



The Global Language of Business

Transport Capacity Requirements Business Message Standard (BMS)

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Business Requirements Document (BRAD) Reference

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

Document Change History

Date of Change	Version	Changed By	Reason for Change	Summary of Change
12-Jan-2012	BMS 3.0 – Issue 1	Mark Van Eeghem	BMS Release 3.0	See summary of changes
01-May-2013	BMS 3.1 – Issue 1	Coen Janssen	BMS Release 3.1	See summary of changes
15-Sep-2014	BMS 3.2 – Issue 1	Ewa Iwicka	BMS Release 3.2	See summary of changes
01-Mar-2017	BMS 3.3 – Issue 1	Ewa Iwicka	BMS Release 3.3	See summary of changes
15-Oct-2018	BMS 3.4 – Issue 1	Ewa Iwicka	BMS Release 3.4	See summary of changes
03-Feb-2021	BMS 3.5 – Issue 1	Miklos Bolyky	BMS Release 3.5	See summary of changes
05-Jan-2022	BMS 3.5.1 – Issue 1	Miklos Bolyky	BMS Release 3.5.1	See summary of changes
01-Mar-2023	BMS 3.6 – Issue 1	Miklos Bolyky	BMS Release 3.6	See summary of changes





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1 Business Domain View

1.1 Introduction

Message Definition

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*).

Principles

This BMS is a 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.

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 References

Reference Name	Description
BRAD Transport Planning (GS1, 2011)	
Logistics Interoperability Model (GS1, 2007)	
BMS eCom Domain Common Library Release 3.6	The documented design of components that are used in multiple messages within the eCom domain.
BMS Shared Common Library Release 3.6	The documented design of components that are used in multiple messages within the eCom domain and GDSN.

