Transport Capacity Plan Business Message Standard (BMS)

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Document Summary

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Work Request Reference

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03-Oct-2018	GS1 GO	18-000319

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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Table of Contents

1 Business Domain View

1.1 Introduction

Message Definition

The Logistic Services Seller is responsible for developing the Transport Capacity Plan. He does this based on the Transport Capacity Requirements communicated to him by the Logistic Services Buyer.

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.

Given that the Logistic Services Seller will likely have numerous clients, he should evaluate capacity commitments to all buyers before determining whether they can support the capacity needs of each individual buyer. Based on a number of factors, the Logistic Services Seller may determine the need to allocate capacity from one client to another.

When analysing the forecast received from the Logistic Services Buyer, the Logistic Services Seller may combine the cargo (for multiple requirement lines) if they are for the same trade lane (i.e. origin/destination), forecast bucket, and service requirement level (e.g. refrigerated vs. general cargo).

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.

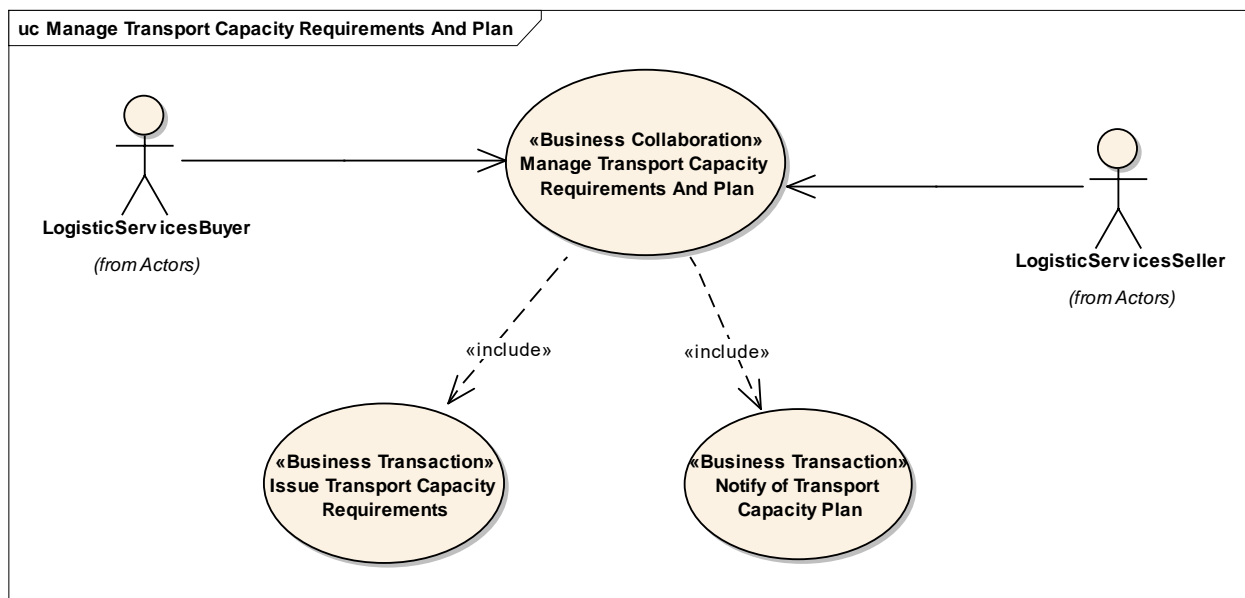# 2 Business Context

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
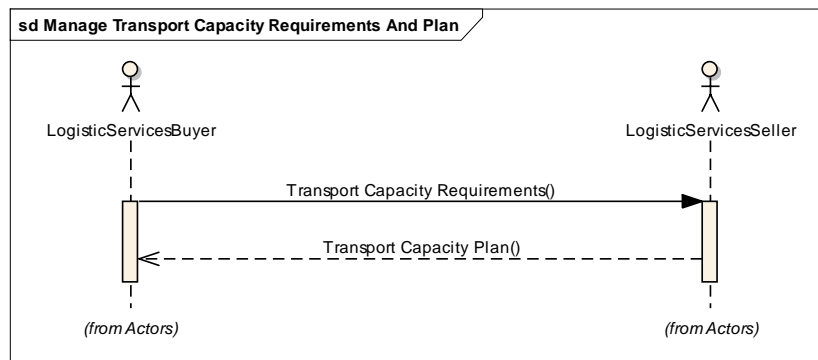

