

Business Message Standard (BMS)

for

Plan/Forecasts

BRG: Plan

BMS Release: 2.0.2

Document Version: 0.1.3

Date: 31.03.2005
(dd.mm.cyy)



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CR Submitter(s):	Robert Rzepka
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Business Requirements Document (BRAD) Reference

BRAD Title: BRD Forecasts – Business Requirements Document
BRAD Date: 28.10.2004
BRAD Version: 0.2.0

BRAD Title:
BRAD Date:
BRAD Version:

Document Summary

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Document Change History

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

Date of Change	Version	Changed By	Reason for Change	Summary of Change	Model Build #
20050131	0.1.0	Andrew Hearn	Initial Version in BMS/BSD template	Migration of BRD to standard BMS/BSD format	N/A
20050210	0.1.1	John Ryu	Added class diagram and updated GDD	Section 1.10 details changes.	5724
20050325	0.1.2	Andrew Hearn	Context Update	Updated the context listed within the document	N/A
20070423	0.1.3	Giovanni Biffi	Editorial Changes	Minor Editorial Changes to the Document	N/A

Business Message Standard

Table of contents

Chapter	Page
1 Business Solution	1
1.1 Business Domain View.....	1
1.1.1 Problem Statement / Business Need.....	1
1.1.2 Objective.....	1
1.1.3 Audience.....	1
1.1.4 Artefacts	1
1.1.5 References	1
1.1.6 Acknowledgements	3
1.2 Business Context	4
1.3 Additional Technical Requirements Analysis	4
1.3.1 Technical Requirements (optional).....	4
1.4 Business Transaction View	5
1.4.1 Business Transaction Use Case Diagram.....	5
1.4.2 Use Case Description.....	6
1.4.3 Business Transaction Activity Diagram(s).....	9
1.4.4 Business Transaction Sequence Diagram(s) (optional)	9
1.5 Information Model (including GDD Report)	10
1.5.1 Data Description:.....	10
1.5.2 GDD Report :.....	10
1.5.3 Class Diagrams	14
1.5.4 Code Lists.....	15
1.6 Business Document Example	16
1.7 Implementation Considerations.....	16
1.8 Testing.....	16
1.8.1 Pass / Fail Criteria	16
1.8.2 Test Data	16
1.9 Appendices.....	17
1.10 Summary of Changes.....	17
2 XML Technical Solution ITRG Packet.....	18

Business Solution Design

1 Business Solution

1.1 Business Domain View

1.1.1 Problem Statement / Business Need

Collaborative Planning Forecasting and Replenishment (CPFR®) is a well documented nine step process developed and maintained by the Voluntary Interindustry Commerce Standards Association (VICS) for use by trading partners.

In the CPFR® process a forecast is a collection of time series data items, called forecast data items, which describe future demand for products sourced from a seller organization and distributed at a specific buyer location.

Forecasts are either *sales* forecasts – which reflect consumer demand or manufacturing consumption – or *order* forecasts, which indicate the supply needed to meet future consumption requirements. Each forecast data item within a forecast represents a quantity of demand or supply for a specific product that is expected between buyer and seller locations for a given time interval. An item may be for the total volume during the period, or a component (base/turn, promotional, or seasonal) of the total demand. Promotional forecast data items may also identify an associated promotion and the number of buyer locations that are participating.

Forecast data items may be frozen, in which case they may not be adjusted. Otherwise, the receiving organization has the option of revising the item and notifying an appropriate trading partner via a forecast revision (See forecast revision business requirements document).

1.1.2 Objective

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

1.1.3 Audience

The audience for this document is anyone involved in collaborative planning, forecasting and replenishment.