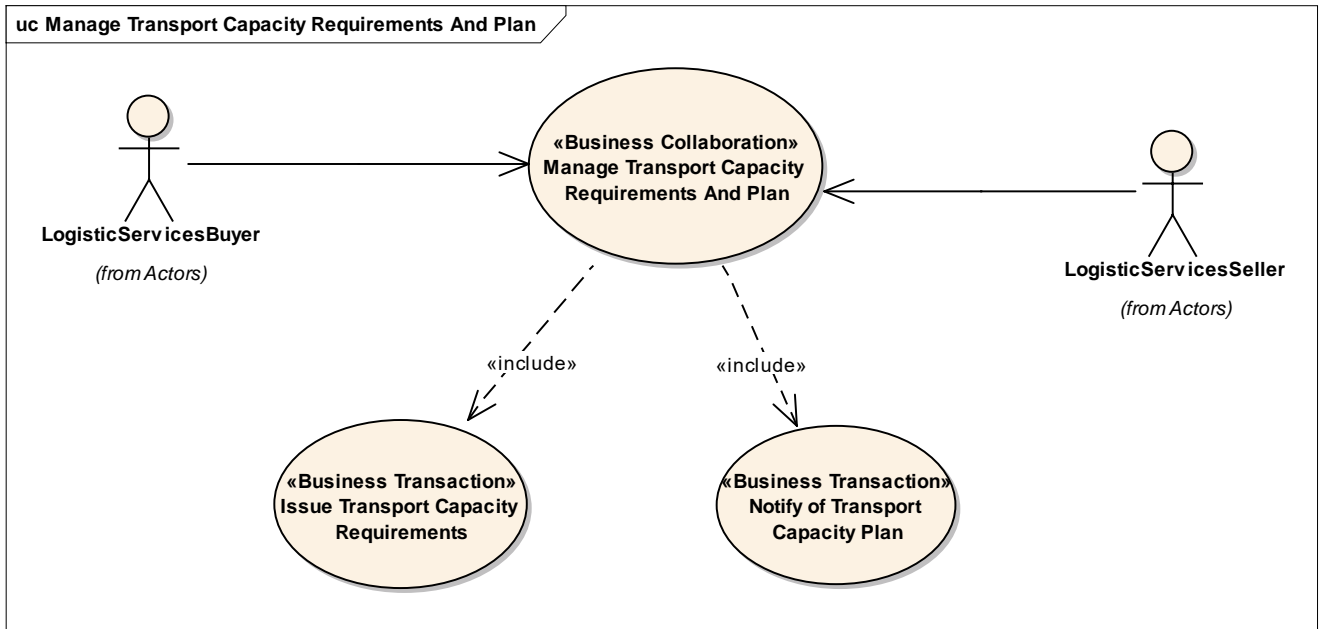
2 Business Context

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 Business Transaction – 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)
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: <ul style="list-style-type: none"> ■ 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... <ul style="list-style-type: none"> ■ 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	

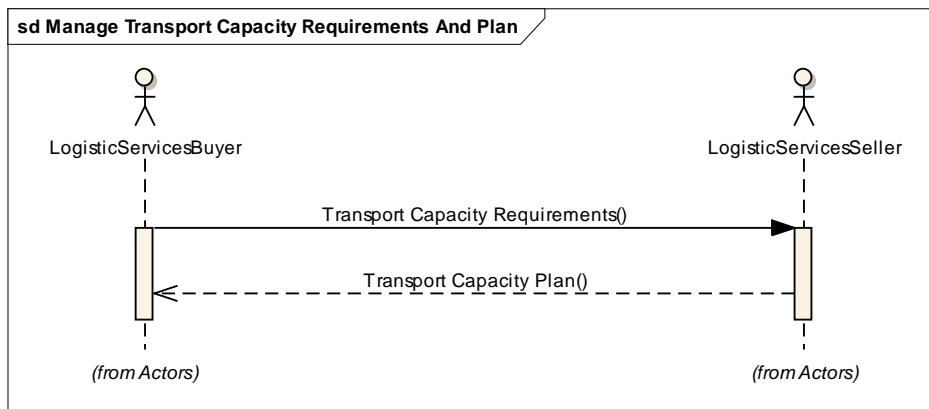
Use Case ID	UC-1A
Related Requirements	<p>Activities:</p> <p>LSB - Prepares transportation capacity forecasts, taking into consideration seasonality, promotions, production capacities, as well as other factors. As shipping horizon gets closer, transportation forecasts become more detailed.</p> <p>For example:</p> <ul style="list-style-type: none"> ■ 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 <p>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.</p>
Related Rules	

Activity Diagram(s)

Not applicable

Sequence Diagram(s)

