

# **Business Message Standard (BMS)**

**for**

**Deliver / Freight Invoice**

**BRG: Deliver**

**BMS Release: 2.0.2**

**Document Version: 2.0.4**

**Release Date: 18.07.2005**

*(dd.mm.cyy)*





### Change Request Reference

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<b>CR Submitter(s):</b>	Jim Rodriguez on behalf of Doug Harness
<b>Date of CR Submission to GSMP:</b>	September 25, 2001

### Business Requirements Document (BRAD) Reference

<b>BRAD Title:</b> Freight Invoice – Business Requirement Document
<b>BRAD Date:</b> 30/06/2003
<b>BRAD Version:</b> 0.0.10

<b>BRAD Title:</b> Common Library
<b>BRAD Date:</b> July 11, 2005
<b>BRAD Version:</b> Document Version 0.2.6 BMS Release Version 2.1

### Document Summary

<b>Document Title:</b>	BMS For Deliver Freight Invoice
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### Document Change History

Date of Change	Version	Changed By	Reason for Change	Summary of Change	Model Build #
31/03/2005	2.0.1	John Ryu	Initial Version in BMS/BSD template	Migration of BRD to standard BMS/BSD format	BSD P4CL: 6096
31/03/2005	2.0.2	Andrew Hearn	Context Update	Updated the context listed within the document	N/A
18/07/2005	2.0.3	John Ryu	Update SpecialChar-geTypeListA-TAX12DataList	Removed any non-alphanumeric characters from the code name such as (-).	BSD P4CL: 7149

				<p><b>Replaced / with <u>OR</u></b>  CHARGES_FORWARD/ADVANCE_CHARGE→  CHARGES_FORWARD_OR_ADVANCE_CHARGE  CONTAINER_LOSS/DAMAGE→  CONTAINER_LOSS_OR_DAMAGE  INTERSTATE/HIGHWAY_TOLL→  INTERSTATE_OR_HIGHWAY_TOLL</p> <p><b>Removed –dash from following code names and replaced with underscore _.</b>  HIGH_SECURITY_RED_INBOND_SEAL_CHARGE  HOOK-UP_CHARGE  INTERNATIONAL_DOOR-TO-DOOR_HANDLING_FEE  INTRA-PLANT_CHARGE  ITEM-UNIT  ONE-TIME_LICENSE_FEE  STOP-OFF_CHARGE</p>	
22/07/2007	2.0.4	Giovanni Biffi	Editorial Changes	Minor editorial changes made to the document.	

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# Business Solution Design

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## 1 Business Solution Design

### 1.1 Business Domain View

#### 1.1.1 Problem Statement / Business Need

There is a need for a carrier to provide detailed information with regard to service charges rendered by the carrier to the party responsible for payment of those services, which is typically the buyer, supplier, or third party logistics provider (3PL).

For small package carriers, the current freight invoice only includes lading related charges. There is a business need to accommodate non lading related charges, such as, a weekly service charge, etc.

#### 1.1.2 Objective

The objective is to create a business message standard to develop transactional messages to communicate a freight invoice to the party responsible for paying freight charges, which is typically the buyer, supplier, or 3PL.

There are three types of freight invoices and they are

- FTL Freight Invoice
- LTL Freight Invoice
- Small Package Carrier Freight Invoice

#### 1.1.3 Audience

The audience of the standards would be any participant in the global supply chain. This would include carriers, and their customers and partners.

#### 1.1.4 Artefacts

Artefact name	State	Artefact / State description
BRW Freight Invoice (TTG) Version		The Transportation Task Group in conjunction with the Deliver BRG completed this BRW. BRW was the input source to create the first draft BRD.
ASC ANSI X12 transaction set 210		ANSI X12 EDI Motor Carrier Freight Invoice transaction set.
FTL Freight Invoice Data		This spreadsheet details the FTL data exchanged.
LTL Freight Invoice Data		This spreadsheet details the LTL data exchanged.
SpecialChargeTypeListATAX12DataList		DISA is the source for this ANSI X12 150 code table
Small Package Freight Invoice Data		This spreadsheet details the Small Package data exchanged.

#### 1.1.5 References

Reference Name	Description
EAN.UCC System	
GSMP Manual	
Object Management Group	
DISA	
W3C	

### 1.1.6 Acknowledgements

#### 1.1.6.1 BRG Members

Function	Name	Company
Deliver BRG Co-Chair	Sue Donarski	Schneider
Deliver BRG Co-Chair	Debbie Noyes	Johnsonville Sausages
Deliver BRG Process Manager	Bruno Julien	Gencod EAN France
Deliver BRG Member	Doug Anderson	Kleinschmidt
Deliver BRG Member	Rick Battista	Roadway
Deliver BRG Member	David Burns	INTTRA
Deliver BRG Member	Xavier Chiffelle	Gillette
Deliver BRG Member	Regina De Baker	Watkins
Deliver BRG Member	Brian Finale	UPS
Deliver BRG Member	Jean-François Fusco	Geodis Solutions
Deliver BRG Member	Wayne Gingerich	Werner
Deliver BRG Member	Roman Gural	UPS
Deliver BRG Member	Joy Kallenbach	Best Buy
Deliver BRG Member	Scott Keske	Best Buy
Deliver BRG Member	Aart Koning	Albert Heijn
Deliver BRG Member	Paul Martin	General Mills
Deliver BRG Member	Shanda Marvin	Procter & Gamble
Deliver BRG Member	Kari Melhus	Target
Deliver BRG Member	Frank Napoli	LMI
Deliver BRG Member	Mike Osiecki	Best Buy
Deliver BRG Member	Patrick Pinter	ABF
Deliver BRG Member	Tan Jin Soon	EAN Singapore
Deliver BRG Member	Sue Swinger Ellbogen	Levi Strauss
Deliver BRG Member	Marco Van Der Lee	EAN Nederland

#### 1.1.6.2 ITRG Members

Function	Name	Company / organization
ITRG Chair	None	
ITRG Member	None	
ITRG Member	None	
ITRG Member	None	
...		

#### 1.1.6.3 Task/Project Group Participants (*where applicable*)

Function	Name	Company / organization
Participant	None	
Participant	None	
Participant	None	
...		



## Business Solution Design

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### 1.1.6.4 Design Team Members

Function	Name	Organization
Modeler	John Ryu	Uniform Code Council
XML Technical Designer		
EANCOM Technical Designer		
Peer Reviewer	Bob Celeste	Uniform Code Council

## Business Solution Design

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### 1.2 Business Context

Context Category	Value(s)
Industry	All
Geopolitical	All
Product	All
Process	Deliver
System Capabilities	EAN.UCC
Official Constraints	None

### 1.3 Additional Technical Requirements Analysis

#### 1.3.1 Technical Requirements (optional)

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

Number	Statement	Rationale

## Business Solution Design

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### 1.4 Business Transaction View

#### 1.4.1 Business Transaction Use Case Diagram

Not Use Case Diagram in the previous BRD

<b>Use Case ID</b>	UC-1
<b>Use Case Name</b>	Transmit Freight Invoice
<b>Use Case Description</b>	<b>Not filled in the previous BRD</b>
<b>Actors (Goal)</b>	<p>Supplier : The party that is producing or supplying goods to be shipped            Buyer : The party purchasing goods, and to which the goods are to be shipped.            3PL (Third Party Logistics Provider) : Third Party Logistics Provider, also known as a payment services provider. An entity providing freight payment services on behalf of buyers and suppliers.            Carrier : Party responsible for the transport of freight or goods.</p> <p>Recipient of Freight Invoice : This is the aggregation of the three various actors (Buyer, Supplier, or 3PL) who can receive a Freight Invoice.</p>
<b>Performance Goals</b>	<p><i>Goals related to technical requirements</i></p> <p><b>None</b></p>
<b>Preconditions</b>	Predetermined billing cycle is reached.
<b>Post conditions</b>	The process ends when the Buyer, Supplier, or 3PL receives freight details and/or the invoice from the Carrier
<b>Scenario</b>	<p><b>Begins when</b></p> <p><b>Continues with...</b></p> <p>1 Carrier- Predetermined billing cycle is reached.</p> <p>2 Carrier- Creates freight details and invoice based on services rendered.</p> <p>3 Carrier-Sends freight details and invoice to buyer, supplier, or 3PL</p> <p>4 Buyer, Supplier, or 3PL- Received freight invoice.</p> <p><b>Ends when...</b></p>
<b>Alternative Scenario</b>	<p>There are no alternative scenarios.</p> <p><b>None</b></p>
<b>Related Requirements</b>	<b>None</b>

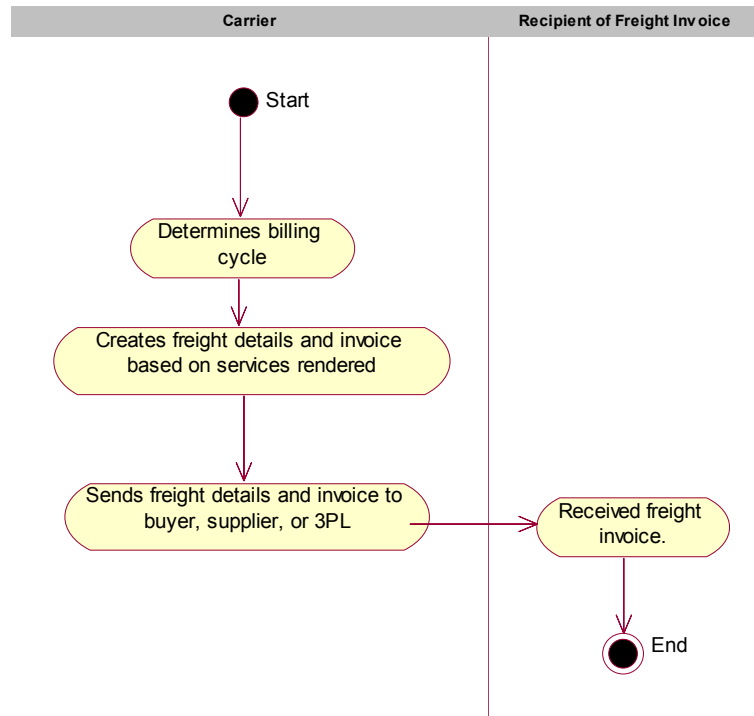
## Business Solution Design

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<b>Related Rules</b>	<i>Business rules associated with use case.</i> <b>None</b>

## 1.4.2 Business Transaction Activity Diagram(s)



## **Business Solution Design**

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### **1.4.3 Business Transaction Sequence Diagram(s) (optional)**

Not filled in the previous BRD

## Business Solution Design

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### 1.5 Information Model (including GDD Report)

#### 1.5.1 Data Description:

##### Full Truckload Freight Invoice

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
BillingInformation				BRD for Freight Invoice V0.0.10
	billedRateAsQuantity			BRD for Freight Invoice V0.0.10
	billedRateAsQuantityQualifierType			BRD for Freight Invoice V0.0.10
	charge			BRD for Freight Invoice V0.0.10
	rate			BRD for Freight Invoice V0.0.10
	rateQualifierType			BRD for Freight Invoice V0.0.10
CarrierPROIdentificationInformation				BRD for Freight Invoice V0.0.10
	carrierPROIdentification			BRD for Freight Invoice V0.0.10
		carrierIdentification	PartyIdentification	BRD for Freight Invoice V0.0.10
CommodityGroup				BRD for Freight Invoice V0.0.10
	commodityCode			BRD for Freight Invoice V0.0.10
	commodityDescription			BRD for Freight Invoice V0.0.10
	commodityQuantity			BRD for Freight Invoice V0.0.10

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
	commodityWeight			BRD for Freight Invoice V0.0.10
DeliverReference				BRD for Freight Invoice V0.0.10
	deliverReferenceIdentification			BRD for Freight Invoice V0.0.10
	deliverReferenceType			BRD for Freight Invoice V0.0.10
DeliverShipmentInformation				BRD for Freight Invoice V0.0.10
	numberOfUnits			BRD for Freight Invoice V0.0.10
		shipmentWeight	MultiMeasurementValue	BRD for Freight Invoice V0.0.10
FreightInvoiceDate				BRD for Freight Invoice V0.0.10
	actualPickupDate			BRD for Freight Invoice V0.0.10
	billingDate			BRD for Freight Invoice V0.0.10
	deliveryDate			BRD for Freight Invoice V0.0.10
	estimatedDeliveryDate			BRD for Freight Invoice V0.0.10
FTLFreightInvoiceStopLocation				BRD for Freight Invoice V0.0.10
	partyRoleType			BRD for Freight Invoice V0.0.10
	stopSequence			BRD for Freight Invoice V0.0.10
		None	StopLocationInforma-	BRD for Freight Invoice



## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
			tion	V0.0.10
FullTruckloadFreightInvoice				BRD for Freight Invoice V0.0.10
	correctionIndicator			BRD for Freight Invoice V0.0.10
	invoiceNumber			BRD for Freight Invoice V0.0.10
	shipmentMethodOfPaymentType			BRD for Freight Invoice V0.0.10
	transportationMethodType			BRD for Freight Invoice V0.0.10
		None	BillingInformation	BRD for Freight Invoice V0.0.10
		carrierSCAC	CarrierPROIdentifica- tionInformation	BRD for Freight Invoice V0.0.10
		None	CommodityGroup	BRD for Freight Invoice V0.0.10
		None	DeliverReference	BRD for Freight Invoice V0.0.10
		fullTruckloadFreightInvoiceIdentifica- tion	EntityIdentification	BRD for Freight Invoice V0.0.10
		None	FreightInvoiceDate	BRD for Freight Invoice V0.0.10
		None	FTLFreightInvoiceStop- Location	BRD for Freight Invoice V0.0.10
		None	FullTruckloadLocation- Date	BRD for Freight Invoice V0.0.10
		None	NetAmountDueInfor- mation	BRD for Freight Invoice V0.0.10
		None	SpecialChargeInforma- tion	BRD for Freight Invoice V0.0.10