Use Case Description

Use Case ID	UC-1B
Use Case Name	Notify of Transport Capacity Plan
Use Case Description	The purpose of this transaction is to enable the Logistic Service Seller to submit a transport capacity plan to the Logistic Service Buyer, identifying how they will support the transport capacity requirements.
Actors (Goal)	Logistic Service Buyer (LSB) Logistic Service Seller (LSS)
Performance Goals	
Preconditions	The LSS has received the transport capacity requirements (capacity forecast) from the LSB. The trading partners have agreed upon: ■ Timeframe that the transport capacity plan should be sent after receipt of transport capacity requirements. ■ 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)* Partners have also pre-defined the freight terms, geographic scope of partnership, and distribution strategies to be utilized.
Post conditions	The LSB has received the transport capacity plan.

Use Case ID	UC-1B
Scenario	**Begins when**… The LSS has received the transport capacity requirements Continues with… - The LSS develops a transport capacity plan - The LSS sending the transport capacity plan to the LSB - The LSB receiving the transport capacity plan **Ends when**… LSB has received the transport capacity plan
Alternative Scenario	
Related Requirements	
Related Rules	

Activity Diagram(s)

Not applicable

Sequence Diagram(s)

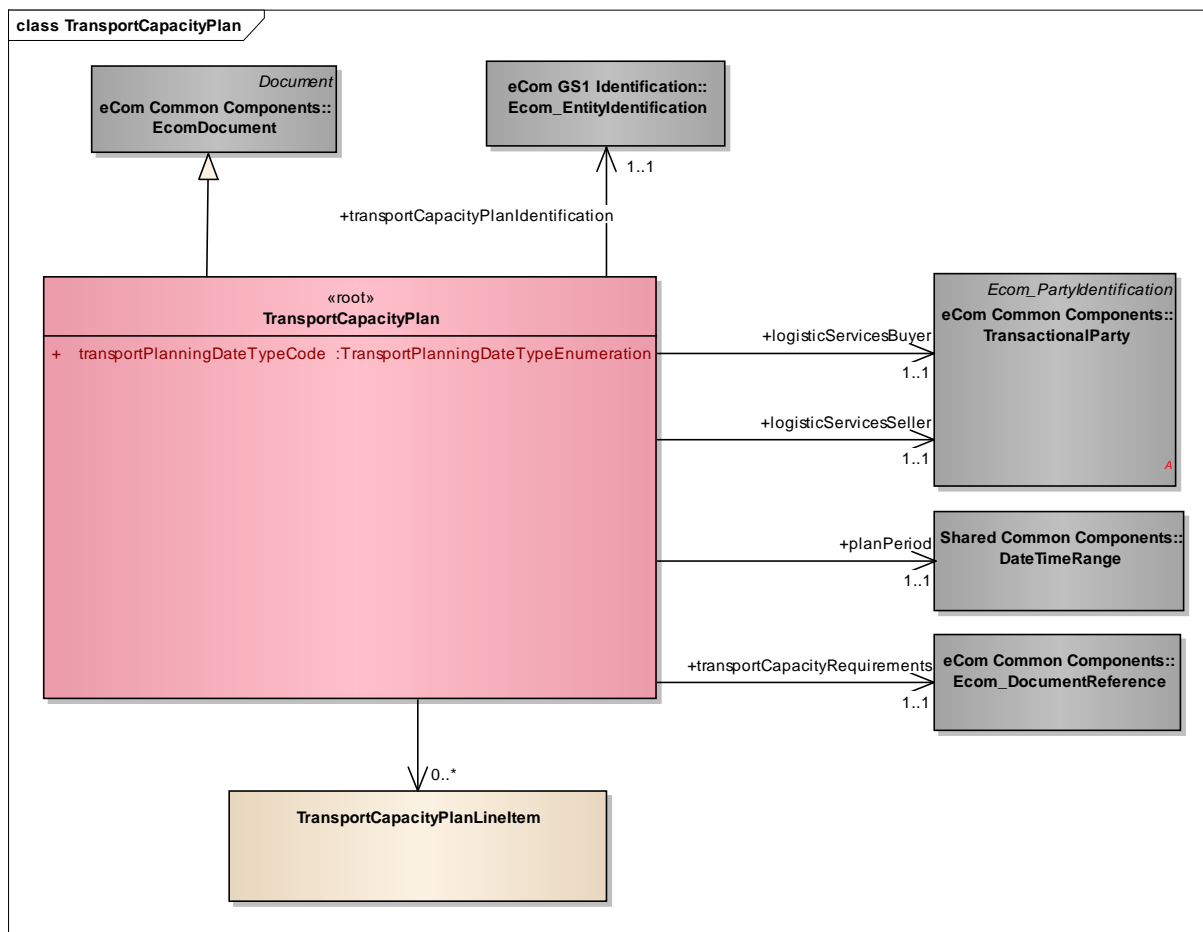NOTE: Sending of the transport capacity plan is optional. When used it <u>must</u> be in reply to Transport Capacity Requirements.

