Implementation Considerations

Not applicable

7. Appendices

Not Applicable

8. Summary of Changes

8.1. BMS Release 3.0

Change	Version	Associated CR Number
Initial Version	issue 1.0	

8.2. BMS Release 3.1

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