1.1.4 Artefacts

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

Artefact name	State	Artefact / State description

1.1.5 References

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Reference Name	Description
Forecasts– Business Requirement Document Version 2.0.0	The Business Requirement Document released for version 2.0 of the BMS Standard
EAN•UCC Global Business Model (Process and Data), “The Trade of Goods and Services”, October 1999	
VICS Collaborative Planning Forecasting and Replenishment (CPFR®), Global Commerce Initiative Recommendation, June 30, 2001	
VICS CPFR® XML Messaging Model, June 13, 2001	

Business Solution Design

1.1.6 Acknowledgements

Acknowledgement is also due to the work going on in the XML environment:

ebXML/SOAP

eCo Framework (Common Business Library)

RosettaNet

UN/CEFACT EWG

W3C

1.1.6.1 BRG Members

Function	Name	Company / organisation
BRG Chair	Fred KEMPKE	Unilever
BRG Member	David FERRELL	WAL-MART STORES, INC
BRG Member	Mutsuo FUKADA	GS1 Japan
BRG Member	Victoria M. KENDZIERSKI	THOMSON INC
BRG Member	Murray PRATT	KRAFT FOODS, INC
BRG Member	Larry ROTH	KIMBERLY-CLARK CORPORATION
BRG Member	Robert RZEPKA	WORLDWIDE RETAIL EXCHANGE
BRG Member	Thomas STENFTENAGEL	PROCTER & GAMBLE COMPANY
BRG Member	Roman STRAND	GS1 Germany
BRG Member	Ricardo Toshio YUGUE	GS1 BRAZIL
BRG Manager	Tom HEIST	GS1

1.1.6.2 ITRG Members

Function	Name	Company / organisation
ITRG Chair		

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

Function	Name	Company / organisation
Participant	Not applicable	

1.1.6.4 Design Team Members

Function	Name	Organisation
Modeller	John Ryu	GS1
XML Technical Designer	Dipan Anarkat	GS1
EANCOM Technical Designer		
Peer Reviewer		

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1.2 Business Context

Context Category	Value(s)
Industry	All
Geopolitical	All
Product	All
Process	Plan
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

1.4 Business Transaction View

The buyer and seller must engage and complete CPFR[®] Step 1 “Develop Collaboration Arrangement” and CPFR[®] Step 2 “Create Joint Business Plan” as prerequisite steps to creating forecasts.

Step 1 is where the buyer and seller establish the guidelines and rules for the collaborative relationship. The “collaboration arrangement” addresses each party’s expectations and the actions and resources necessary for success. To accomplish this, the buyer and seller co-develop a general business arrangement that includes the overall understanding and objective of the collaboration, confidentiality agreements, and the empowerment of resources (both actions and commitment) to be employed throughout the CPFR[®] process.

In step 2 the seller and buyer exchange information about their corporate strategies and business plans in order to collaborate on developing a joint business plan. Following the principles of category management, the partners first create a partnership strategy and then define category roles, objectives, and tactics. The item management profiles (e.g., order minimums and multiples, lead times, order intervals) for items to be collaborated on are established. The development of a joint business plan improves the overall quality of forecasting by including data from both parties. It also facilitates communication and coordination across the supply chain.

1.4.1 Business Transaction Use Case Diagram

No Use Case Diagram.

