

Business Message Standard (BMS)

for

Pay/Simple Invoice

BRG: Pay

BMS Release: 2.0.2

Document Version: 0.1.1

Date: 31.03.2005
(dd.mm.ccy)



Change Request Reference

Refer to Change Request (CR) Number(s):	04-000128
CR Submitter(s):	Pere Rosell
Date of CR Submission to GSMP:	June 14, 2004

Business Requirements Document (BRAD) Reference

BRAD Title: BRD Simple Invoice Extensions
BRAD Date: September 24, 2004
BRAD Version: BRD Version: 1.3.1

BRAD Title:
BRAD Date:
BRAD Version:

Document Summary

Document Title:	BMS for Pay/Simple Invoice
Document Version	0.1.1
Owner:	Pay BRG
Status:	(Check one box) <input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> Approved
BMS Template Version:	1.0
Targeted BMS Publication Version	2.0.2

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 #
20050210	0.1.0	John Ryu	Initial Version in BMS/BSD template	Migration of BRD to standard BMS/BSD format	5724
20050331	0.1.1	Andrew Hearn	Context Update	Updated the context listed within 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.....	2
1.1.3 Audience.....	2
1.1.4 Artefacts	2
1.1.5 References	2
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.....	5
1.4.3 Business Transaction Activity Diagram(s).....	6
1.4.4 Business Transaction Sequence Diagram(s) (optional)	6
1.5 Information Model (including GDD Report)	7
1.5.1 Data Description:	7
1.5.2 GDD Report :	8
1.5.3 Class Diagrams	13
1.5.4 Code Lists.....	13
1.6 Business Document Example	14
1.7 Implementation Considerations	14
1.8 Testing.....	14
1.8.1 Pass / Fail Criteria	14
1.8.2 Test Data	14
1.9 Appendices.....	15
1.10 Summary of Changes.....	15
2 XML Technical Solution ITRG Packet.....	16

1 Business Solution

1.1 Business Domain View

1.1.1 Problem Statement / Business Need

The Simple Invoice Extension to Core Request for Payment contains data relative to pricing and reference numbers. It can be used in conjunction with the Core Request for Payment message in a business-to-business exchange of Simple Invoice information between trading partners. As an extension, it cannot be used independently.

Number	Statement	Rationale
1	A digital (electronic) signature may be required based upon: <ul style="list-style-type: none">• Trading Partner Agreement• Level of Security Requirements• Industry Requirements• Legal Requirements• Regional Requirements	Change request 04-000128 states that there is a legal requirement in Spain for a digital (electronic) signature to be part of a paperless (electronic) invoice.
2	The XML simple invoice message shall specify that the message contain an encrypted digital signature or not.	This is necessary because the use of an encrypted digital signature is conditional.
3	When a digital signature is included as part of the invoice, the digital signature must be encrypted using an approved GS1 encryption technique.	The most common threats to electronic transactions can be summarised as the following. <ul style="list-style-type: none">• The unauthorised disclosure of message content• The intentional insertion of unwanted messages• The duplication, loss or replay of messages• The modification of the message content• The deletion of messages

Business Solution Design

1.1.2 Objective

To supply the detail design of the Simple Invoice business transaction needed to meet the requirements of the referenced BRD(s).

1.1.3 Audience

The audience for this document is anyone involved in the Pay Process.

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
None		

1.1.5 References

Reference Name	Description
None	

1.1.6 Acknowledgements

1.1.6.1 BRG Members

Function	Name	Company / organisation
BRG Chair	Joel Goldberg	Rosenthal & Rosenthal Inc.
BRG Vice Chair	Henry Gerstman	Wells Fargo Century, Inc.
BRG Member	Janet Bailey	VFC
BRG Member	Craig Brinkman	Procter & Gamble
BRG Member	Suzanne Fassler	J.C.Penney
BRG Member	Brenda Hall	Wal-Mart
BRG Member	Sandra Hurd	The CIT Group
BRG Member	Patricia Owyang	Levi Strauss & Co.
BRG Member	Marie Perry	Coca Cola Enterprises
BRG Member	Bill Steger	Ahold Financial
BRG Member	Laura Stone	Pfizer
BRG Member	Arne Dicks	GS1 – Germany
BRG Member	Karina Duvinger	GS1 – Sweden
BRG Member	Catherine Karim	GS1 – France
BRG Member	Ana Paula Maniero	GS1 – Brazil
BRG Member	Jose Falcon Tuesta	GS1 - Peru
BRG Member	Seichi Saito	GS1 - Japan
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		