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
FullTruckloadLocationDate				BRD for Freight Invoice V0.0.10
	actualArrivalDateTimeAtLocation			BRD for Freight Invoice V0.0.10
	actualDepartureDateTimeFromLocation			BRD for Freight Invoice V0.0.10
SpecialChargeInformation				BRD for Freight Invoice V0.0.10
	specialChargeAmount			BRD for Freight Invoice V0.0.10
	specialChargeType			BRD for Freight Invoice V0.0.10

### Less Than Truckload Freight Invoice

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
BillingInformation				BRD for Freight Invoice V0.0.10
	billedRateAsQuantity			BRD for Freight Invoice V0.0.10
	billedRateAsQuantityQualifierType			BRD for Freight Invoice V0.0.10
	charge			BRD for Freight Invoice V0.0.10
	rate			BRD for Freight Invoice V0.0.10
	rateQualifierType			BRD for Freight Invoice V0.0.10
CarrierPROIdentificationInformation				BRD for Freight Invoice V0.0.10
	carrierPROIdentification			BRD for Freight Invoice V0.0.10
		carrierIdentification	PartyIdentification	BRD for Freight Invoice V0.0.10
CommodityGroup				BRD for Freight Invoice V0.0.10
	commodityCode			BRD for Freight Invoice V0.0.10

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
	commodityDescription			BRD for Freight Invoice V0.0.10
	commodityQuantity			BRD for Freight Invoice V0.0.10
	commodityWeight			BRD for Freight Invoice V0.0.10
DeliverHazardousInformation				BRD for Freight Invoice V0.0.10
		hazardousContactInformation	Contact	BRD for Freight Invoice V0.0.10
		None	TradeItemHazardousInformation	BRD for Freight Invoice V0.0.10
DeliverInvoicingLineItemInformation				BRD for Freight Invoice V0.0.10
	commodityDescription			BRD for Freight Invoice V0.0.10
	masterHandlingUnitQuantity			BRD for Freight Invoice V0.0.10
	packageFormCode			BRD for Freight Invoice V0.0.10
		None	WeightInformation	BRD for Freight Invoice V0.0.10
DeliverReference				BRD for Freight Invoice V0.0.10
	deliverReferenceIdentification			BRD for Freight Invoice V0.0.10
	deliverReferenceType			BRD for Freight Invoice V0.0.10
FreightInvoiceDate				BRD for Freight Invoice V0.0.10
	actualPickupDate			BRD for Freight Invoice V0.0.10
	billingDate			BRD for Freight Invoice V0.0.10
	deliveryDate			BRD for Freight Invoice V0.0.10
	estimatedDeliveryDate			BRD for Freight Invoice V0.0.10
LessThanTruckloadFreightInvoice				BRD for Freight Invoice V0.0.10
	correctionIndicatorType			BRD for Freight Invoice V0.0.10
	invoiceNumber			BRD for Freight Invoice V0.0.10
	shipmentMethodOfPaymentType			BRD for Freight Invoice V0.0.10
		None	BillingInformation	BRD for Freight Invoice V0.0.10

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
		None	CarrierPROIdentificationInformation	BRD for Freight Invoice V0.0.10
		None	CommodityGroup	BRD for Freight Invoice V0.0.10
		None	DeliverHazardousInformation	BRD for Freight Invoice V0.0.10
		None	DeliverInvoicingLineItemInformation	BRD for Freight Invoice V0.0.10
		None	DeliverReference	BRD for Freight Invoice V0.0.10
		ITLFreightInvoiceIdentification	EntityIdentification	BRD for Freight Invoice V0.0.10
		None	FreightInvoiceDate	BRD for Freight Invoice V0.0.10
		None	InterlineCarrier	BRD for Freight Invoice V0.0.10
		None	LTLFreightInvoiceStopLocation	BRD for Freight Invoice V0.0.10
		None	NetAmountDueInformation	BRD for Freight Invoice V0.0.10
		None	SpecialChargeInformation	BRD for Freight Invoice V0.0.10
LTLFreightInvoiceStopLocation				BRD for Freight Invoice V0.0.10
	partyRoleType			BRD for Freight Invoice V0.0.10
	stopSequence			BRD for Freight Invoice V0.0.10
		None	StopLocationInformation	BRD for Freight Invoice V0.0.10
NetAmountDueInformation				BRD for Freight Invoice V0.0.10
	exchangeRate			BRD for Freight Invoice V0.0.10
	expectedPaymentCurrency			BRD for Freight Invoice V0.0.10
	netAmountDue			BRD for Freight Invoice V0.0.10

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
		bankClientIdentification	PartyIdentification	BRD for Freight Invoice V0.0.10
SpecialChargeInformation				BRD for Freight Invoice V0.0.10
	specialChargeAmount			BRD for Freight Invoice V0.0.10
	specialChargeType			BRD for Freight Invoice V0.0.10

### Small Package Carrier Freight Invoice

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
ConsolidatedShipmentFreightInvoiceInformation				BRD for Freight Invoice V0.0.10
	exchangeRate			BRD for Freight Invoice V0.0.10
	residentialIndicator			BRD for Freight Invoice V0.0.10
	sectionCode			BRD for Freight Invoice V0.0.10
	shipmentMethod-PaymentType			BRD for Freight Invoice V0.0.10
	subSectionCode			BRD for Freight Invoice V0.0.10
		None	DeliverDateInformation	BRD for Freight Invoice V0.0.10
		None	DeliverReference	BRD for Freight Invoice V0.0.10
		None	LadingQuantityInformation	BRD for Freight Invoice V0.0.10
		None	PackageLevel-FreightInvoiceInformation	BRD for Freight Invoice V0.0.10

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
		None	ShipmentDetailInformation	BRD for Freight Invoice V0.0.10
		None	SPCFreightInvoiceNameAndAddress	BRD for Freight Invoice V0.0.10
		None	SpecialChargeInformation	BRD for Freight Invoice V0.0.10
DeliverReference				BRD for Freight Invoice V0.0.10
	deliverReferenceIdentification			BRD for Freight Invoice V0.0.10
	deliverReferenceType			BRD for Freight Invoice V0.0.10
LadingQuantityInformation				BRD for Freight Invoice V0.0.10
	ladingQuantity			BRD for Freight Invoice V0.0.10
	ladingQuantityType			BRD for Freight Invoice V0.0.10
PackageLevelFreightInvoiceInformation				BRD for Freight Invoice V0.0.10
	trackingNumber			BRD for Freight Invoice V0.0.10
		None	DeliverReference	BRD for Freight Invoice V0.0.10
		None	LadingQuantityInformation	BRD for Freight Invoice V0.0.10
		corrected	ShipmentDetailInformation	BRD for Freight Invoice V0.0.10
		recorded	ShipmentDetailInformation	BRD for Freight Invoice V0.0.10
		None	SpecialChargeInformation	BRD for Freight Invoice V0.0.10
ShipmentDetailInformation				BRD for Freight Invoice V0.0.10

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
	deliveryZone			BRD for Freight Invoice V0.0.10
	overSizeIndicator			BRD for Freight Invoice V0.0.10
	serviceLevelCodeType			BRD for Freight Invoice V0.0.10
	serviceStandard			BRD for Freight Invoice V0.0.10
		None	PackageDimension	BRD for Freight Invoice V0.0.10
		None	WeightInformation	BRD for Freight Invoice V0.0.10
SmallPackageCarrierFreightInvoice				BRD for Freight Invoice V0.0.10
	consolidatedBillPlanNumber			BRD for Freight Invoice V0.0.10
	invoiceDate			BRD for Freight Invoice V0.0.10
	invoiceDueDate			BRD for Freight Invoice V0.0.10
	invoiceNumber			BRD for Freight Invoice V0.0.10
	shipmentMethodPaymentType			BRD for Freight Invoice V0.0.10
	totalInvoiceAmount			BRD for Freight Invoice V0.0.10
		None	Document	BRD for Freight Invoice V0.0.10
		smallPackageCarrierFreightInvoiceIdentification	EntityIdentification	BRD for Freight Invoice V0.0.10
		carrierIdentification	PartyIdentification	BRD for Freight Invoice V0.0.10
		None	SPCFreightInvoiceDetail	BRD for Freight Invoice V0.0.10

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
		None	SPCFreightInvoiceNameAndAddress	BRD for Freight Invoice V0.0.10
SPCFreightInvoiceDetail				BRD for Freight Invoice V0.0.10
	loadingDescription			BRD for Freight Invoice V0.0.10
	pickupRecord-Number			BRD for Freight Invoice V0.0.10
	transportation-ModeType			BRD for Freight Invoice V0.0.10
		None	Consolidated-Shipment-FreightInvoiceInformation	BRD for Freight Invoice V0.0.10
		None	DeliverReference	BRD for Freight Invoice V0.0.10
		None	LadingQuantity-Information	BRD for Freight Invoice V0.0.10
		None	LineItem	BRD for Freight Invoice V0.0.10
		None	SpecialCharge-Information	BRD for Freight Invoice V0.0.10
SPCFreightInvoiceNameAndAddress				BRD for Freight Invoice V0.0.10
	accountNumber			BRD for Freight Invoice V0.0.10
	deliverIdentificationCodeType			BRD for Freight Invoice V0.0.10
	storeNumber			BRD for Freight Invoice V0.0.10
		None	StopLocationInformation	BRD for Freight Invoice V0.0.10
SpecialChargeInformation				BRD for Freight Invoice V0.0.10



## Business Solution Design

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Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirements
	specialChargeAmount			BRD for Freight Invoice V0.0.10
	specialChargeType			BRD for Freight Invoice V0.0.10

## Business Solution Design

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### 1.5.2 GDD Report :

#### Full Truck Load Freight Invoice

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity
BillingInformation				Freight_ Invoice Sub Total. Details	Line item charges that make up the billed amount for a shipment	
	billedRateAsQuantity			Freight_ Invoice Sub Total. As Quantity_ Billed_ Rate. Numeric	Specific quantity billed for the line item.	0..1
	billedRateAsQuantityQualifierType			Freight_ Invoice Sub Total. Billed Rate As Quantity Qualifier_ Type. Billed Rate As Quantity Qualifier Type_ Code	Qualifier stating what the billed rate as quantity is.	0..1
	charge			Freight_ Invoice Sub Total. Charge. Amount	Specific line item charge.	1..1
	rate			Freight_ Invoice Sub Total. Rate. Numeric	Rate that applies to the specific line item being delineated.	1..1
	rateQualifierType			Freight_ Invoice Sub Total. Rate	Qualifier for the rate	1..1

## Business Solution Design

				Qualifier_ Type. Rate Qualifier Type_ Code		
CarrierPROIdentificationInforma- tion				Carrier PRO_ Shipment Ident- ification. De- tails		
	carrierPROIdentification			Carrier PRO_ Shipment Ident- ification. Car- rier Pro Identifi- cation. Indicator		1..1
		carrierIdentification	PartyIdentification	Carrier PRO_ Shipment Ident- ification. Car- rier Identifier. Party Identifica- tion	None	1..1
CommodityGroup				Freight_ Com- modity. Details	!! This class is optional with possible multiple occurrences.	
	commodityCode			Freight_ Com- modity. Type. Commodity_ Code		1..1
	commodityDescription			Freight_ Com- modity. Com- modity_ De- scription. Lan- guage_ Text		1..1
	commodityQuantity			Freight_ Com- modity. Com- modity_ Quan-		1..1

## Business Solution Design

				Commodity_ Weight_ Measure		
	commodityWeight			Freight_ Commodity_ Weight_ Measure		1..1
DeliverReference				Deliver_ Entity Reference. Details	Number used to reference package or shipment for the purposes of status inquiry.	
	deliverReferenceIdentification			Deliver_ Entity Reference. Deliver Reference_ Identification. Text		1..1
	deliverReferenceType			Deliver_ Entity Reference. Deliver Reference_ Type. Deliver Reference_ Code		1..1
DeliverShipmentInformation				Shipment Information. Details	Not Available	
	numberOfUnits			Shipment Information. Number Of_ Units. Numeric	Not Available	1..1
		shipmentWeight	MultiMeasurement-Value	Shipment Information. Shipment Weight_ Association. Multi-	Not Available	1..1

## Business Solution Design

				unit Measure		
FreightInvoiceDate				Freight Invoice_ Date Group. Details	Information pertaining to various dates associated to the freight invoice.	
	actualPickupDate			Freight Invoice_ Date Group. Actual Pickup_ Date Time. Date Time	The actual pickup date of the freight by the carrier from the shipper.	0..1
	billingDate			Freight Invoice_ Date Group. Billing_ Date Time. Date Time	The date the freight invoice was billed.	1..1
	deliveryDate			Freight Invoice_ Date Group. Delivery_ Date Time. Date Time	The delivery date of the freight to the ship to party.	0..1
	estimatedDeliveryDate			Freight Invoice_ Date Group. Estimated De- livery_ Date Time. Date Time	The estimated delivery date of the freight to the ship to party.	0..1
FTLFreightInvoiceStopLocation				Full Truckload Freight_ Stop_ Transport Loca- tion. Details	This may contain the combination of party role type, stop se- quence, and the stop location information.	
	partyRoleType			Full Truckload Freight_ Stop_ Transport Loca-	Identifies the associated party role type for the	0..1