Business Solution Design

1.4.2 Use Case Description

Use Case ID	UC-1																												
Use Case Name	Sales Forecast																												
Use Case Description	The objective is to elaborate upon the Sales Forecast process in enough detail to support the creation of an acceptable sales forecast created by collaboration between the buyer and the seller.																												
Actors (Goal)	Sales Forecast is a two-actor system involving a collaborative effort between a buyer and a seller. The lead actor in the collaboration depends upon the scenario most appropriate to the trading partner's business situation.																												
Performance Goals																													
Preconditions	A collaboration agreement and joint business plan must be in place.																												
Post conditions	<p>Successful: An acceptable sales forecast is available for the creation of an order forecast.</p> <p>Unsuccessful: The trading partners were not able to create an acceptable sales forecast.</p>																												
Scenario	<p>Begins after completion of a collaboration arrangement and the creation of a joint business plan. (Steps 1 and 2 previously described in this document).</p> <p>Continues with...</p> <table border="1"> <thead> <tr> <th>Step #</th> <th>Actor</th> <th>Activity Step</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Buyer, Seller</td> <td>Analyze current joint business plan</td> </tr> <tr> <td>2</td> <td>Buyer, Seller</td> <td>Analyze casual information</td> </tr> <tr> <td>3</td> <td>Buyer</td> <td>Collects and analyzes point of sale data</td> </tr> <tr> <td>4</td> <td>Buyer</td> <td>Identifies planned events such as openings, closings, holidays, promotions, ads, new products and changes</td> </tr> <tr> <td>5</td> <td>Seller</td> <td>Identifies planned events such as promotions, ads, new products and changes</td> </tr> <tr> <td>6</td> <td>Buyer, Seller</td> <td>Update shared event calendar</td> </tr> <tr> <td>7</td> <td>Buyer, Seller</td> <td>Gather exception and resolution data</td> </tr> <tr> <td>8</td> <td>Buyer, Seller</td> <td>Generate sales forecast</td> </tr> </tbody> </table> <p>Ends when a sales forecast is initially generated by one trading partner, communicated to the other trading partner and then used as a baseline for the creation of an order forecast.</p>		Step #	Actor	Activity Step	1	Buyer, Seller	Analyze current joint business plan	2	Buyer, Seller	Analyze casual information	3	Buyer	Collects and analyzes point of sale data	4	Buyer	Identifies planned events such as openings, closings, holidays, promotions, ads, new products and changes	5	Seller	Identifies planned events such as promotions, ads, new products and changes	6	Buyer, Seller	Update shared event calendar	7	Buyer, Seller	Gather exception and resolution data	8	Buyer, Seller	Generate sales forecast
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5	Seller	Identifies planned events such as promotions, ads, new products and changes																											
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8	Buyer, Seller	Generate sales forecast																											
Alternative Scenario	<i>(any alternatives to the above scenario)</i>																												
	Step #	Actor																											
		Activity Step																											

Business Solution Design

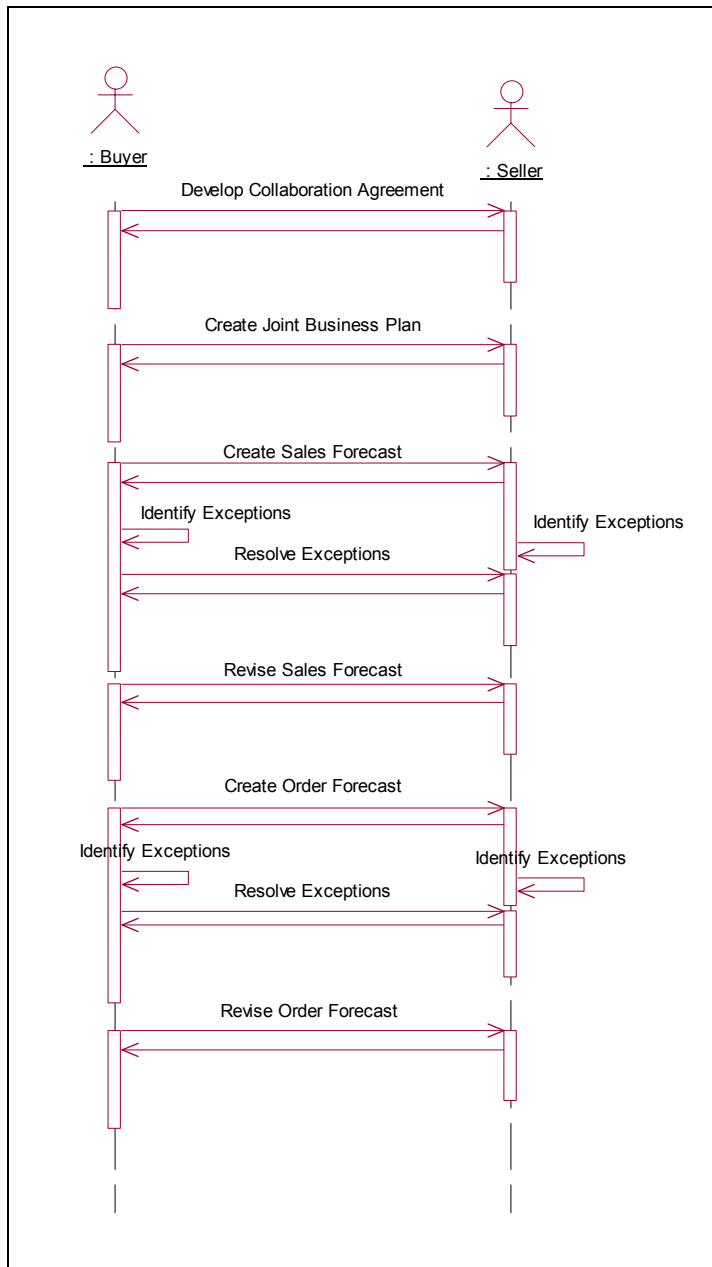
Related Requirements	1		
Related Rules		None	