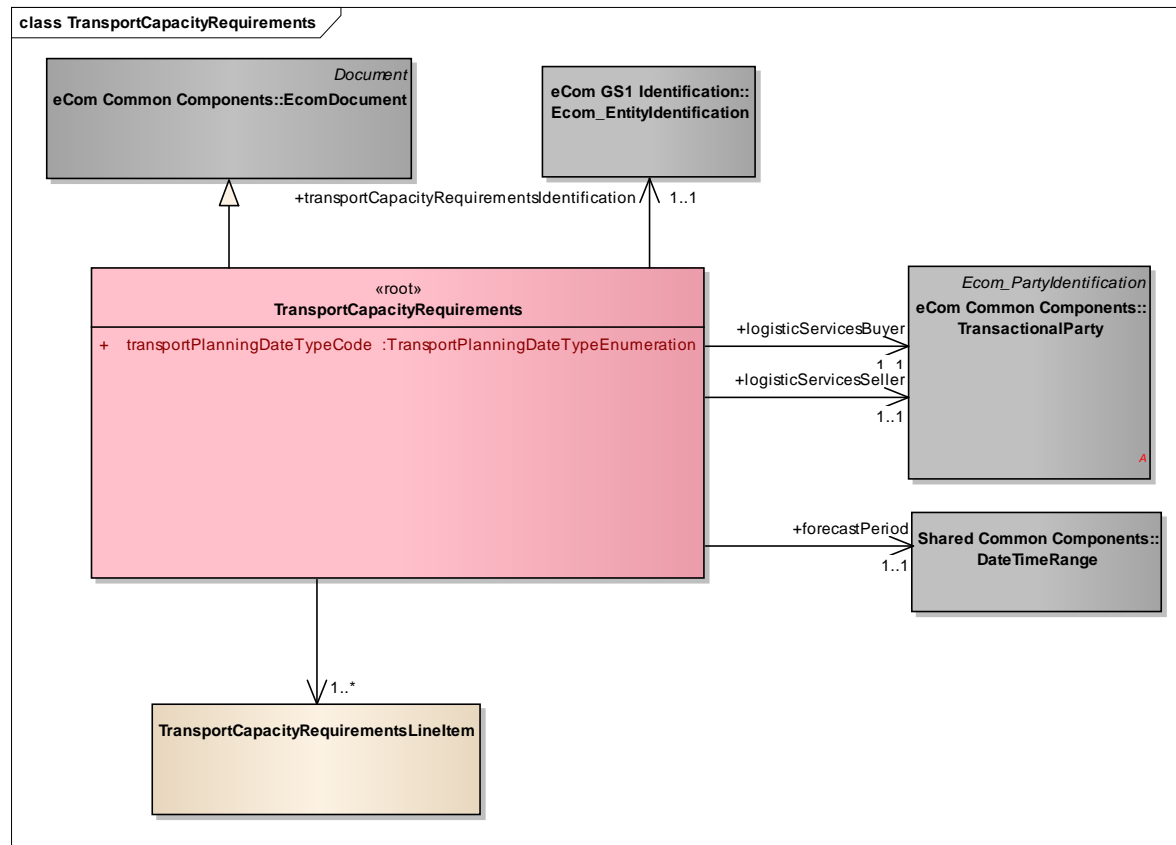
Figure 3-1 Sequence Diagram



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

4 Business Information View

Class diagram



GDD report

The content of the TransportCapacityRequirements class, its structure and component definitions can be accessed in the Global Data Dictionary:

http://apps.gs1.org/GDD/bms/Version3_4/Pages/bieDetails.aspx?semanticURN=urn:gs1:gdd:bie:TransportCapacityRequirements