## Business Solution Design

				tion. Role Type. FTL Freight Invoice Party Role_ Code	stop.	
	stopSequence			Full Truckload Freight_ Stop_ Transport Location. Stop_ Sequence. Text	Identifies the sequential order of the stop.	0..1
		None	StopLocationInformation	Full Truckload Freight_ Stop_ Transport Location. Association. Stop_ Transport Location	None	1..1
FullTruckloadFreightInvoice				Full Truckload_ Freight Invoice. Details	Root class - Contains all the necessary information to transmit full truckload freight invoice information.	
	correctionIndicator			Full Truckload_ Freight Invoice. Correction_ Indicator. Correction Indicator_ Code	Identifies the correction indicator type by referencing the correction indicator list.	0..1
	invoiceNumber			Full Truckload_ Freight Invoice. Invoice Number. Text	Identifies the invoice number associated to the freight invoice.	1..1

## Business Solution Design

	shipmentMethodOfPayment- Type			Full Truckload_ Freight Invoice. Payment Method Type. Freight Invoice Payment Method_ Code	Identifies the shipment method of pay- ment type by referencing the freight invoice payment method code list	1..1
	transportationMethodType			Full Truckload_ Freight Invoice. Transportation Method Type. Transportation Method Type_ Code	Identifies the transportation method type by referencing the transportation method type code list.	0..1
		None	BillingInformation	Full Truckload_ Freight Invoice. Association. Freight_ Invoice Sub Total	None	0..*
		carrierSCAC	CarrierPROIdentifi- cationInformation	Full Truckload_ Freight Invoice. Carrier SCAC_ Association. Carrier PRO_ Shipment Iden- tification	TO BE DELETED	1..1
		None	CommodityGroup	Full Truckload_ Freight Invoice. Association. Freight_ Com- modity	TO BE DELETED	0..*
		None	DeliverReference	Full Truckload_ Freight Invoice.	TO BE DELETED	0..*

## Business Solution Design

				Reference. Deliver_ Entity Reference		
		fullTruckload-FreightInvoiceIdentification	EntityIdentification	Full Truckload_ Freight Invoice. Freight Invoice Identification_ Association. Entity Identification	TO BE DELETED	1..1
		None	FreightInvoiceDate	Full Truckload_ Freight Invoice. Association. Freight Invoice_ Date Group	TO BE DELETED	1..1
		None	FTLFreightInvoiceStopLocation	Full Truckload_ Freight Invoice. Association. Full Truckload Freight_ Stop_ Transport Location	TO BE DELETED	0..1
		None	FullTruckloadLocationDate	Full Truckload_ Freight Invoice. Association. Full Truckload Arrival And Departure_ Date Group	TO BE DELETED	0..1
		None	NetAmountDueInformation	Full Truckload_ Freight Invoice. Association. Freight_ Invoice Total	TO BE DELETED	1..1



## Business Solution Design

		None	SpecialChargeInformation	Full Truckload_ Freight Invoice. Association. Freight_Charge_ Allowance Charge	TO BE DELETED	0..*
FullTruckloadLocationDate				Full Truckload Arrival And Departure_ Date Group. Details	Contains the date and time data for the shipment.	
	actualArrivalDateTimeAtLocation			Full Truckload Arrival And Departure_ Date Group. Actual Arrival_ Date Time At Location. Date Time		0..1
	actualDepartureDateTimeFromLocation			Full Truckload Arrival And Departure_ Date Group. Actual Departure_ Date Time From Location. Date Time		0..1
SpecialChargeInformation				Freight_Charge_ Allowance Charge. Details	This contains the special charge amount and the special charge qualifier type.	
	specialChargeAmount			Freight_Charge_ Allowance	The special charge amount	1..1

## Business Solution Design

				Charge. Special Charge_ Amount. Amount	and the currency.	
	specialChargeType			Freight_Charge_ Allowance Charge. Special Charge_ Type. Special Charge_ Code	The qualifier for the special charge type, and the available special charge type can reference from the ATA X12 Data Element 150 list.	1..1

### Less Than Truckload Freight Invoice

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
BillingInformation				Freight_ Invoice Sub Total. Details	Line item charges that make up the billed amount for a shipment		
	billedRateAsQuantity			Freight_ Invoice Sub Total. As Quantity_ Billed_ Rate. Numeric	Specific quantity billed for the line item.	0..1	Numeric. Content Numeric. Format. Text
	billedRateAsQuantityQualifier- Type			Freight_ Invoice Sub Total. Billed Rate As Quantity Qualifier_ Type. Billed	Qualifier stating what the billed rate as quantity is.	0..1	Code. Content

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				Rate As Quantity Qualifier Type_ Code			
	charge			Freight_ Invoice Sub Total. Charge. Amount	Specific line item charge.	1..1	Amount. Content Amount Currency. Code List Version. Identifier
	rate			Freight_ Invoice Sub Total. Rate. Numeric	Rate that applies to the specific line item being delineated.	1..1	Numeric. Content Numeric. Format. Text
	rateQualifierType			Freight_ Invoice Sub Total. Rate Qualifier_ Type. Rate Qualifier Type_ Code	Qualifier for the rate	1..1	Code. Content
CarrierPROIdentificationInformation				Carrier PRO_ Shipment Identification. Details			
	carrierPROIdentification			Carrier PRO_ Shipment Identification. Carrier Pro Identification. Indicator		1..1	Indicator. Content Indicator. Format. Text
		carrierIdentification	PartyIdentification	Carrier PRO_ Shipment Identification	None	1..1	

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				tification. Carrier Identifier. Party Identification			
CommodityGroup				Freight_ Commodity. Details	!! This class is optional with possible multiple occurrences.		
	commodityCode			Freight_ Commodity. Type. Commodity_ Code		1..1	Code. Content
	commodityDescription			Freight_ Commodity. Commodity_ Description. Language_ Text		1..1	Language. Identifier Language. Locale. Identifier Text. Content
	commodityQuantity			Freight_ Commodity. Commodity_ Quantity. Quantity		1..1	Quantity. Content Quantity Unit. Code Quantity Unit. Code List Agency. Identifier

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
	commodityWeight			Freight_ Commodity. Commodity_ Weight. Weight_ Measure		1..1	Measure. Content Measure Unit. Code
DeliverHazardousInformation				Deliver_ Hazardous Goods. Details			
		hazardousContactInformation	Contact	Deliver_ Hazardous Goods. Contact Information. Contact	None	1..1	
		None	TradeItemHazardousInformation	Deliver_ Hazardous Goods. Association. Hazardous Goods	None	1..1	
DeliverInvoicingLineItemInformation				Less Than Truckload_ Freight Invoice Line. Details			
	commodityDescription			Less Than Truckload_ Freight Invoice Line. Commodity Description_ Lading Description. Text	Text description of the commodity being shipped. When NMFC is used for Commodity Classification, the description must match the NMFC Code Description	1..1	Text. Content
	masterHandlingUnitQuantity			Less Than	The number of	1..1	Measure.

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				Truckload_Freight Invoice Line. Master_Handling Unit Quantity. Measure	carrier handling units (pallets, skids or slip sheets) for each of the line items.		Content Measure Unit. Code Measure Unit. Code List Version. Identifier
	packageFormCode			Less Than Truckload_Freight Invoice Line. Package_Form Code. Text	Code for packaging form of the lading quantity	1..1	Text. Content
		None	WeightInformation	Less Than Truckload_Freight Invoice Line. Association. Delivery_Weight_Dimension	None	1..1	
DeliverReference				Deliver_Entity Reference. Details	Number used to reference package or shipment for the purposes of status inquiry.		
	deliverReferenceIdentification			Deliver_Entity Reference. Deliver Reference_Identification. Text		1..1	Text. Content

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
	deliverReferenceType			Deliver_ Entity Reference. Deliver Reference_ Type. Deliver Reference_ Code		1..1	Code. Content
FreightInvoiceDate				Freight Invoice_ Date Group. Details	Information pertaining to various dates associated to the freight invoice.		
	actualPickupDate			Freight Invoice_ Date Group. Actual Pickup_ Date Time. Date Time	The actual pickup date of the freight by the carrier from the shipper.	0..1	Date Time. Content Date Time. Format. Text
	billingDate			Freight Invoice_ Date Group. Billing_ Date Time. Date Time	The date the freight invoice was billed.	1..1	Date Time. Content Date Time. Format. Text
	deliveryDate			Freight Invoice_ Date Group. Delivery_ Date Time. Date Time	The delivery date of the freight to the ship to party.	0..1	Date Time. Content Date Time. Format. Text

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
	estimatedDeliveryDate			Freight Invoice_ Date Group. Estimated Delivery_ Date Time. Date Time	The estimated delivery date of the freight to the ship to party.	0..1	Date Time. Content Date Time. Format. Text
LessThanTruckloadFreightInvoice				Less Than Truckload_ Freight Invoice. Details	Contains all the necessary information to transmit less than truckload freight invoice information.		
	correctionIndicatorType			Less Than Truckload_ Freight Invoice. Correction_ Indicator Type. Correction Indicator_ Code	Identifies the correction indicator type by referencing the correction indicator list.	0..1	Code. Content
	invoiceNumber			Less Than Truckload_ Freight Invoice. Invoice Number_ Invoice Number. Text	Identifies the invoice number associated to the freight invoice.	1..1	Text. Content
	shipmentMethodOfPaymentType			Less Than Truckload_ Freight Invoice. Shipment_ Payment	Identifies the shipment method of payment type by referencing the freight invoice	1..1	Code. Content



## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				Method Type. Freight Invoice Payment Method_ Code	payment method code list.		
		None	BillingInformation	Less Than Truckload_ Freight Invoice. Association. Freight_ Invoice Sub Total	None	0..*	
		None	Carrier-PROIdentificationInformation	Less Than Truckload_ Freight Invoice. Association. Carrier PRO_ Shipment Identification	None	1..1	
		None	Commodity-Group	Less Than Truckload_ Freight Invoice. Association. Freight_ Commodity	None	0..*	
		None	DeliverHazardousInformation	Less Than Truckload_ Freight Invoice. Association. Deliver_ Hazardous Goods	Not Available	0..1	
		None	DeliverInvoicingLineItemIn-	Less Than Truckload_	Not Available	0..*	

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
			formation	Freight Invoice. Association. Less Than Truckload_ Freight Invoice Line			
		None	DeliverReference	Less Than Truckload_ Freight Invoice. Reference. Deliver_ Entity Reference	Not Available	0..*	
		ITLFreightInvoiceIdentification	EntityIdentification	Less Than Truckload_ Freight Invoice. LTL Freight Invoice Identification_ Association. Entity Identification	Not Available	1..1	
		None	FreightInvoiceDate	Less Than Truckload_ Freight Invoice. Association. Freight Invoice_ Date Group	Not Available	1..1	
		None	InterlineCarrier	Less Than Truckload_ Freight Invoice. Association. Interline_ Ship-	Not Available	0..1	

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				ment Transfer			
		None	LTLFreightInvoiceStopLocation	Less Than Truckload_Freight Invoice. Association. Less Than Truckload Freight Invoice_Transport Location	Not Available	0..*	
		None	NetAmount-DueInformation	Less Than Truckload_Freight Invoice. Association. Freight_Invoice Total	Not Available	1..1	
		None	SpecialCharge-Information	Less Than Truckload_Freight Invoice. Association. Freight_Charge-Allowance Charge	Not Available	0..*	
LTLFreightInvoiceStopLocation				Less Than Truckload Freight Invoice_Transport Location. Details	This may contain the combination of party role type, stop sequence, and the stop location information.		
	partyRoleType			Less Than Truckload	Identifies the associated party role	0..1	Code. Content

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				Freight Invoice_ Transport Location. Role Type. LTL Freight Invoice Party Role Code_ Code	type for the stop by referencing LTL Freight Invoice Party Role Code List.		
	stopSequence			Less Than Truckload Freight Invoice_ Transport Location. Stop_ Sequence. Text	Identifies the sequential order of the stop.	0..1	Text. Content
		None	StopLocationInformation	Less Than Truckload Freight Invoice_ Transport Location. Association. Stop_ Transport Location	None	1..1	
NetAmountDueInformation				Freight_ Invoice Total. Details	This contains the net amount due, and it may contain the exchange rate and the expected payment currency.		
	exchangeRate			Freight_ Invoice Total. Exchange_ Rate. Numeric	Contains the exchange rate for the net amount due.	0..1	Numeric. Content Numeric. Format.

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
							Text
	expectedPaymentCurrency			Freight_ Invoice Total. Expected_ Payment_ Currency. ISO4217_ Code	Contains the expected payment currency.	0..1	Code. Content
	netAmountDue			Freight_ Invoice Total. Net_ Due_ Amount. Amount	Contains the net amount due and the associated currency.	1..1	Amount. Content Amount Currency. Code List Version. Identifier
		bankClientIdentification	PartyIdentification	Freight_ Invoice Total. Bank Client Identification_ Association. Party Identification	None	0..1	
SpecialChargeInformation				Freight_ Charge_ Allowance Charge. Details	This contains the special charge amount and the special charge qualifier type.		
	specialChargeAmount			Freight_ Charge_ Allowance Charge. Special Charge_ Amount. Amount	The special charge amount and the currency.	1..1	Amount. Content Amount Currency. Code List Version.