Use Case ID	UC-2																																			
Use Case Name	OrderForecast																																			
Use Case Description	The objective is to elaborate upon the Order Forecast process in enough detail to support the creation of an acceptable time-phased, netted order forecast.																																			
Actors (Goal)	Order Forecast is a two-actor system involving a collaborative effort between a buyer and a seller. The lead actor in the collaboration depends upon the scenario most appropriate to the trading partner's business situation.																																			
Performance Goals																																				
Preconditions	A collaboration agreement, joint business plan and baseline sales forecast must be in place.																																			
Post conditions	<p>Successful: An acceptable order forecast is available for the use by the trading partners.</p> <p>Unsuccessful: The trading partners were not able to create an acceptable order forecast.</p>																																			
Scenario	<p>Begins after completion of a sales forecast that has become the baseline from which order forecasting can start.</p> <p>Continues with...</p> <table border="1"> <thead> <tr> <th>Step #</th> <th>Actor</th> <th>Activity Step</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Buyer, Seller</td> <td>Provide sales forecast data</td> </tr> <tr> <td>2</td> <td>Buyer</td> <td>Provides point of sale data</td> </tr> <tr> <td>3</td> <td>Buyer</td> <td>Provides order forecast impact events</td> </tr> <tr> <td>4</td> <td>Buyer</td> <td>Provides inventory strategies and seasonalities</td> </tr> <tr> <td>5</td> <td>Buyer</td> <td>Provides current inventory position including on hand, on order and in transit</td> </tr> <tr> <td>6</td> <td>Seller</td> <td>Analyzes and provides manufacturer's historical demand & shipments</td> </tr> <tr> <td>7</td> <td>Seller</td> <td>Analyzes and provides capacity limitations</td> </tr> <tr> <td>8</td> <td>Seller</td> <td>Retrieves additional item management data such as frozen periods, lead times, DC changes, and logistics data</td> </tr> <tr> <td>9</td> <td>Seller</td> <td>Gathers order filling/shipment execution data</td> </tr> <tr> <td>10</td> <td>Buyer,</td> <td>Both trading partners gather exception and resolution</td> </tr> </tbody> </table>			Step #	Actor	Activity Step	1	Buyer, Seller	Provide sales forecast data	2	Buyer	Provides point of sale data	3	Buyer	Provides order forecast impact events	4	Buyer	Provides inventory strategies and seasonalities	5	Buyer	Provides current inventory position including on hand, on order and in transit	6	Seller	Analyzes and provides manufacturer's historical demand & shipments	7	Seller	Analyzes and provides capacity limitations	8	Seller	Retrieves additional item management data such as frozen periods, lead times, DC changes, and logistics data	9	Seller	Gathers order filling/shipment execution data	10	Buyer,	Both trading partners gather exception and resolution
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10	Buyer,	Both trading partners gather exception and resolution																																		

Business Solution Design

		Seller	data
	11	Buyer, Seller	Both trading partners create order forecast
Ends when an acceptable order forecast is available for the use by the trading partners.			
Alternative Scenario	<i>(any alternatives to the above scenario)</i>		
	Step #	Actor	Activity Step
Related Requirements			
	1		
Related Rules			

1.4.3 Business Transaction Activity Diagram(s)



1.4.4 Business Transaction Sequence Diagram(s) (optional)

No Sequence Diagram.