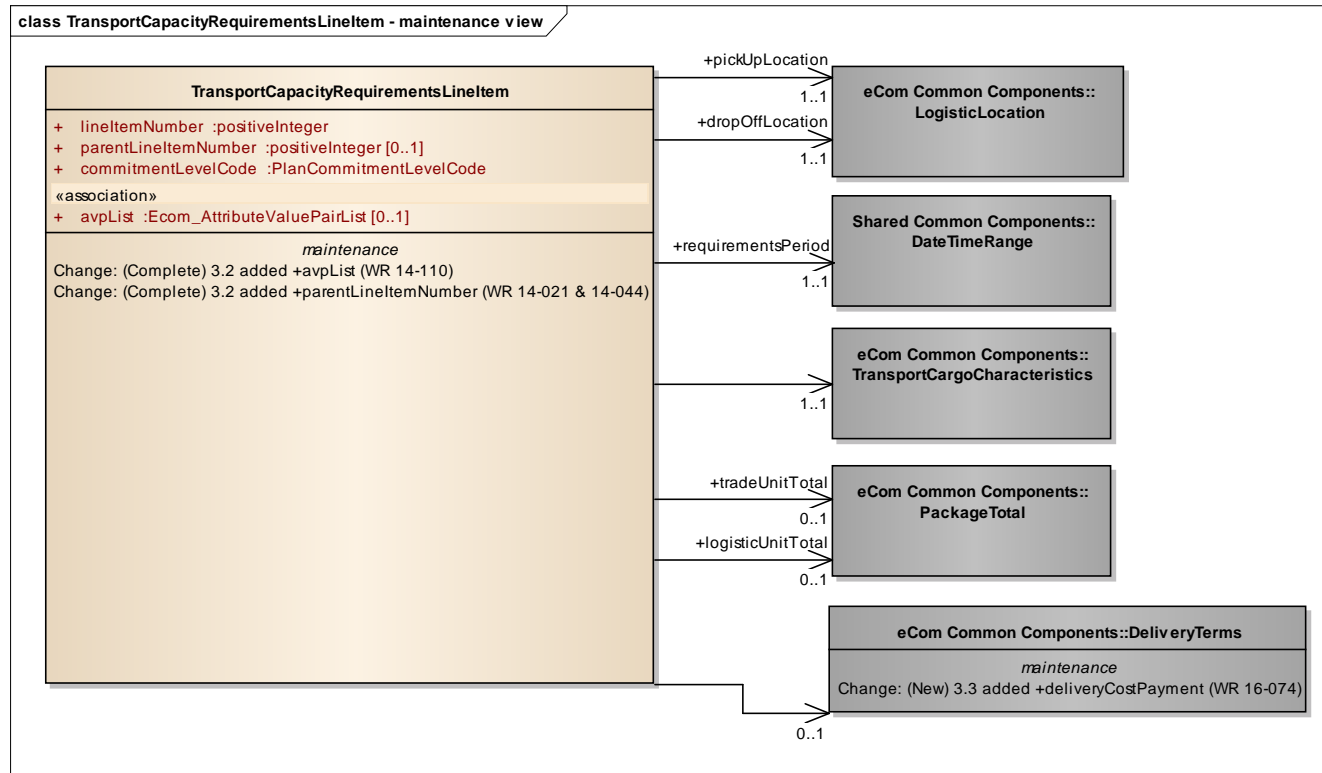
Content	Attribute / Role	Datatype / Secondaryclass	Multiplicity	Definition	Requirements
TransportCapacityRequirements				Transport Capacity Requirements enables the Logistic Services Buyer to define their transportation capacity requirements by developing a forecast based on aggregated demand covering extended periods of time.	
Generalization		EcomDocument		Basic information about the content of the message including version number, creation date and time.	14-000110
Association	logisticServices Seller	TransactionalParty	1..1	A party that provides logistics services to another party.	BRAD Transport Planning - TRH7
Association	logisticServices Buyer	TransactionalParty	1..1	A party that purchases logistics services from another party.	BRAD Transport Planning - TRH6
Association	forecastPeriod	DateTimeRange	1..1	The period to which the forecast applies.	BRAD Transport Planning - TRH4
Association		TransportCapacityRequirementsLineItem	1..*	Specifies the projected transport capacity requirements on detail level.	BRAD Transport Planning - TRH8
Association	transportCapacityRequirements Identification	Ecom_EntityIdentification	1..1	Provides the unique identification of the transport capacity requirements.	BRAD Transport Planning - TRH1 WR 15-000314
Attribute	transportPlanningDateTypeCode	TransportPlanningDateTypeEnumeration	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



Note: Reference Shared Common Library Business Message (BMS) Release 3.6 and eCom Domain Common Library Business Message (BMS) Release 3.6 for all common information.

4.1 Transport Capacity Requirements Line Item

Class Diagram



The content of the TransportCapacityRequirementsLineItem class, its structure and component definitions can be accessed in the Global Data Dictionary:

http://apps.gs1.org/GDD/bms/Version3_4/Pages/bieDetails.aspx?semanticURN=urn:gs1:gdd:bie:TransportCapacityRequirementsLineItem

Content	Attribute / Role	Datatype / Secondaryclass	Multiplicity	Definition	Requirements
TransportCapacityRequirementsLineItem				Specifies the projected transport capacity requirements for a given route and cargo type.	
Association		DeliveryTerms	0..1	The applicable legal, customs, financial and insurance terms for the delivery of the goods.	BRAD Transport Planning - RLI4