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
							Identifier
	specialChargeType			Freight_Charge_Allowance Charge. Special Charge_Type. Special Charge_Code	The qualifier for the special charge type, and the available special charge type can reference from the ATA X12 Data Element 150 list.	1..1	Code. Content

### Small Package Carrier Freight Invoice

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
ConsolidatedShipmentFreightInvoiceInformation				Consolidated Shipment_Freight Invoice Sub Line. Details	The level of the invoice where the shipments within a Freight Invoice Detail are listed.		
	exchangeRate			Consolidated Shipment_Freight Invoice Sub Line. Exchange Rate. Float_Numeric	Contains the exchange rate for the freight invoice.	0..1	Numeric. Content
	residentialIndicator			Consolidated Shipment_Freight Invoice Sub Line. Resi-	Indicator for a residential or a business delivery.	0..1	Code. Content Code List.

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				dential_Indicator. Code			Agenc. Identifier Code List. Agency Name. Text
	sectionCode			Consolidated Shipment_Freight Invoice Sub Line. Section_ Code. Text	The carrier specific code that identifies the invoice section. Examples are Lading Section, Taxes, Miscellaneous, etc.	0..1	Text. Content
	shipmentMethod-PaymentType			Consolidated Shipment_Freight Invoice Sub Line. Shipment_ Payment Method Type. Code	Identifies the shipment method of payment type by referencing the freight invoice payment method code list.	0..1	Code. Content Code List. Agenc. Identifier Code List. Agency Name. Text
	subSectionCode			Consolidated Shipment_Freight Invoice Sub Line. Sub Section_ Code. Text	The carrier specific code that identifies the invoice subsection. Examples are Address Correction, Shipping Charge Correction, etc. within the Miscellaneous Section.	0..1	Text. Content

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
		None	DeliverDateInformation	Consolidated Shipment_ Freight Invoice Sub Line. Association. Deliver_ Date	Not Available	*..*	
		None	DeliverReference	Consolidated Shipment_ Freight Invoice Sub Line. Association. Deliver_ Entity Reference	Not Available	0..*	
		None	LadingQuantityInformation	Consolidated Shipment_ Freight Invoice Sub Line. Association. Lading Total	Not Available	0..*	
		None	PackageLevelFreightInvoiceInformation	Consolidated Shipment_ Freight Invoice Sub Line. Association. Package Level_ Freight Invoice Sub Line	Not Available	0..*	
		None	ShipmentDetailInformation	Consolidated Shipment_ Freight Invoice Sub Line. Association. Shipment	Not Available	0..1	



## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				Level_ Freight Invoice Sub Line			
		None	SPCFreightInvoiceNameAndAddress	Consolidated Shipment_ Freight Invoice Sub Line. Association. Small Package Carrier_ Freight Invoice_ Party Address Group	Not Available	0..*	
		None	SpecialCharge-Information	Consolidated Shipment_ Freight Invoice Sub Line. Association. Freight_Charge_ Allowance Charge	Not Available	0..*	
DeliverReference				Deliver_ Entity Reference. Details	Number used to reference package or shipment for the purposes of status inquiry.		
	deliverReferenceIdentification			Deliver_ Entity Reference. Deliver Reference_ Identification. Text		1..1	Text. Content
	deliverReferenceType			Deliver_ Entity Reference. Deliver Reference_		1..1	Code. Content

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				Type. Deliver Reference_ Code			
LadingQuantityInformation				Lading Total. Details	An aggregate which contains lading quantity and measurement.		
	ladingQuantity			Lading Total. lading_ Quantity. Quantity	Number of units on the exception. Lading Quantity includes the packaging type (e.g. carton) associated with the quantity.	1..1	Quantity. Content Quantity Unit. Code Quantity Unit. Code List Agency. Identifier
	ladingQuantityType			Lading Total. Lading_ Quantity Type. Code	This is the qualifier type for the lading quantity, and it references the lading quantity type list.	1..1	Code. Content Code List. Agenc. Identifier Code List. Agency Name. Text
PackageLevelFreightInvoiceInformation				Package Level_ Freight Invoice Sub Line. Details	Small package carrier freight invoice information at the package level.		
	trackingNumber			Package Level_	A number issued by the	0..*	Text.

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				Freight Invoice Sub Line. Tracking Number. Text	shipper used to track the shipment of a package		Content
		None	DeliverReference	Package Level_ Freight Invoice Sub Line. Association. Deliver_ Entity Reference	None	0..*	
		None	LadingQuantityInformation	Package Level_ Freight Invoice Sub Line. Association. Lading Total	None	*..*	
		corrected	ShipmentDetailInformation	Package Level_ Freight Invoice Sub Line. Corrected. Shipment Level_ Freight Invoice Sub Line	None	0..1	
		recorded	ShipmentDetailInformation	Package Level_ Freight Invoice Sub Line. Recorded. Shipment Level_ Freight Invoice Sub Line	None	0..1	
		None	SpecialChargeInformation	Package Level_ Freight Invoice Sub Line. Association. Freight_Charge_	None	0..*	

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				Allowance Charge			
ShipmentDetailInformation				Shipment Level_ Freight Invoice Sub Line. Details			
	deliveryZone			Shipment Level_ Freight Invoice Sub Line. Deliver Zone. Text		0..1	Text. Content
	overSizeIndicator			Shipment Level_ Freight Invoice Sub Line. Size Indicator. Code		0..*	Code. Content Code List. Agenc. Identifier Code List. Agency Name. Text
	serviceLevelCodeType			Shipment Level_ Freight Invoice Sub Line. Service Level Type. Code		0..1	Code. Content Code List. Agenc. Identifier Code List. Agency Name. Text

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
	serviceStandard			Shipment Level_ Freight Invoice Sub Line. Service_ Standard. Text		0..1	Text. Content
		None	PackageDimension	Shipment Level_ Freight Invoice Sub Line. Association. Package_ Dimension	None	0..1	
		None	WeightInformation	Shipment Level_ Freight Invoice Sub Line. Association. Delivery_ Weight_ Dimension	None	0..1	
SmallPackageCarrierFreightInvoice				Small Package Carrier_ Freight Invoice. Details			
	consolidatedBill-PlanNumber			Small Package Carrier_ Freight Invoice. Consolidated Bill Plan_ Number. Text		0..1	Text. Content
	invoiceDate			Small Package Carrier_ Freight Invoice. Invoice Date. Date Time		1..1	Date Time. Content Date Time. Format.

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
							Text
	invoiceDueDate			Small Package Carrier_ Freight Invoice. Invoice Due Date. Date Time		1..1	Date Time. Content Date Time. Format. Text
	invoiceNumber			Small Package Carrier_ Freight Invoice. Invoice Number. Text		0..*	Text. Content
	shipmentMethod-PaymentType			Small Package Carrier_ Freight Invoice. Shipment_ Payment Method Type. Code		1..1	Code. Content Code List. Agenc. Identifier Code List. Agency Name. Text
	totalInvoiceAmount			Small Package Carrier_ Freight Invoice. Total_ Invoice Amount. Amount		1..1	Amount. Content Amount Currency. Code List Version.

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
							Identifier
		None	Document	Small Package Carrier_ Freight Invoice. Inheritance_Association. Electronic_Document	None	1..1	
		smallPackageCarrierFreightInvoiceIdentification	EntityIdentification	Small Package Carrier_ Freight Invoice. Freight Invoice Identification. Entity Identification	None	1..1	
		carrierIdentification	PartyIdentification	Small Package Carrier_ Freight Invoice. Carrier Identification. Party Identification	None	1..1	
		None	SPCFreightInvoiceDetail	Small Package Carrier_ Freight Invoice. Association. Small Package Carrier_ Freight Invoice Line	None	1..*	
		None	SPCFreightInvoiceNameAndAddress	Small Package Carrier_ Freight Invoice. Association. Small Pack-	None	1..*	

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				age Carrier_ Freight Invoice_ Party Address Group			
SPCFreightInvoiceDetail				Small Package Carrier_ Freight Invoice Line. Details			
	ladingDescription			Small Package Carrier_ Freight Invoice Line. Lading Description. Text		0..1	Text. Content
	pickupRecord-Number			Small Package Carrier_ Freight Invoice Line. PickUp_ Record Number. Text		0..1	Text. Content
	transportation-ModeType			Small Package Carrier_ Freight Invoice Line. Transportation_ Mode Type. Code		0..*	Code. Content Code List. Agenc. Identifier Code List. Agency Name. Text
		None	Consolidated-	Small Package	None	0..*	



## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
			Shipment-FreightInvoiceInformation	Carrier_ Freight Invoice Line. Association. Consolidated Shipment_ Freight Invoice Sub Line			
		None	DeliverReference	Small Package Carrier_ Freight Invoice Line. Association. Deliver_ Entity Reference	None	0..*	
		None	LadingQuantityInformation	Small Package Carrier_ Freight Invoice Line. Association. Lading Total	None	0..*	
		None	LineItem	Small Package Carrier_ Freight Invoice Line. Inheritance_ Association. Line Item	None	1..1	
		None	SpecialChargeInformation	Small Package Carrier_ Freight Invoice Line. Association. Freight_Charge_ Allowance Charge	None	0..*	

## Business Solution Design

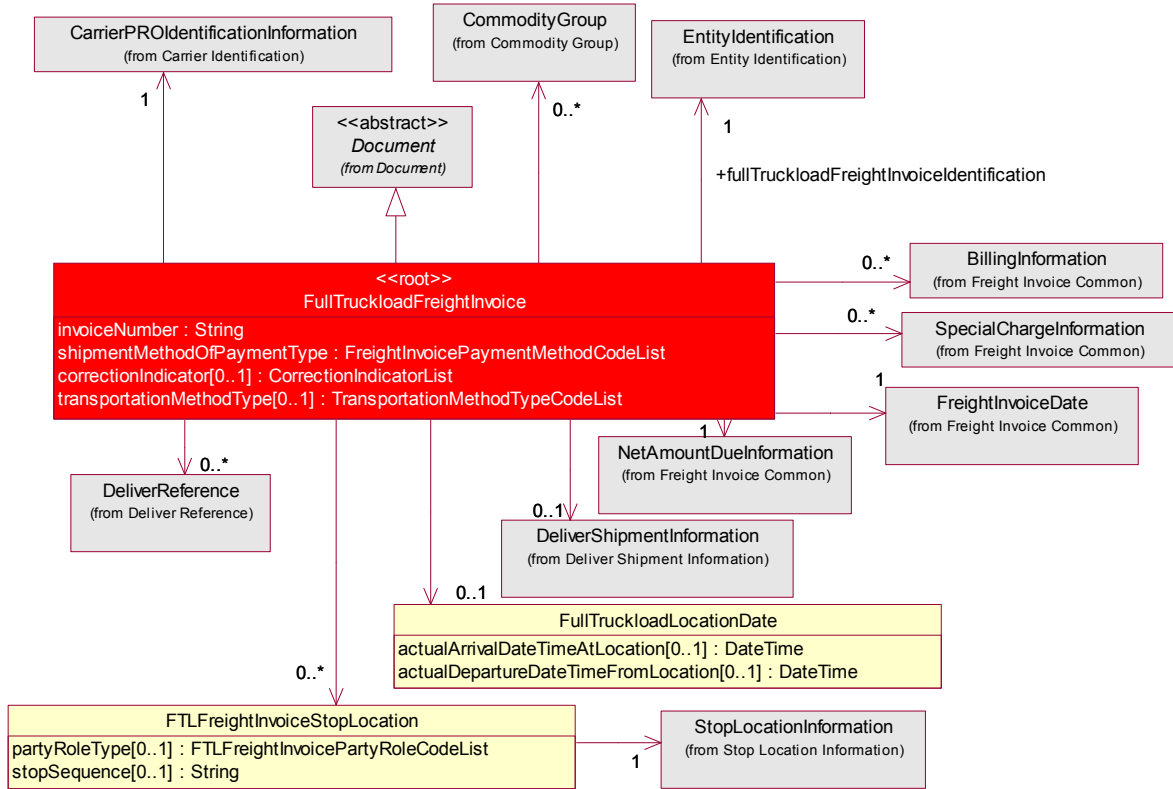
Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
SPCFreightInvoiceNameAndAddress				Small Package Carrier_ Freight Invoice_ Party Address Group. Details			
	accountNumber			Small Package Carrier_ Freight Invoice_ Party Address Group. Account Number. Text		0..1	Text. Content
	deliverIdentificationCodeType			Small Package Carrier_ Freight Invoice_ Party Address Group. Identification Type. Code		1..1	Code. Content Code List. Agenc. Identifier Code List. Agency Name. Text
	storeNumber			Small Package Carrier_ Freight Invoice_ Party Address Group. Store Number. Text		0..1	Text. Content
		None	StopLocationInformation	Small Package Carrier_ Freight	None	1..1	

## Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity	Data Type Components
				Invoice_ Party Address Group. Association. Stop_ Transport Location			
SpecialChargeInformation				Freight_Charge_Allowance Charge. Details	This contains the special charge amount and the special charge qualifier type.		
	specialChargeAmount			Freight_Charge_Allowance Charge. Special Charge_ Amount. Amount	The special charge amount and the currency.	1..1	Amount. Content Amount Currency. Code List Version. Identifier
	specialChargeType			Freight_Charge_Allowance Charge. Special Charge_ Type. Special Charge_ Code	The qualifier for the special charge type, and the available special charge type can reference from the ATA X12 Data Element 150 list.	1..1	Code. Content