4   Business Information View

4.1   Transport Capacity Plan

Class diagram

GDD report

The content of the TransportCapacityPlan 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:TransportCapacityPlan

Content	Attribute / Role	Datatype / Secondaryclass	Multiplicity	Definition	Requirements
TransportCapacityPlan				Transport Capacity Plan is created by the Logistic Services Seller based on the Transport Capacity Requirements communicated to him by the Logistic Services Buyer.	
Association		TransportCapacityPlanLineItem	0..*	Specifies the transport capacity plan on detail level.	BRAD Transport Planning - TCP9
Association	transportCapacityRequirements	Ecom_DocumentReference	1..1	Reference to the transport capacity requirements message on which the plan has been based.	BRAD Transport Planning - TCP8 WR 15-000314
Association	transportCapacityPlanIdentification	Ecom_EntityIdentification	1..1	Provides the unique identification of the transport capacity plan.	BRAD Transport Planning - TCP1 WR 15-000314
Association	logisticServicesSeller	TransactionalParty	1..1	A party that provides logistics services to another party.	BRAD Transport Planning - TCP7
Association	logisticServicesBuyer	TransactionalParty	1..1	A party that purchases logistics services from another party.	BRAD Transport Planning - TCP6
Generalization		EcomDocument		Basic information about the content of the message including version number, creation date and time.	BRAD Transport Planning - TCP2, TCP3
Association	planPeriod	DateTimeRange	1..1	The period to which the plan applies.	BRAD Transport Planning - TCP4
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 - TCP5

✅ **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   Transport Capacity Plan Line Item