Business Solution Design

1.5 Information Model (including GDD Report)

1.5.1 Data Description:

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Related Requirement
AbstractForecast				BRD for Forecasts V 0.2.0
	forecastPurpose			BRD for Forecasts V 0.2.0
		None	PlanDocument	BRD for Forecasts V 0.2.0
AbstractForecast-DataItem				BRD for Forecasts V 0.2.0
	forecastType			BRD for Forecasts V 0.2.0
		None	TimeSeriesDataItem	BRD for Forecasts V 0.2.0
Forecast				BRD for Forecasts V 0.2.0
	isForecastBasedOnConsensus			BRD for Forecasts V 0.2.0
		None	AbstractForecast	BRD for Forecasts V 0.2.0
		None	ForecastDataItem	BRD for Forecasts V 0.2.0
ForecastDataItem				BRD for Forecasts V 0.2.0
	forecastStatus			BRD for Forecasts V 0.2.0
		None	AbstractForecast-DataItem	BRD for Forecasts V 0.2.0

1.5.2 GDD Report :

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity
AbstractForecast				Abstract_ Forecast. Details	!! This class merely links the Forecast Purpose Code List, Forecast Revision, and Plan Document. It has no attributes.	

Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity
	forecastPurpose			Abstract_ Forecast. Purpose. Forecast Purpose Criteria Type_ Code	!! This external class originates in Plan Common and is a class that is used in more than one CPFR class diagram. Each Forecast Data Item Exception Criterion will be assigned a forecast purpose code. The Forecast Purpose Code List has the following attributes: Order forecast, Sales forecast	1..1
		None	PlanDocument	Abstract_ Forecast. Inheritance_ Association. Plan Document	Not Available	1..1
AbstractForecastDataItem				Abstract_ Forecast_ Time Stamped Trade Item Quantity. Details	!! This class merely links the Forecast Revision Data Item, Forecast Type Code List, and Time Series Data Item. The Abstract Forecast Data Item has no attributes.	
	forecastType			Abstract_ Forecast_ Time Stamped Trade Item Quantity. Association. Forecast Type_ Code	!! This external class originates in Plan Common and is a class that is used in more than one CPFR class diagram. Each Abstract Forecast Data Item will be assigned a forecast type code identifying it as a base, promotional, seasonal or total type of item. The Forecast Type Code List has the following attributes. Base, Promotional, Seasonal, Total	1..1
		None	TimeSeriesDataItem	Abstract_ Forecast_ Time	Not Available	1..1