## 1.5.3 Class Diagrams

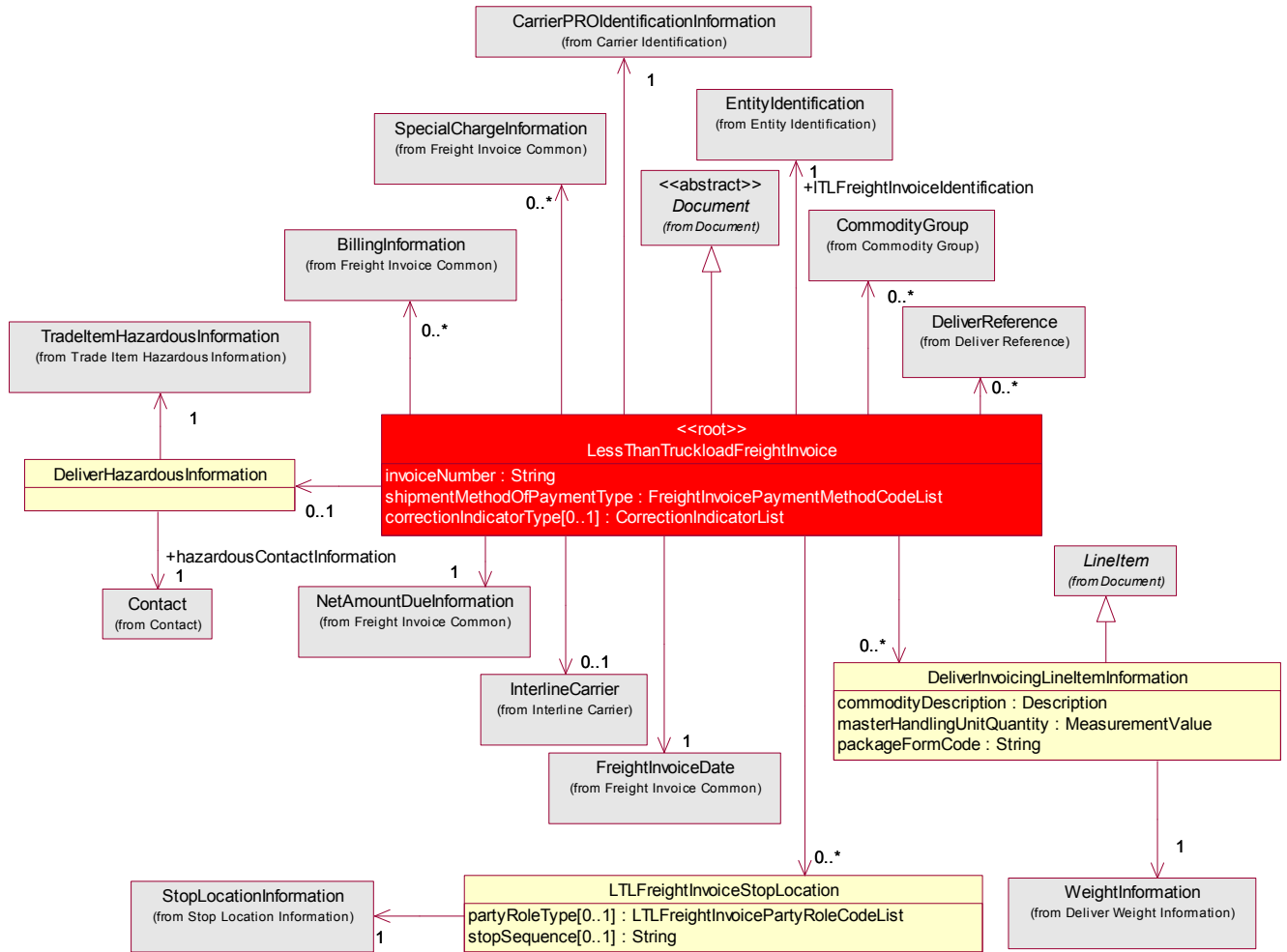
### Class Diagram for FTL Freight Invoice



# Business Solution Design

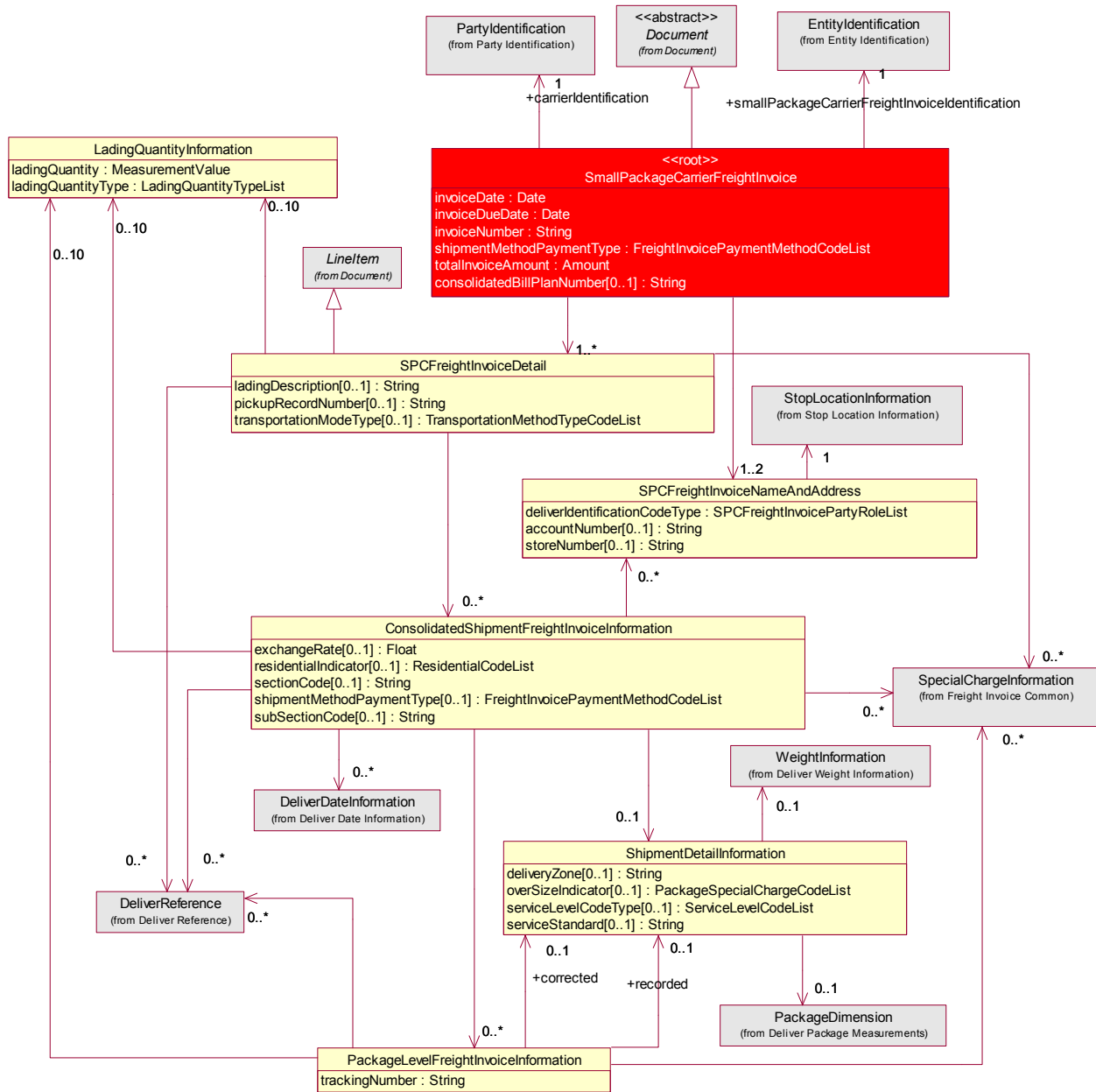
## Class Diagram for LTL Freight Invoice

\*The definition and structure for the reused classes depicted in grey can be found in their respective BRD.



## SPC Freight Invoice

\*The definition and structure for the reused classes depicted in grey can be found in their respective BRD.



## Business Solution Design

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### 1.5.4 Code Lists

#### Full Truckload Freight Invoice

Code List Name	Code List Description
FTLFreightInvoicePartyRoleCodeList	
Code Name	Code Description
BILL_TO	N/A
CONSIGNEE	N/A
SHIP_FROM	N/A
SHIP_TO	N/A
SHIPPER	N/A

Code List Name	Code List Description
FreightInvoicePaymentMethodCodeList	
Code Name	Code Description
BANK_ACCOUNT_DEBIT	N/A
COLLECT	N/A
COLLECT_ON_DELIVERY	N/A
CONSIGNEE BILLING	N/A
CREDIT_CARD	N/A
DEFINED_BY_BUYER_AND_SELLER	N/A
MIXED	N/A
PREPAID_BY_SELLER_OR_CONSIGNOR	N/A
SERVICE_FREIGHT_NO_CHARGE	N/A
THIRD_PARTY_PAY	N/A

## Business Solution Design

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Code List Name	Code List Description
TransportationMethodTypeCodeList	
Code Name	Code Description
AIR	N/A
AIR_CHARTER	N/A
AIR_EXPRESS	N/A
AIR_FREIGHT	N/A
BEST_WAY_SHIPPERS_OPTION	N/A
BOOK_POSTAL	N/A
BUS	N/A
CAB	N/A
CONSOLIDATION	N/A
CONTRACT_CARRIER	N/A
CUSTOMER_PICKUP	N/A
CUSTOMER_PICKUP_OR_CUSTOMERS_EXPENSE	N/A
EXPEDITED_TRUCK	N/A
GEOGRAPHIC_RECEIVING	N/A
GEOGRAPHIC_RECEIVING_SHIPPING	N/A
GEOGRAPHIC_SHIPPING	N/A
INLAND_WATERWAY	N/A
INTERMODAL_PIGGYBACK	N/A
LESS_THAN_TRUCK_LOAD	N/A
MOTOR	N/A
MOTOR_COMMON_CARRIER	N/A
MOTOR_FLATBED	N/A
MOTOR_PACKAGE_CARRIER	N/A
MOTOR_TRUCKLOAD	N/A
MOTOR_VAN	N/A
MUTUALLY_DEFINED	N/A
Code Name	Code Description
OCEAN	N/A
PARCEL_POST	N/A
PIPELINE	N/A
POOL_TO_POOL	N/A
POOLED_AIR	N/A
POOLED_PIGGYBACK	N/A
POOLED_RAIL	N/A
POOLED_TRUCK	N/A
PRIVATE_CARRIER	N/A
PRIVATE_PARCEL_SERVICE	N/A
PRIVATE_VESSEL	N/A
RAIL	N/A
ROADTRAILER	N/A
SEA_AIR	N/A
STEAM_SHIP	N/A
SUPPLIER_TRUCK	N/A



## Business Solution Design

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### Less Than Truck Load Freight Invoice

Code List Name	Code List Description
LTLFreightInvoicePartyRoleCodeList	
Code Name	Code Description
BILL_TO	N/A
CONSIGNEE	N/A
ORDERED_BY	N/A
PARTY_FILLING_SHIPPERS_ORDER	N/A
PARTY_TO_RECEIVE_FREIGHT_BILL	N/A
PARTY_WHO_SIGNED_THE_DELIVERY_RECEIPT	N/A
SHIP_FROM	N/A
SHIP_TO	N/A
SHIPPER	N/A

Code List Name	Code List Description
FreightInvoicePaymentMethodCodeList	N/A
Code Name	Code Description
BANK_ACCOUNT_DEBIT	N/A
COLLECT	N/A
COLLECT_ON_DELIVERY	N/A
CONSIGNEE BILLING	N/A
CREDIT_CARD	N/A
DEFINED_BY_BUYER_AND_SELLER	N/A
MIXED	N/A
PREPAID_BY_SELLER_OR_CONSIGNOR	N/A
SERVICE_FREIGHT_NO_CHARGE	N/A
THIRD_PARTY_PAY	N/A

Code List Name	Code List Description
CorrectionIndicatorList	
Code Name	Code Description
BALANCE_DUE_BILLING	N/A
MISCELLANEOUS_BILLING	N/A
PAST_DUE_BILLING	N/A
REBILLING_IGNORE_PREVIOUS_BILL	N/A

## Business Solution Design

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### Small Package Carrier Freight Invoice

Code List Name	Code List Description
FreightInvoicePaymentMethodCodeList	N/A
Code Name	Code Description
BANK_ACCOUNT_DEBIT	N/A
COLLECT	N/A
COLLECT_ON_DELIVERY	N/A
CONSIGNEE BILLING	N/A
CREDIT_CARD	N/A
DEFINED_BY_BUYER_AND_SELLER	N/A
MIXED	N/A
PREPAID_BY_SELLER_OR_CONSIGNOR	N/A
SERVICE_FREIGHT_NO_CHARGE	N/A
THIRD_PARTY_PAY	N/A