Class Diagram

GDD Report

The content of the TransportCapacityPlanLineItem class, its structure and component definitions can be accessed in the Global Data Dictionary:
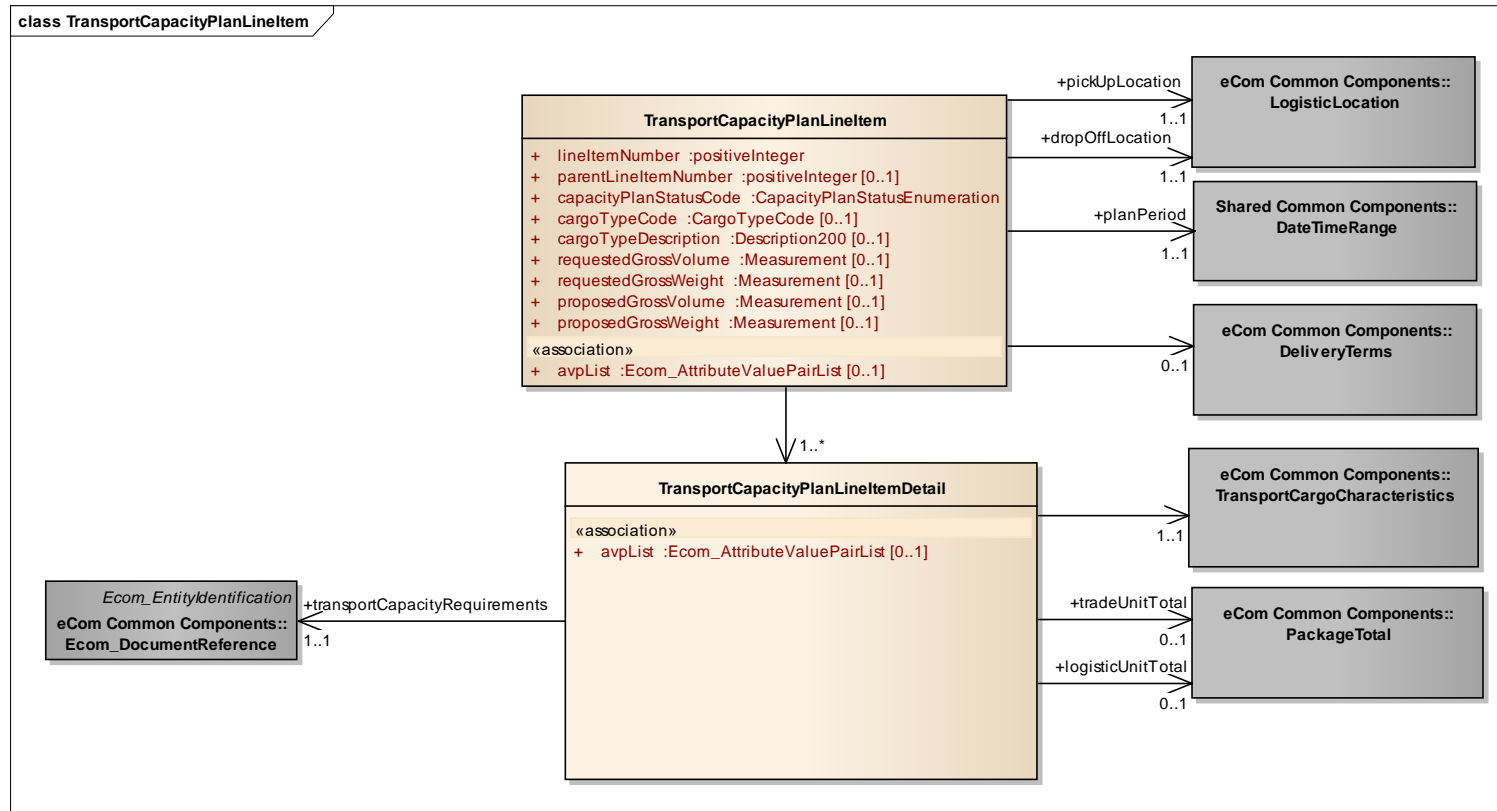*http://apps.gs1.org/GDD/bms/Version3_4/Pages/bieDetails.aspx?semanticURN=urn:gs1:gdd:bie:TransportCapacityPlanLineItem*

Content	Attribute / Role	Datatype / Secondaryclass	Multiplicity	Definition	Requirements
TransportCapacityPlanLineItem				Specifies the planned transport capacity allocation for a given route and cargo type.	