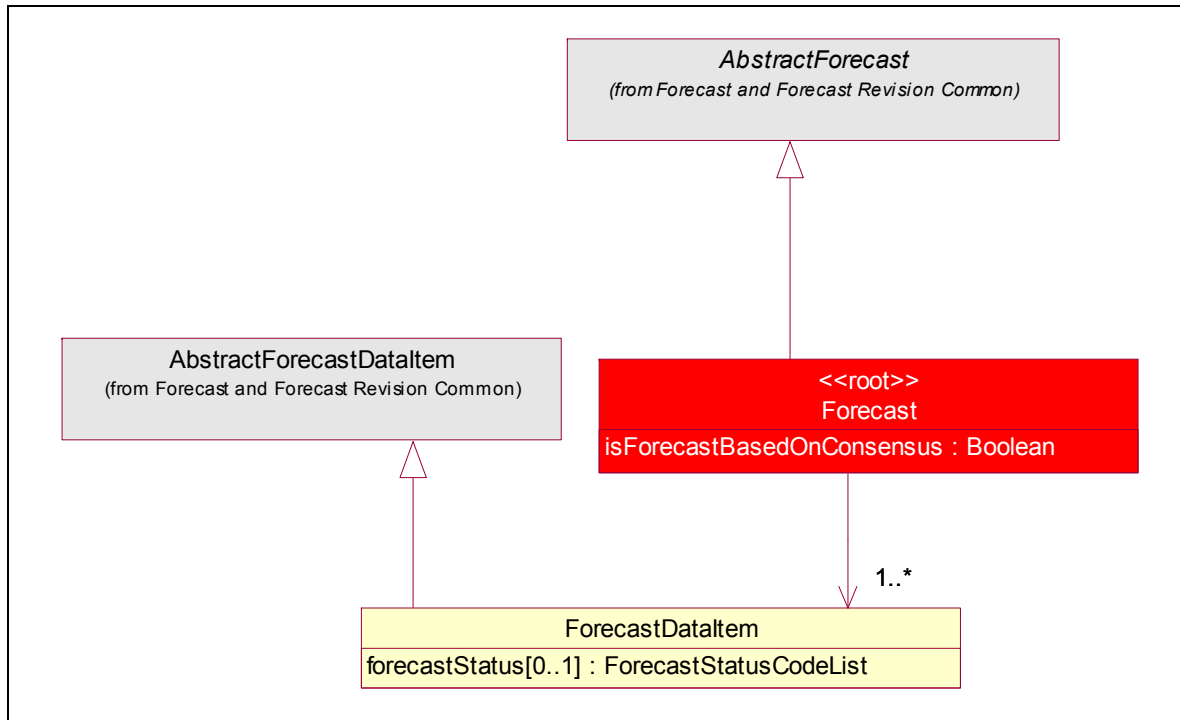
Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity
				Stamped Trade Item Quantity. Inheritance_ Association. Time Stamped Trade Item Quantity		
Forecast				Forecast. Details	!! This is the root class and links one or more Forecast Data Items. It has no attributes.	
	isForecastBasedOnConsensus			Forecast. Indicator. Indicator	An indicator to determine if the forecast was based on consensus. True value represents consensus, and False value represents no consensus.	1..1
		None	AbstractForecast	Forecast. Inheritance_ Association. Abstract_ Forecast	Not Available	1..1
		None	ForecastDataItem	Forecast. Association. Forecast_ Time Stamped Trade Item Quantity	Not Available	1..*
ForecastDataItem				Forecast_ Time Stamped Trade Item Quantity. Details	This class links an Abstract Forecast Data Item to the Forecast Status Code List. It has no attributes.	
	forecastStatus			Forecast_ Time Stamped Trade Item Quantity. Status. Forecast Type_ Code	Each Forecast Data Item will be assigned a forecast status code identifying the item as modifiable or frozen. The Forecast Status Code List has the following attributes. Frozen, Modifiable	0..1
		None	AbstractForecast-DataItem	Forecast_ Time Stamped Trade Item Quantity. Inheritance_ Associa-	Not Available	1..1

Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity
				tion. Abstract_Forecast_ Time Stamped Trade Item Quantity		

1.5.3 Class Diagrams



Business Solution Design

1.5.4 Code Lists

Code List Name	Code List Description
ForecastStatusCodeList	Each Forecast Data Item will be assigned a forecast status code identifying the item as modifiable or frozen.
Code Name	Code Description
FROZEN	The forecasted quantity may not be modified.
MODIFIABLE	The forecasted quantity may be modified.

Business Solution Design

1.6 Business Document Example

None

1.7 Implementation Considerations

None

1.8 Testing

1.8.1 Pass / Fail Criteria

None

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

1.8.2 Test Data

None

Attribute	Value

Business Solution Design

1.9 Appendices

None

1.10 Summary of Changes

Change	BMS Version	Associated CR Number
<p>Currently, the EAN.UCC Forecast message does not distinguish between a forecast that is just one party's perspective, and one that represents a consensus.</p> <p>Proposal to add a mandatory Boolean attribute to the Forecast message, so the consensus standing of the forecast can be indicated. Add boolean: "isForecastBasedOnConsensus."</p> <ul style="list-style-type: none">• True = Consensus Forecast• False= Not Consensus Forecast.	2.0.1	04-000168

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.

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

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