Code List Name	Code List Description
TransportationMethodTypeCodeList	N/A
Code Name	Code Description
AIR	N/A
AIR_CHARTER	N/A
AIR_EXPRESS	N/A
AIR_FREIGHT	N/A
BEST_WAY_SHIPPERS_OPTION	N/A
BOOK_POSTAL	N/A
BUS	N/A
CAB	N/A
CONSOLIDATION	N/A
CONTRACT_CARRIER	N/A
CUSTOMER_PICKUP	N/A
CUSTOMER_PICKUP_OR_CUSTOMERS_EXPE NSE	N/A
Code Name	Code Description
EXPEDITED_TRUCK	N/A
GEOGRAPHIC_RECEIVING	N/A
GEOGRAPHIC_RECEIVING_SHIPPING	N/A
GEOGRAPHIC_SHIPPING	N/A
INLAND_WATERWAY	N/A
INTERMODAL_PIGGYBACK	N/A
LESS_THAN_TRUCK_LOAD	N/A
MOTOR	N/A
MOTOR_COMMON_CARRIER	N/A
MOTOR_FLATBED	N/A
MOTOR_PACKAGE_CARRIER	N/A
MOTOR_TRUCKLOAD	N/A
MOTOR_VAN	N/A
MUTUALLY_DEFINED	N/A
OCEAN	N/A
PARCEL_POST	N/A

## Business Solution Design

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PIPELINE	N/A
POOL_TO_POOL	N/A
POOLED_AIR	N/A
POOLED_PIGGYBACK	N/A
POOLED_RAIL	N/A
POOLED_TRUCK	N/A
PRIVATE_CARRIER	N/A
PRIVATE_PARCEL_SERVICE	N/A
PRIVATE_VESSEL	N/A
RAIL	N/A
ROADTRAILER	N/A
SEA_AIR	N/A
STEAM_SHIP	N/A
SUPPLIER_TRUCK	N/A

Code List Name	Code List Description
LadingQuantityTypeList	N/A
Code Name	Code Description
CONSOLIDATED_SHIPMENT_COUNT	N/A
COUNT_OF_HAZARDOUS_MATERIAL_CONTAINING_PACKAGES	N/A
PACKAGE_QUANTITY_RELATED_TO_A_SPECIAL_SERVICE	N/A
TOTAL_PACKAGE_QUANTITY	N/A

Code List Name	Code List Description
SPCFreightInvoicePartyRoleList	N/A
Code Name	Code Description
BILL_TO	N/A
CONSIGNEE	N/A
CONSOLIDATION_ADDRESS	N/A
CORRECTED_ADDRESS	N/A
FORMER_ADDRESS	N/A
MUTUALLY_DEFINED	N/A
NEXT_FLIGHT_DELIVERY_ADDRESS	N/A
NEXT_FLIGHT_PICKUP_ADDRESS	N/A
PARTY_AT_PICKUP_LOCATION	N/A
REQUESTER	N/A
RETURNED_BY	N/A
RETURNED_FROM	N/A
RETURNED_TO	N/A
SENDER	N/A
SHIP_TO	N/A
SHIPPER	N/A
THIRD_PARTY	N/A
ULTIMATE_CONSIGNEE	N/A

## Business Solution Design

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Code List Name	Code List Description
ResidentialCodeList	N/A
Code Name	Code Description
BUSINESS_DELIVERY	N/A
RESIDENTIAL_DELIVERY	N/A

Code List Name	Code List Description
PackageSpecialChargeCodeList	N/A
Code Name	Code Description
HAZARDOUS_CARGO_CHARGE	N/A
HOLDING_CHARGE	N/A
OVERSIZED_TIER_1	N/A
OVERSIZED_TIER_2	N/A
OVERSIZED_TIER_3	N/A
SPECIAL_HANDLING_SERVICE	N/A

Code List Name	Code List Description
ServiceLevelCodeList	N/A
Code Name	Code Description
AUTHORIZED_RETURN_SERVICE	N/A
CONSIGNEE_BILLING_SERVICE	N/A
DELIVERY_CONFIRMATION	N/A
EXPEDITED_SERVICE	N/A
EXPEDITED_SERVICE_WORLDWIDE	N/A
EXPRESS_SERVICE	N/A
EXPRESS_SERVICE_PLUS	N/A
GROUND	N/A
GROUND_CX_EXPRESS_SERVICE	N/A
MULTIWEIGHT	N/A
MUTUALLY_DEFINED	N/A
NEXT_DAY_AIR	N/A
Code Name	Code Description
NEXT_DAY_PM	N/A
NEXT_MORNING	N/A
PRIMARY_SERVICE_AREA_NEXT_DAY_BY_10:30_AM	N/A
PRIMARY_SERVICE_AREA_NEXT_DAY_BY_5:00_PM	N/A
SAME_DAY	N/A
SATURDAY	N/A
SECOND_DAY_AIR	N/A
SECOND_MORNING	N/A
STANDARD_GROUND_HUNDRED_WEIGHT	N/A
STANDARD_SERVICE	N/A
THREE_DAY_SERVICE	N/A

Code List Name	Code List Description
SpecialChargeTypeListATAX12DataList	N/A

## Business Solution Design

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Code Name	Code Description
ACKNOWLEDGEMENT_OF_DELIVERY	N/A
ADDRESS_CORRECTION	N/A
ADJUSTMENTS	N/A
ADVANCE_CHARGES_HANDLING	N/A
ADVANCE_DESTINATION_AMOUNT	N/A
ADVANCE_FEE	N/A
ADVANCES	N/A
AGENT_DISBURSEMENT_DESTINATION	N/A
AGENT_DISBURSEMENT_FEE_ORIGIN	N/A
AGENT_DISBURSEMENT_ORIGIN	N/A
AIR_FREIGHT	N/A
ALLOWANCE_ADVANCE	N/A
Code Name	Code Description
APPOINTMENT	N/A
ARBITRARY	N/A
BACKHAUL	Charge occurs when customers cannot provide a load to get the driver back to the shipper on a route.
BALANCE_FORWARD	N/A
BANKING_DRAFTS	N/A
BARGE_FREIGHT_ALL_KINDS_SERVICE	N/A
BEYOND_CHARGE	N/A
BEYOND_FREIGHT_CHARGES	N/A
BILL_OF_LADING_CHARGE	N/A
BLOCKING_AND_BRACING_CHARGE	N/A
BOBTAIL_CHARGES	N/A
BOND_CHARGES	N/A
BORDER_CROSSING_FEE	N/A
BRIDGE_TOLL	N/A
BROKERAGE_OR_DUTY	N/A
BULKY_ARTICLE	N/A
BUNKER_SURCHARGE	N/A
CALL_TAG	N/A
CANADIAN_BORDER_CROSSING	Additional charge to customer for the driver to go through the border crossing.
CANADIAN_CURRENCY_EXCHANGE	N/A
CANADIAN_IMPORT_TERMINATION_FEE	N/A
CANADIAN_REMANIFEST_FEE	N/A

## Business Solution Design

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CANCELLATION_CHARGE	N/A
<b>Code Name</b>	<b>Code Description</b>
CARGO_TAXES	N/A
CARRIER_NOTIFICATION_CHARGE	N/A
CARTAGE_CHARGE	N/A
CERTIFICATE_OF_ORIGIN	N/A
CHAIN_AND_BINDERS	N/A
CHARGES_FORWARD_OR_ADVANCE_CHARGE	N/A
CHASSIS_EQUIPMENT_LEASE_CHARGE	N/A
CIRCUITOUS_ROUTING_CHARGE	N/A
CITY_DELIVERY	N/A
CITY_PICKUP	N/A
CLEANING_CHARGE	N/A
COD_AMOUNT	N/A
COMMISSION_AMOUNT	N/A
COMMUNICATION_FEE	N/A
COMPETITIVE_PRICE	N/A
COMPRESSOR_CHARGE	N/A
CONGESTION_SURCHARGE	N/A
CONNECT_CHARGE	N/A
CONSIGNEE_UNLOAD	N/A
CONSOLIDATION	N/A
CONSTANT_SURVEILLANCE_SERVICE	N/A
CONSTANT_SURVEILLANCE_SERVICE_ARMED	N/A
CONSULAR_LEGALIZATION_SERVICE	N/A
CONSULARIZATION_FEE	N/A
<b>Code Name</b>	<b>Code Description</b>
CONTAINER_ALLOWANCE	N/A
CONTAINER_DESTUFFING	N/A
CONTAINER_LOSS_OR_DAMAGE	N/A
CONTAINER_OR_TRAILER_ALLOWANCE	N/A
CONTAINER_STUFFING	N/A
CONTRACT_SERVICE_CHARGE	N/A
CONTROLLED_ATMOSPHERE	N/A
COPY_OF_BILL_OF_LADING_CHARGE	N/A
CORRECTED_OR_INVALID_BILLING_ACCOUNT_NUMBER	N/A
COST_RECOVERY_OR_ADJUSTMENT	N/A
COURIER_SERVICES	N/A

## Business Solution Design

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COURT_REPORTER_CHARGE	N/A
CREDIT	N/A
CURRENCY_ADJUSTMENT	N/A
CUSTOMER_REQUIRED_SPECIAL_TRUCK_AT_DESTINATION	N/A
CUSTOMS_BROKER_FEE	N/A
CUSTOMS_CHARGE	N/A
CUSTOMS_ENTRY	N/A
DAMAGE_TO_CARRIER_EQUIPMENT	N/A
DAMAGE_TO_CARRIER_VESSEL	N/A
DANGEROUS_GOODS_SURCHARGE	N/A
DEADHEAD_MILEAGE_CHARGE	N/A
DELIVERY_CHARGE	N/A
DELIVERY_SURCHARGE	N/A
<b>Code Name</b>	<b>Code Description</b>
DEMURRAGE	N/A
DERAMPING	N/A
DERRICK_CHARGE	N/A
DETENTION_LABOR	N/A
DETENTION_LOADING	N/A
DETENTION_OF_POWER_UNITS	N/A
DETENTION_OF_TRAILERS	N/A
DETENTION_UNLOADING	N/A
DETENTION_VEHICLE	N/A
DETENTION_WITH_POWER_UNITS_CHARGE	N/A
DETENTION_WITHOUT_POWER_UNIT	N/A
DISCOUNT	N/A
DISTRIBUTION_SERVICE	N/A
DIVERSION_AND_RECONSIGNMENT	N/A
DIVERSION_CHARGE	N/A
DOCUMENTATION_CHARGE	N/A
DRAYAGE	N/A
DRAYAGE_OR_LINE_HAUL	N/A
DRIVER_DELAY_MINUTES	Driver delay by minutes vs. by hours.
DRY_ICE	N/A
DUNNAGE_ALLOWANCE	N/A
DUTY_CHARGE	N/A
EARLY_SHIP_ALLOWANCE	N/A
EMERGENCY_SURCHARGE	N/A

## Business Solution Design

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Code Name	Code Description
EMPTY_MOVEMENT	N/A
EMPTY_RETURN	N/A
EMPTY_TRAILER_RETURNED_CHARGE	N/A
ENERGY_SURCHARGE_FUEL_ADJUSTMENT_FACTOR	N/A
EQUIPMENT_HOSE_AT_DESTINATION_CHARGE	N/A
ESCORT_SERVICE	N/A
EURO_PALLET	N/A
EXCESS_MILEAGE_CHARGE	N/A
EXCESS_WEIGHT	N/A
EXCESSIVE_VALUE_CHARGE	N/A
EXCLUSIVE_USE_CHARGE	N/A
EXHIBITION_DELIVERY_CHARGE	N/A
EXHIBITION_PICKUP_CHARGE	N/A
EXPEDITED_SERVICE_CHARGE	N/A
EXPEDITING_FEE	N/A
EXPEDITING_PREMIUM	N/A
EXPORT_DECLARATIONS_US_SHIPPERS	N/A
EXPORT_OR_IMPORT_CHARGE	N/A
EXPORT_SHIPPING_CHARGE	N/A
EXTRA_HOURS_OR_PRIORITY_ALERT	N/A
EXTRA_LABOR_HELPER_SERVICE	N/A
FACSIMILE_CHARGES	N/A
FEE_FOR_COLLECTING_COD_CHARGE	N/A
FLAT_RATE	N/A
Code Name	Code Description
FORWARDING_AGENT_COMMISSION	N/A
FORWARDING_CHARGE	N/A
FREE_DOMICILE_SHIPMENT_PROCESSING	N/A
FREIGHT	N/A
FREIGHT_BASED_ON_DOLLAR_MINIMUM	N/A
FREIGHT_CHARGE	N/A
FREIGHT_CHARGES_TO_BORDER	N/A
FREIGHT_CHARGES_TO_DESTINATION	N/A
FREIGHT_SURCHARGE	N/A
FUEL_CHARGE	N/A
FUEL_SURCHARGE	N/A
FUMIGATION	N/A



## Business Solution Design

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FURNISHING_CHASSIS	N/A
GATE_INSPECTION_CHARGE_INTERMODAL	N/A
GOODS_AND_SERVICES_TAX_CHARGE	N/A
GOVERNMENTAL_TAX	N/A
HANDLING	N/A
HANDLING_CHARGES_ON_DISTRIBUTION_FREIGHT_FORWARDED_BEYOND	N/A
HANDLING_FREIGHT_AT_POSITIONS_NOT_IMMEDIATELY_ADJACENT_TO_VEHICLE_CHARGE	N/A
HARBOR_DUES	N/A
HAZARDOUS_CARGO_CHARGE	N/A
HAZARDOUS_MATERIALS_HANDLING_FEE_DOMESTIC	N/A
HAZARDOUS_MATERIALS_HANDLING_FEE_INTERNATIONAL	N/A
<b>Code Name</b>	<b>Code Description</b>
HEAT_IN_TRANSIT_CHARGES	N/A
HEAT_TREAT_CHARGE	N/A
HEATER_OR_REFRIGERATION	N/A
HEAVY_DUTY_FLAT_CAR_CHARGE	N/A
HEAVY_LIFT	N/A
HIGH_SECURITY_RED_IN_BOND_SEAL_CHARGE	N/A
HOLDING_CHARGE	N/A
HOOK_UP_CHARGE	N/A
HOSE_CHARGE	N/A
HOSE_CHARGE_SPECIAL	N/A
IATA_FEE	N/A
IMPORT_SERVICE_FEE	N/A
INBOUND_FREIGHT_CHARGES	N/A
INDUSTRY_PRICE_ALLOWANCE	N/A
INLAND_TRANSPORTATION	N/A
INSIDE_DELIVERY	N/A
INSIDE_PICKUP	N/A
INSPECTION_FEE	N/A
INSULATED_TANK_CHARGE	N/A
INSURANCE	N/A
INSURANCE_FEE	N/A
INSURANCE_PREMIUM	N/A
INSURANCE_SURCHARGE	N/A
INTERLINE_TRANSFER_CHARGE	N/A