Content	Attribute / Role	Datatype / Secondaryclass	Multiplicity	Definition	Requirements
Association	dropOffLocation	LogisticLocation	1..1	The location where the goods need to be delivered.	BRAD Transport Planning - TPL7 (TCL1)
Association	planPeriod	DateTimeRange	1..1	The period to which the transport capacity plan line item applies.	BRAD Transport Planning - TPL8 (TPS1)
Association	pickUpLocation	LogisticLocation	1..1	The location where the goods need to be collected.	BRAD Transport Planning - TPL7 (TCL1)
Association		DeliveryTerms	0..1	The applicable legal, customs, financial and insurance terms for the delivery of the goods.	BRAD Transport Planning - TPL3
Association		TransportCapacityPlanLineItemDetail	1..*	Details on the transport capacity requirements on which the plan is based.	BRAD Transport Planning - TPL9
Attribute	lineItemNumber	positiveInteger	1..1	The sequence number for this shipment item.	BRAD SHI2
Attribute	capacityPlanStatusCode	CapacityPlanStatusEnumeration	1..1	Code specifying the degree to which the requested capacity can be supported.	BRAD Transport Planning - TPL4
Attribute	cargoTypeCode	CargoTypeCode	0..1	Code specifying the classification of a type of cargo for example hazardous cargo.	BRAD Transport Planning - TPL2
Attribute	cargoTypeDescription	Description200	0..1	Free text specifying the classification of a type of cargo.	BRAD Transport Planning - TPL2
Attribute	requestedGrossVolume	Measurement	0..1	The requested transport capacity expressed as the volume of the goods, calculated by multiplying the maximum length, width, and height of the packaged goods.	BRAD Transport Planning - TPL5
Attribute	requestedGrossWeight	Measurement	0..1	The requested transport capacity expressed as the weight of the goods, including the weight of transport packaging, and potentially the weight of any transport equipment.	BRAD Transport Planning - TPL5
Attribute	proposedGrossVolume	Measurement	0..1	The proposed transport capacity expressed as the volume of the goods, calculated by multiplying the maximum length, width, and height of the packaged goods.	BRAD Transport Planning - TPL6
Attribute	proposedGrossWeight	Measurement	0..1	The proposed transport capacity expressed as the weight of the goods, including the weight of transport packaging, and potentially the weight of any transport equipment.	BRAD Transport Planning - TPL6

Content	Attribute / Role	Datatype / Secondaryclass	Multiplicity	Definition	Requirements
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.	
Attribute	avpList	Ecom_AttributeValuePairList	0..1	Temporary attributes introduced between minor versions.	
TransportCapacityPlanLineItemDetail				Specifies the requested transport capacity allocation for a given route and cargo type.	
Association	logisticUnitTotal	PackageTotal	0..1	The total number of logistic units to be transported.	BRAD Transport Planning - TRD5
Association		TransportCargoCharacteristics	1..1	Aggregate information on the goods to be transported.	BRAD Transport Planning - TRD2, TRD3, TRD4, TRD6
Association	transportCapacityRequirements	Ecom_DocumentReference	1..1	Reference to the related transport capacity requirements line item.	BRAD Transport Planning - TRD1 WR 156-000314
Association	tradeUnitTotal	PackageTotal	0..1	The total number of trade units (e.g. cases) to be transported.	BRAD Transport Planning - TRD5
Attribute	avpList	Ecom_AttributeValuePairList	0..1	Temporary attributes introduced between minor versions.	

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.

4.3   Enumerations (message specific)

Not applicable

4.4   Code Lists

Class	Codelist	GDD Link
TransportCapacity PlanLineItem	CapacityPlanStatusEnumeration	*http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:CapacityPlanStatusEnumeration*
TransportCapacity Plan	TransportPlanningDateTypeEnumeration	*http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:TransportPlanningDateTypeEnumeration*
TransportCapacity PlanLineItem	CargoTypeCode	*http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:gdd:cl:CargoTypeCode*