Content	Attribute / Role	Datatype / Secondaryclass	Multiplicity	Definition	Requirements
Association	tradeUnitTotal	PackageTotal	0..1	The total number of trade units (e.g. cases) to be transported.	BRAD Transport Planning - RLI-8
Association	logisticUnitTotal	PackageTotal	0..1	The total number of logistic units to be transported.	BRAD Transport Planning - RLI9
Association	requirementsPeriod	DateTimeRange	1..1	Defines the start and end dates of the planning time bucket.	BRAD Transport Planning - RLI11 (TRS1)
Association	dropOffLocation	LogisticLocation	1..1	The location where the goods need to be delivered.	BRAD Transport Planning - RLI10
Association		TransportCargoCharacteristics	1..1	Aggregate information on the goods to be transported.	BRAD Transport Planning - RLI2, RLI3, RLI5, RLI6, RLI7
Association	pickUpLocation	LogisticLocation	1..1	The location where the goods need to be collected.	BRAD Transport Planning - RLI10 (LOC1, LOC2)
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
Attribute	parentLineItemNumber	positiveInteger	0..1	The number of line item containing information about the parent of the current item. It allows establishing hierarchical link between the two items.	14-000021 14-000044
Attribute	avpList	Ecom_AttributeValuePairList	0..1	Temporary attributes introduced between minor versions.	14-000110



Note: Reference Shared Common Library Business Message (BMS) Release 3.6 and eCom Domain Common Library Business Message (BMS) Release 3.6 for all common information.

4.2 Enumerations (message specific)

Not applicable

4.3 Code Lists

Class	Codelist	GDD Link
TransportCapacityRequirements	TransportPlanningDateTypeEnumeration	http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:TransportPlanningDateTypeEnumeration
TransportCapacityRequirementsLineItem	PlanCommitmentLevelCode	http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:PlanCommitmentLevelCode



Note: Refer to the Global Data Dictionary (GDD) for the code values.

5 Business Message Examples

5.1 Example

A Logistic Service Buyer, ABC_Company identified by GLN 1234567890128, is providing a forecast of capacity requirements for 6 months to Logistics_International identified by GLN 9876543212344.

Party Information

GS1 Global Location Number	Party Type
1234567890128	Logistic Service Buyer
9876543212344	Logistic Service Seller

Message Example

Attribute	Value
TransportCapacityRequirements	
creationDateTime	2009-12-12T12:00:00
documentStatusCode	ORIGINAL
documentActionCode	ADD
transportPlanningDateTypeCode	DELIVERY_DATE
EntityIdentification (+transportCapacityRequirementsIdentification)	
entityIdentification	RQMT1234
TransactionalParty (+logisticServicesBuyer)	
gln	1234567890128
TransactionalParty (+logisticServicesSeller)	
gln	9876543212344
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

Attribute	Value
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

6.1 User Guide

The Functional User Guide contains more information about the structure and content of the Transport Capacity Requirements message: http://www.gs1.org/docs/ecom/xml/3/3.4/eCom-Trade_messages.html#TransportCapacityRequirements

6.2 Message Specific Considerations

Not applicable

7 Summary of Changes

Any change in the GS1 standards is done based on the Work Request (WR) submitted by the GS1 User Companies or Member Organisations. All Work Requests are documented in the Work Request system available on the GS1 website: <http://wr.gs1.org>. The system is accessible to registered users. New visitors need to register first, to be able to access it. WRs can be searched by the number referenced in tables below, see: Search Work Requests. The number starts with the two last digits of the year when it was submitted, followed by the consecutive number within that year.