## Business Solution Design

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Code Name	Code Description
INTERMODAL_SHIPMENT_SERVICE_CHARGE	N/A
INTERMODAL_STORAGE_DESTINATION	N/A
INTERMODAL_STORAGE_ORIGIN	N/A
INTERNATIONAL_DOOR_TO_DOOR_HANDLING_FEE	N/A
INTERSTATE_OR_HIGHWAY_TOLL	N/A
INTRA_PLANT_CHARGE	N/A
ITEM_UNIT	N/A
LABOR_CHARGES	N/A
LABOR_SERVICE	N/A
LADING_ADJUSTMENT_CHARGE	N/A
LAYOVER_CHARGES	N/A
LAYOVER_SERVICE_CHARGE	N/A
LETTER_OF_CREDIT_PROCESSING	N/A
LIFT_CHARGE_INTERMODAL	N/A
LIFT_GATE_TRUCK_OR_FORKLIFT_SERVICE_AT_PICKUP_OR_DELIVERY	N/A
LINEHAUL_SERVICE	N/A
LINEHAUL_TO_PORT_OF_EMBARKATION	N/A
LOADING	N/A
LOADING_ALLOWANCE	N/A
LOADING_LABOR_CHARGES	N/A
MAILING_SERVICE_FEE	N/A
MANAGEMENT_FEES	N/A
MARKING_OR_TAGGING_CHARGE	N/A
MESSENGER_SERVICE	N/A
Code Name	Code Description
MILEAGE_FEE_FOR_REPAIR_AND_RETURN	N/A
MILEAGE_OR_TRAVEL	N/A
MINIMUM_CHARGE	N/A
MINIMUM_GUARANTEE	N/A
MISCELLANEOUS_CHARGE	N/A
MUTUALLY_DEFINED	N/A
NEW_YORK_DELIVERY_CHARGE	N/A
NEW_YORK_PICKUP_CHARGE	N/A
NEXT_DAY_AIR_SERVICE	N/A
NO_ACCOUNT_NUMBER	N/A
NORMAL_PUMP_CHARGE	N/A

## Business Solution Design

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NOTIFY_CONSIGNEE	N/A
OCEAN_FREIGHT	N/A
OFFSHORE_ALASKA_OR_HAWAII	N/A
ONE_TIME_LICENSE_FEE	N/A
ON_CALL_PICKUP	N/A
ONSITE_ASSOCIATE	Charging customer for an on-site associate.
ORDER_NOTIFY_CHARGE	N/A
OTHER	N/A
OTHER_ACCESSORIAL_SERVICE_CHARGE	N/A
OUT_OF_ROUTE_MILES	N/A
OUT_OF_ZONE_PICKUP_OR_DELIVER	N/A
OVER_DIMENSION	N/A
OVER_WIDTH_CONTAINER	N/A
<b>Code Name</b>	<b>Code Description</b>
OVERNIGHT_SERVICE	N/A
OVERSIZED_PREMIUM	N/A
OVERTIME_LOADING	N/A
PACK_AND_UNPACK	N/A
PALLET_ALLOWANCE	N/A
PALLET_CHARGE	N/A
PALLET_EXCHANGE_CHARGE	N/A
PALLETS_OR_SKIDS_OR_PLATFORMS	N/A
PERMIT_CHARGE	N/A
PICKUP_AND_DELIVERY_SERVICE_FOR_PERISHABLES_CHARGE	N/A
PICKUP_CHARGE	N/A
PICKUP_OF_SHIPMENTS_REQUIRING_SAME_DAY_DELIVERY_SERVICE_AND_OR_DELIVERY_AT_A_SPECIFIED_TIME_CHARGE	N/A
PICKUP_OF_SHIPMENTS_REQUIRING_SAME_DAY_DELIVERY_SERVICE_CHARGE	N/A
PIER_CHARGES_WHARFAGE	N/A
PIER_PICKUP_AND_OR_DELIVERY	N/A
POD_ADVANTAGE	N/A
PORT_CHANGES	N/A
POSTAGE	N/A
POWER_ONLY_CAPACITY	N/A
PRELOADING_CHARGE	N/A
PREMIUM_CHARGE	N/A
PREMIUM_TRANSPORTATION	N/A

## Business Solution Design

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PREPARATION_OF_AIR_WAYBILL_ORIGIN	N/A
Code Name	Code Description
PRIORITY_SERVICE	N/A
PRIORITY_SERVICE_CHARGE	N/A
PROCESSING_CHARGE	N/A
PROFORMA_INVOICE	N/A
PROMOTIONAL_DISCOUNT	N/A
PROOF_OF_DELIVERY	N/A
PROTECTIVE_SERVICE_CHARGE	N/A
PROTECTIVE_SERVICE_COLD	N/A
PROTECTIVE_SERVICE_HEAT	N/A
PROTECTIVE_SERVICE_RULE_25	N/A
PROTECTIVE_SERVICE_RULE_500	N/A
PROTECTIVE_SERVICE_SECURITY_WITH_ARMED_GUARDS	N/A
PUMP_AIR_CHARGE	N/A
PUMP_CHARGE	N/A
PUMP_OUT_CHARGE	N/A
RAILHEAD_HANDLING	N/A
REBILL_FEE	N/A
RECONSIGNMENT_CHARGE	N/A
RECOVERY_FEE	N/A
REDELIVERY	N/A
REEFER_TRAILER_PASS_THROUGH	N/A
REFRIGERATION	N/A
REFUND	N/A
REGISTRATION_OF_EXPORT_SHIPMENTS	N/A
Code Name	Code Description
RENTAL_CHARGE	N/A
RENTS_AND_LEASES	N/A
REPAIR_CHARGE	N/A
RESIDENTIAL_DELIVERY	N/A
RESIDENTIAL_PICKUP	N/A
RESTRICTED_ARTICLE_FEE	N/A
RETURN_CARGO_CHARGE	N/A
RETURN_OF_EMPTY_CONTAINER_CHARGE	N/A
RETURNED_LOAD	N/A
REVENUE_SHARE	N/A
ROAD_TAX_AUSTRIA	Road tax for Austria

## Business Solution Design

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ROAD_TAX_GERMANY	Road tax for Germany
SALES_TAX_STATE_AND_LOCAL	N/A
SATELLITE_SURVEILLANCE_SERVICE	N/A
SATURDAY_DELIVERY	N/A
SATURDAY_PICKUP_CHARGE	N/A
SATURDAY_PICKUP_OR_DELIVERY_CHARGE	N/A
SCALE_CHARGE	N/A
SECOND_DAY_SERVICE	N/A
SECURITY_ESCORT_VEHICLE_SERVICE	N/A
SECURITY_SIGNATURE_SERVICE	N/A
SEGREGATING	N/A
SERVICE_CHARGE	N/A
SHIPMENT_HOLDOVER_CHARGE_FOR_HOLIDAYS	N/A
<b>Code Name</b>	<b>Code Description</b>
SHIPMENT_HOLDOVER_CHARGE_FOR_WEEKENDS	N/A
SINGLE_SHIPMENT_FEE	N/A
SLIP_SHEET_CHARGE	N/A
SPECIAL_DETENTION_CHARGE	N/A
SPECIAL_DROMEDARY_SERVICE	N/A
SPECIAL_EQUIPMENT_CHARGE	N/A
SPECIAL_FREIGHT_SUPPLEMENTS	N/A
SPECIAL_HANDLING_SERVICE	N/A
SPECIAL_MILEAGE_MOVEMENTS	N/A
SPECIAL_PERMITS	N/A
SPECIAL_PUMP_CHARGE	N/A
SPLIT_DELIVERY	N/A
SPLIT_PICKUP	N/A
SPOTTING_OF_TRAILER	N/A
STEAMING_CHARGE	N/A
STOPCHARGE	N/A
STOP_OFF_CHARGE	N/A
STORAGE	N/A
STORAGE_IN_TRANSIT	N/A
STORAGE_OF_VEHICLES	N/A
STOWAGE_CHARGE	N/A
SUFFERANCE_WAREHOUSE_CHARGE_EXPORT_OR_IMPORT	N/A
SUNDAY_OR_HOLIDAY_PICKUP_OR_DELIVERY	N/A

## Business Solution Design

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SURCHARGE	N/A
Code Name	Code Description
SURVEYING_ROUTES	N/A
SWITCHING_CHARGE	N/A
TANK_CAR_ALLOWANCE	N/A
TARPING_CHARGE	N/A
TAX_CHARGE	N/A
TENDERING_OF_MULTIPLE_VEHICLES	N/A
TERMINAL_CHARGE	N/A
TERMINAL_FEE	N/A
TERMINAL_SERVICE_FEE	N/A
THIRD_PARTY_CONSIGNEE_FEE	N/A
THRUWAY_CHARGE	N/A
TRACING_SERVICE_FEE	N/A
TRAILER_ON_FLAT_CAR_SERVICE_CHARGE	N/A
TRAILER_RENTAL_CHARGE	N/A
TRANSFER_CHARGE	N/A
TRANSFER_OF_LADING_CHARGE	N/A
UNLOADING	N/A
UNLOADING_ALLOWANCE	N/A
UNLOADING_LABOR_CHARGES	N/A
VALUATION_FEE	N/A
VALUE_ADDED_TAX	N/A
VAN_CLEANING	N/A
VEHICLE_ORDERED_BUT_NOT_USED	N/A
VEHICLE_PREP_CHARGE_COURTESY_DELIVERY	N/A
Code Name	Code Description
VEHICLES_FURNISHED_BUT_NOT_USED	N/A
WAITING_TIME	N/A
WAREHOUSE_CHARGE	N/A
WEATHER_PROTECTION	N/A
WEEKLY_FIXED_CHARGE	N/A
WEIGHING_CHARGE_INTERMODAL	N/A
WEIGHT_VERIFICATION_CHARGE	N/A
WHARFAGE	N/A
WHARFAGE_AND_HANDLING	N/A
WHARFAGE_CHARGE	N/A
WIRE_MESH_PALLET	N/A

## Business Solution Design

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### 1.6 Business Document Example

Three freight invoice examples (FTL, LTL, and SPC) are listed below to aid in visualizing the message. This is only a sample and not all components of the messages were used. **Blue Bold** font represents the sample data.

### 1.7 Full Truckload Freight Invoice Example

Full Truckload Freight Invoice

Invoice Number: **'281'**

Shipment Method Of Payment Type: **'PREPAID\_BY\_SELLER\_OR\_CONSIGNOR'**

Transportation Method Type: **'MOTOR\_TRUCKLOAD'**

Carrier Pro Identification Information

Carrier Pro Identification: **'848943'**

Party Identification (Carrier Identification): **'FULL'** Party Identification Type **'SCAC'**

Document

Creation Date: **'2004-03-22T10:43:00'**

Document Status: **'ORIGINAL'**

Entity Identification (Full Truckload Freight Invoice Identification)

Unique Creator Identification: **'WG-000001'**

Party Identification (Content Owner (GLN)): **'0999999999991'**

Freight Invoice Date

Billing Date: **'2004-03-22'**

Actual Pickup Date: **'2004-03-07'**

Delivery Date: **'2004-03-12'**

Billing Information

Charge: **'2000'** Currency **'USD'**

Rate: **'1.25'**

Rate Qualifier Type: **'PER\_MILE\_OR\_PER\_KILOMETRE'**

Special Charge Information

Special Charge Amount: **'20'** Currency **'USD'**

Special Charge Type: **'Appointment Notification'**

Special Charge Information

Special Charge Amount: **'330'** Currency **'USD'**

Special Charge Type: **'Sunday or Holiday Pick Up or Delivery'**

Net Amount Due Information

Net Amount Due: **'2350'** Currency **'USD'**

Deliver Reference

Deliver Reference Identification: **'83-12345-00'**

Deliver Reference Type: **'BILL\_OF\_LADING\_NUMBER'**

Deliver Reference

Deliver Reference Identification: **'SUN-001'**

Deliver Reference Type: **'LOAD\_NUMBER'**

## Business Solution Design

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### 1.8 Less Than Truckload Freight Invoice Example

Less Than Truckload Freight Invoice

Invoice Number: '1600'

Shipment Method Of Payment Type: 'PREPAID\_BY\_SELLER\_OR\_CONSIGNOR'

Carrier Pro Identification Information

Carrier Pro Identification: '94423'

Party Identification (Carrier Identification): 'LESS' Party Identification Type 'SCAC'

Document

Creation Date: '2004-03-18T10:43:00'

Document Status: 'ORIGINAL'