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
TransportCapacityPlan	
creationDateTime	2009-12-14T12:00:00
documentStatusCode	ORIGINAL
documentActionCode	ADD
transportPlanningDateTypeCode	DELIVERY_DATE
EntityIdentification (+transportCapacityPlanIdentification)	
entityIdentification	PLAN1234
TransactionalParty (+logisticServicesBuyer)	
gln	1234567890128
TransactionalParty (+logisticServicesSeller)	
gln	9876543212344
DateTimeRange (+planPeriod)	
beginDate	2010-01-01
endDate	2010-06-30
DocumentReference (+transportCapacityRequirements)	
entityIdentification	RQMT1234
TransportCapacityPlanLineItem	
lineItemNumber	1
capacityPlanStatusCode	ACCEPTED_IN_FULL
cargoTypeCode	12
requestedGrossWeight	50 KGM
requestedGrossVolume	9.22 CBM
proposedGrossWeight	50 KGM
proposedGrossVolume	9.22 CBM
LogisticLocation (+pickUpLocation)	
unLocationCode	US LAX
LogisticLocation (+dropOffLocation)	

Attribute	Value
unLocationCode	US EWR
DateTimeRange (+planPeriod)	
beginDate	2010-01-01
endDate	2010-01-07
DeliveryTerms	
incotermsCode	CFR
LogisticLocation	
unLocationCode	US RDG
TransportCapacityPlanLineItemDetail	
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
DocumentReference (+transportCapacityRequirements)	
entityIdentification	RQMT1234
lineItemNumber	1

6   Implementation Considerations

6.1   User Guide

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

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	N/A

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 class TransportCapacityPlan - maintenance view «root» **TransportCapacityPlan** + transportPlanningDateTypeCode :TransportPlanningDateTypeEnumeration *maintenance* Change: (Verified) 3.2 changed generalisation from Document to eComDocument class to include AVP (WR 14-110)	**14-000110**

Change	Associated WR
■ Added 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) **class TransportCapacityPlanLineItem - maintenance view** **TransportCapacityPlanLineItem** + lineItemNumber: positiveInteger + capacityPlanStatusCode: CapacityPlanStatusEnumeration + cargoTypeCode: CargoTypeCode [0..1] + cargoTypeDescription: Description200 [0..1] + requestedGrossVolume: Measurement [0..1] + requestedGrossWeight: Measurement [0..1] + proposedGrossVolume: Measurement [0..1] + proposedGrossWeight: Measurement [0..1] + parentLineItemNumber: positiveInteger [0..1] «association» + avpList: Ecom_AttributeValuePairList [0..1] *maintenance* Change: (Verified) 3.2 added +avpList (WR 14-110) Change: (Verified) 3.2 added +parentLineItemNumber (WR 14-021 & 14-044)	**14-000021** **14-000044** **14-000110**
Added Attribute Value Pair at the root, line item and sub line item levels **class TransportCapacityPlanLineItemDetail - mainte...** **TransportCapacityPlanLineItemDetail** «association» + avpList: Ecom_AttributeValuePairList [0..1] *maintenance* Change: (Verified) 3.2 added +avpList (WR 14-110)	**14-000110**

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7.4 BMS Release 3.3

Change	Associated WR
Created Ecom_EntityIdentification class and changed association from the previous EntityIdentification	**15-000314** Make GS1 identification keys optional in GS1 EDI XML
Created Ecom_DocumentReference class and changed association from the previous DocumentReference	**15-000314** Make GS1 identification keys optional in GS1 EDI XML
Created Ecom_DocumentReference class and changed association from the previous DocumentReference	**15-000314** Make GS1 identification keys optional in GS1 EDI XML

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
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Member	Bodemer, Petra	dm-drogerie markt GmbH + Co. KG
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Function	Name	Company / organisation
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Member	Pujol, Xavier	GS1 Spain
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Member	Shimazaki, Ayako	GS1 Japan
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Member	Souza, Nadia	GS1 Brasil
Member	Strand, Roman	GS1 Germany
Member	Tan, Milton	GS1 Malaysia
Member	Tompsett, Simon	Waitrose
Member	Trelle, Ute	1WorldSync Holdings, Inc.
Member	Tse, Steve	GS1 Hong Kong
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9.1.2   Development Team Members

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