 **Note:** WRs submitted earlier than February 2012 should be searched in Old Change Requests.

7.1 BMS Release 3.0

Change	Associated CR Number
Initial Version	

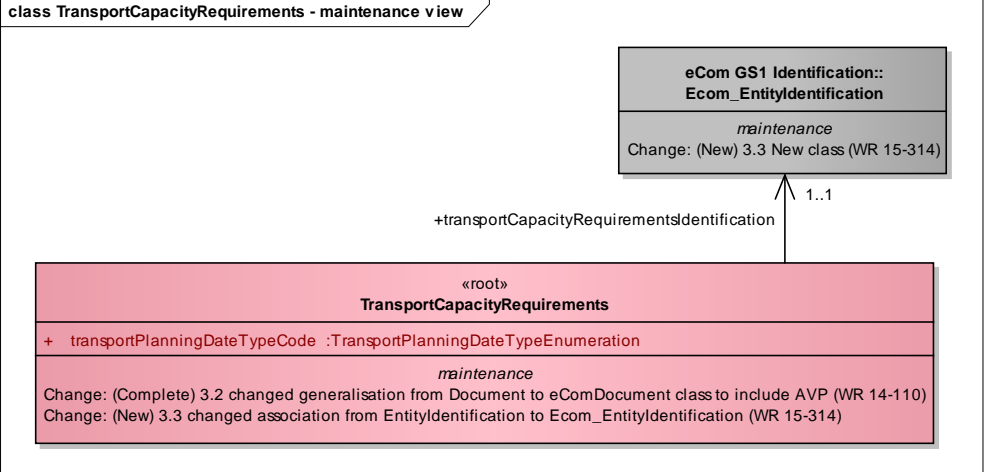
7.2 BMS Release 3.1

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

7.3 BMS Release 3.2

Change	Associated WR
Added Attribute Value Pair at the root, line item and sub line item levels <div style="border: 1px solid black; padding: 5px;"> <p>class TransportCapacityRequirements - maintenance view</p> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> <p style="text-align: center;">«root» TransportCapacityRequirements</p> <p>+ transportPlanningDateTypeCode :TransportPlanningDateTypeEnumeration</p> <p style="text-align: center;"><i>maintenance</i></p> <p>Change: (Verified) 3.2 changed generalisation from Document to eComDocument class to include AVP (WR 14-110)</p> </div> </div>	14-000110
<ul style="list-style-type: none"> ■ Add a reference to parent line number to all LineItem classes, to support hierarchical items (WRs 14-021 & 14-044) ■ Added Attribute Value Pair at the root, line item and sub line item levels (WR 14-110) <div style="border: 1px solid black; padding: 5px;"> <p>class TransportCapacityRequirementsLineItem - maintenance view</p> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> <p style="text-align: center;">TransportCapacityRequirementsLineItem</p> <p>+ lineItemNumber :positiveInteger</p> <p>+ commitmentLevelCode :PlanCommitmentLevelCode</p> <p>+ parentLineItemNumber :positiveInteger [0..1]</p> <p>+ «association» avpList :Ecom_AttributeValuePairList [0..1]</p> <p style="text-align: center;"><i>maintenance</i></p> <p>Change: (Verified) 3.2 added +avpList (WR 14-110)</p> <p>Change: (Verified) 3.2 added +parentLineItemNumber (WR 14-021 & 14-044)</p> </div> </div>	14-000021 14-000044 14-000110

7.4 BMS Release 3.3

Change	Associated WR
<p>Created Ecom_EntityIdentification class and changed association from the previous EntityIdentification</p> <div style="border: 1px solid black; padding: 5px;"> <p>class TransportCapacityRequirements - maintenance view</p>  <pre> classDiagram class TransportCapacityRequirements { <<root>> +transportPlanningDateTypeCode :TransportPlanningDateTypeEnumeration } class Ecom_EntityIdentification { <<generalization>> } TransportCapacityRequirements < -- Ecom_EntityIdentification </pre> </div>	<p>15-000314 Make GS1 identification keys optional in GS1 EDI XML</p>

7.5 BMS Release 3.4

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

7.6 BMS Release 3.5

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

7.7 BMS Release 3.5.1

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

7.8 BMS Release 3.6

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

8 Appendices

Not Applicable

9 Acknowledgements

9.1.1 Work Group

Function	Name	Company / organisation
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Co-chair	Schmidt, Tom Eric	August Storck KG
Member	Bemrose, Jonathan	R&R Ice Cream

Function	Name	Company / organisation
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Member	Canada, ON	M3B 3L1
Member	Carlson, Jim	General Mills, Inc.
Member	Chresta, Richard	GS1 Switzerland
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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
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Member	Tse, Steve	GS1 Hong Kong
Member	Tyson, Betty	Knouse Foods Cooperative, Inc
Member	Van den Bergh, Senne	GS1 Belgium & Luxembourg
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Member	Yusdiar, Dani	GS1 Indonesia
Member	Zwanziger, Greg	SUPERVALU

9.1.2 Development Team Members

Function	Name	Organisation
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