Entity Identification (LTL Freight Invoice Identification)

Unique Creator Identification: 'RB-000002'

Party Identification (Content Owner (GLN)): '0888888888881'

Freight Invoice Date

Billing Date: '2004-03-18'

Actual Pickup Date: '2004-03-03'

Delivery Date: '2004-03-12'

Interline Carrier

City Of Transfer: 'Chicago'

Transportation Method Type: 'MOTOR\_COMMON\_CARRIER'

Commodity Group

Commodity Code: 'NATIONAL\_MOTOR\_FREIGHT\_CLASSIFICATION'

Commodity Description: '85 Electronics Goods' Language 'Eng'

Commodity Weight: '50' Unit of Measure 'LBS'

Commodity Quantity: '10'

Special Charge Information

Special Charge Amount: '20' Currency 'USD'

Special Charge Type: 'Appointment Notification'

Special Charge Information

Special Charge Amount: '80' Currency 'USD'

Special Charge Type: 'Stop off Charge'

Net Amount Due Information

Net Amount Due: '400' Currency 'USD'

Deliver Reference

Deliver Reference Identification: 'I3-00002-11'

Deliver Reference Type: 'BILL\_OF\_LADING\_NUMBER'



## Business Solution Design

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### 1.9 Small Package Carrier Freight Invoice Example

Small Package Carrier Freight Invoice

Invoice Date: '2004-06-18'

Invoice Due Date: '2004-07-18'

Invoice Number: '1009'

Shipment Method Of Payment Type: 'PREPAID\_BY\_SELLER\_OR\_CONSIGNOR'

Total Invoice Amount: '174.41' Currency 'USD'

Consolidated Bill Plan Number: '1234DF'

Party Identification (Carrier Identification): 'UPSG' Party Identification Type 'SCAC'

Document

Creation Date: '2004-06-18T10:43:00'

Document Status: 'ORIGINAL'

Entity Identification (Small Package Carrier Freight Invoice Identification)

Unique Creator Identification: 'RG-000003'

Party Identification (Content Owner (GLN)): '0777777777771'

SPC Freight Invoice Name And Address

Deliver Identification Code Type: 'SHIPPER'

Stop Location Information

Address 1: '888 Global Street'

Address 2: 'Suite 444'

City: 'Cityville'

Postal Code: '12345'

State or Province: 'NY'

SPC Freight Invoice Name And Address

Deliver Identification Code Type: 'BILL\_TO'

Stop Location Information

Address 1: '333 Global Avenue'

City: 'Metropolis'

Name: 'Global Freight Payment Services'

Postal Code: '88231'

State or Province: 'AZ'

SPC Freight Invoice Detail

Pickup Record Number: '123'

Transportation Method Type: 'AIR\_FREIGHT'

SPC Freight Invoice Detail

Line Item

Number: '1' // invoice line level information example

Special Charge Information

Special Charge Amount: '30.00' Currency 'USD'

Special Charge Type: 'Service Charge'

Line Item

Number: '2' // shipment level information example

Pickup Record Number: '456'

Transportation Mode Type: 'AIR\_EXPRESS'

Consolidated Shipment Freight Invoice Information

## Business Solution Design

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### SPC Freight Invoice Date Information

Date: '2004-01-12'  
Date Type: 'ACTUAL\_PICKUP\_DATE'  
Section Code: '01'  
SubSection Code: '004'

### SPC Freight Invoice Name And Address

Deliver Identification Code Type: 'SHIP\_TO'  
Stop Location Information  
Address 1: '767 Airport Street'  
Address 2: 'Suite E345'  
City: 'LargeCityBurg'  
Postal Code: '68790'  
State or Province: 'NE'

### Lading Quantity Information

Lading Quantity: '10' Unit of Measure 'PACKAGE'  
Lading Quantity Type: 'TOTAL\_PACKAGE\_QUANTITY'

### Special Charge Information

Special Charge Amount: '50.00' Currency 'USD'  
Special Charge Type: 'Freight Charge'

### Special Charge Information

Special Charge Amount: '1.20' Currency 'USD'  
Special Charge Type: 'Additional Handling'

### Shipment Detail Information

Service Level Code: 'NEXT\_DAY\_AIR'

### Weight Information

Weight: '144.5' Unit of Measure 'Pounds'  
Weight Type: 'BILLED\_WEIGHT'

### Line Item

Number: '3' // package level information example

Pickup Record Number: '2456'

### Deliver Reference

Deliver Reference Identification: 'X45-3456'  
Deliver Reference Type: 'VENDOR\_IDENTIFICATION\_NUMBER'

### Consolidated Shipment Freight Invoice Information

Residential Indicator: 'BUSINESS\_DELIVERY'

### SPC Freight Invoice Date Information

Date: '2004-01-13'  
Date Type: 'ACTUAL\_PICKUP\_DATE'  
Section Code: '02'

### Lading Quantity Information

Lading Quantity: '2' Unit of Measure 'PACKAGE'  
Lading Quantity Type: 'TOTAL\_PACKAGE\_QUANTITY'

### Deliver Reference

Deliver Reference Identification: 'X45-3456-123445'  
Deliver Reference Type: 'PURCHASE\_ORDER\_NUMBER'

## Business Solution Design

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### SPC Freight Invoice Name And Address

Deliver Identification Code Type: 'SHIP\_TO'  
Stop Location Information  
Address 1: '480 Place Street'  
Address 2: 'Building 23'  
Address 3: 'Avionics Department'  
City: 'SmallCityTowne'  
Postal Code: '45678'  
State or Province: 'NJ'

### Shipment Detail Information

Service Level Code: 'GROUND'

### Package Level Freight Invoice Information / package 1

Tracking Number: 'W345678903455666'  
Delivery Zone: '345'

### Deliver Reference

Deliver Reference Identification: 'X45-3456-123445-22'  
Deliver Reference Type: 'PURCHASE\_ORDER\_ITEM\_NUMBER'

### Weight Information

Weight: '23.5' Unit of Measure 'Pounds'  
Weight Type: 'BILLED\_WEIGHT'

### Package Dimension

Length: '20' Unit of Measure: 'INCHES'  
Width: '10' Unit of Measure: 'INCHES'  
Height: '12' Unit of Measure: 'INCHES'

### Special Charge Information

Special Charge Amount: '25.20' Currency 'USD'  
Special Charge Type: 'Freight Charge'

### Special Charge Information

Special Charge Amount: '31.45' Currency 'USD'  
Special Charge Type: 'COLLECT\_ON\_DELIVERY'

### Package Level Freight Invoice Information / package 2

Tracking Number: 'X3456789034567899'

### Deliver Reference

Deliver Reference Identification: 'X45-3456-123445-23'  
Deliver Reference Type: 'PURCHASE\_ORDER\_ITEM\_NUMBER'

### Deliver Reference

Deliver Reference Identification: 'urn:epc:id:sgtin:0652642.800031.400'  
Deliver Reference Type: 'SERIAL\_NUMBER'

### Weight Information

Weight: '10.2' Unit of Measure 'Pounds'  
Weight Type: 'BILLED\_WEIGHT'

### Special Charge Information

Special Charge Amount: '13.11' Currency 'USD'  
Special Charge Type: 'Freight Charge'

### Line Item

Number: '4' // package level shipping charge correction information example

## Business Solution Design

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Pickup Record Number: '5555767'

Consolidated Shipment Freight Invoice Information

SPC Freight Invoice Date Information

Date: '2004-01-14'

Date Type: 'ACTUAL\_PICKUP\_DATE'

Section Code: '13'

Subsection Code: '23'

SPC Freight Invoice Name And Address

Deliver Identification Code Type: 'SHIP\_TO'

Stop Location Information

Address 1: '2345 EPC Street'

Address 2: 'Building 12'

Address 3: 'RFID Warehouse'

City: 'AnyVillage'

Postal Code: '45678'

State or Province: 'TX'

Package Level Freight Invoice Information

Tracking Number: 'Z3456789034543678990'

Recorded Information

Shipment Detail Information

Service Level Code: 'GROUND'

Weight Information

Weight: '2.5' Unit of Measure 'Pounds'

Weight Type: 'SHIPPERS\_WEIGHT'

Corrected Information

Shipment Detail Information

Service Level Code: 'SECOND\_MORNING'

Weight Information

Weight: '12.5' Unit of Measure 'Pounds'

Weight Type: 'ACTUAL\_NET\_WEIGHT'

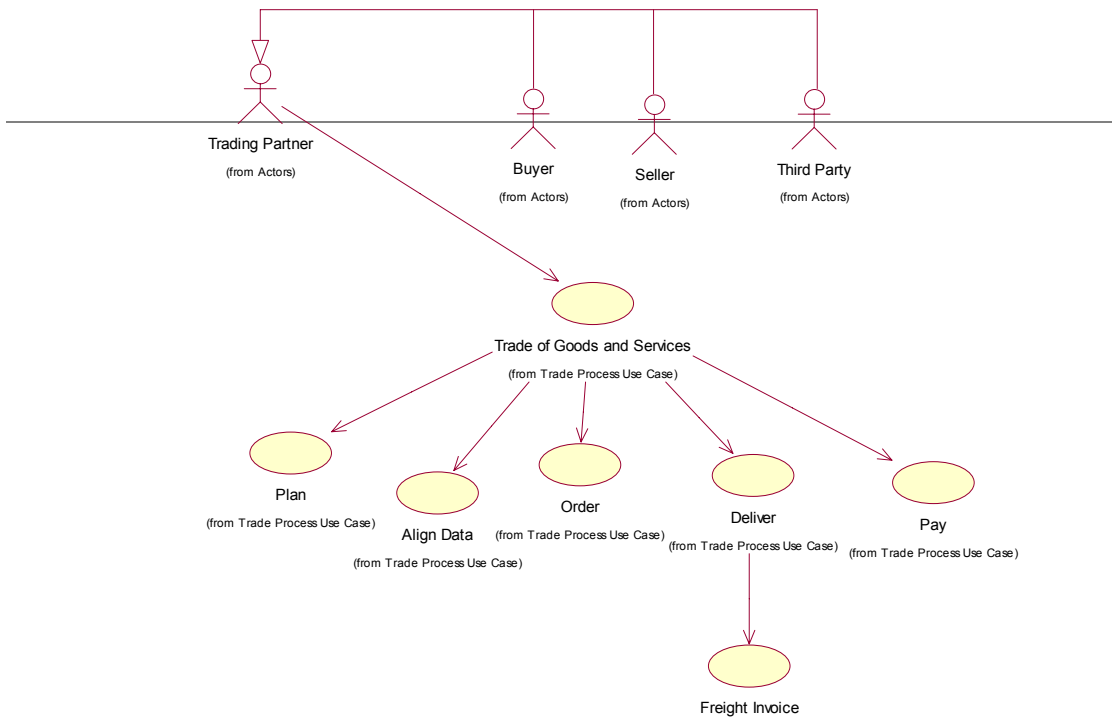
Special Charge Information

Special Charge Amount: '23.45' Currency 'USD'

Special Charge Type: 'Freight Charge'

## 1.10 Implementation Considerations

The following diagram illustrates the position of the BRD Freight Invoice within the GBM:



## Business Solution Design

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### 1.11 Testing

#### 1.11.1 Pass / Fail Criteria

*Unit testing criteria for business solution.*

Number	Test Criteria	Related Requirement	Design Element	Pass Criteria	Fail Criteria
1					
2					
3					

#### 1.11.2 Test Data

Test data is detailed in section 1.7.

## Business Solution Design

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### 1.12 Appendices

### 1.13 Summary of Changes

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

<b>Change</b>	<b>BMS Version</b>	<b>Associated CR Number</b>

### 2. XML Technical Solution ITRG Packet

The Technical Representation of the Business process is documented in a Technical Solution ITRG Packet containing all supplemental XML artefacts and is used by the Information Requirements Group (ITRG) to evaluate the solution. Upon approval from the Information Technical Requirements Group (ITRG), the Technical Solution ITRG Packet is updated to the Technical Solution Implementers Packet and published with the Business

Message Standard at:

[http://www.ean-ucc.org/global\\_smp/ean.ucc\\_standards.htm](http://www.ean-ucc.org/global_smp/ean.ucc_standards.htm).

Technical Solution ITRG Packet Content:

- Business Message Standard (BMS)
- ITRG Review Packet
  - Style Sheet: This HTML has been created using a Style Sheet that is a visual representation of the data. It is not an actual Style Sheet, but an ex-ample of what a Style Sheet may look like.
  - Instance File: The Instance File is an example of what the schema may look like when it includes live data. This can be used as comparison to a completed schema and can serve as a point of reference for development.
  - Technical Level GDD Report

Technical Solution Implementers Packet Content:

Contains all the message specific .XSD files required to implement

Example:

- AS2Envelope
- Command.xsd
- DocumentCommand.xsd
- Proxy.xsd
- ComponentLibrary.xsd

Both the Business Message Standard and the Implementers Packet are available during the ITRG Review Period in the working documents section of the ITRG eRoom:

[http://eroom.uncouncil.org/eRoom/facility/InformationTechnicalAssessmentGroupITAG/0\\_14f7](http://eroom.uncouncil.org/eRoom/facility/InformationTechnicalAssessmentGroupITAG/0_14f7)

All documents for review will be in this folder listed by name of the Change Request and Change Request Number. The Business Message Standard is not open for review, but offered as the basis for determining the suitability of the technical solutions.

This eRoom may be accessed by using the following User Name and Password:

User Name: guest

Password: guest