Business Solution Design

1.2 Business Context

Context Category	Value(s)
Industry	All
Geopolitical	All
Product	All
Process	Pay
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
	None	

Business Solution Design

1.4 Business Transaction View

1.4.1 Business Transaction Use Case Diagram

1.4.2 No Use Case Diagram/Use Case Description

Use Case ID	No Use Case Description											
Use Case Name												
Use Case Description												
Actors (Goal)												
Performance Goals												
Preconditions												
Post conditions												
Scenario	<div>Continues with...</div> <table border="1"><thead><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr></thead><tbody><tr><td>1</td><td></td><td></td></tr></tbody></table>			Step #	Actor	Activity Step	1					
Step #	Actor	Activity Step										
1												
Alternative Scenario	<div>(any alternatives to the above scenario)</div> <table border="1"><thead><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr></thead><tbody><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></tbody></table>			Step #	Actor	Activity Step						
Step #	Actor	Activity Step										
Related Requirements	<table border="1"><tbody><tr><td>1</td><td></td></tr></tbody></table>			1								
1												
Related Rules	<table border="1"><tbody><tr><td></td><td>None</td></tr></tbody></table>				None							
	None											

1.4.3 Business Transaction Activity Diagram(s)

No Activity Diagram

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
DigitalSignature				BRD Simple Invoice V1.3.1
InvoiceLineItem				BMS Request for Payment V 2.0.0
Reference				BMS Common Library V 0.1.7
RequestForPayment				BMS Request for Payment V 2.0.0
SimpleInvoice				BRD Simple Invoice V1.3.1
SimpleInvoiceLineItem				BRD Simple Invoice V1.3.1

Business Solution Design

1.5.2 GDD Report :

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity
DigitalSignature				Digital Signature. Details	When a digital signature is included as part of the invoice, the digital signature must be encrypted using an approved GS1 encryption technique.	
InvoiceLineItem				Invoice Line. Details	Not Available	
	invoicedQuantity			Invoice Line. Quantity. Quantity	Not Available	1..1
		None	AllowanceCharge	Invoice Line. Association. Allowance Charge	Specifies allowances and charges specified to either the entire message or to individual line items contained in the message.	0..*
		None	LineItem	Invoice Line. Inheritance_ Association. Line Item	Not Available	1..1
		None	TradeItemIdentification	Invoice Line. Association. Trade Item Identification	The Global Trade Item Number is the recommended primary identifier.	1..1
Reference				Entity Reference. Details	Not Available	

Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity
	referenceDateTime			Entity Reference. Date. Date Time	Not Available	1..1
	referenceIdentification			Entity Reference. Identification. Text	Not Available	1..1
RequestForPayment				Invoice. Details	!! requesting payment for goods or services under conditions agreed upon between the seller and the buyer	
		None	AllowanceCharge	Invoice. Association. Allowance Charge	Specifies allowances and charges specified to whether the entire message or to individual line items contained in the message.	0..*
		None	Document	Invoice. Inheritance. Association. Electronic. Document	Not Available	1..1
		requestForPaymentIdentification	EntityIdentification	Invoice. Identification. Entity Identification	The unique identification of a document.	1..1
		None	InvoiceLineItem	Invoice. Line Item. Invoice Line	Not Available	1..*
		buyer	PartyIdentification	Invoice. Buyer. Party Identification	Not Available	1..1

Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity
		remit-to	PartyIdentification	Invoice. remit-to_ Association. Party Identification	Not Available	0..1
		seller	PartyIdentification	Invoice. Seller. Party Identification	Not Available	1..1
		None	PaymentTerms	Invoice. Association. Payment Terms	Not Available	0..*
SimpleInvoice				Simple_ Invoice. Details	The Simple Invoice Extension to Core Request for Payment contains data relative to pricing and reference numbers. It can be used in conjunction with the Core Request for Payment message in a business-to-business exchange of Simple Invoice information between trading partners. As an extension, it cannot be used independently.	
	isDigitalSignatureContained			Simple_ Invoice. Indicator. Indicator	This is an indicator whether the XML simple invoice contains a digital signature or not	1..1
		None	DigitalSignature	Simple_ Invoice.	A digital (electronic) signature may be required based	0..1

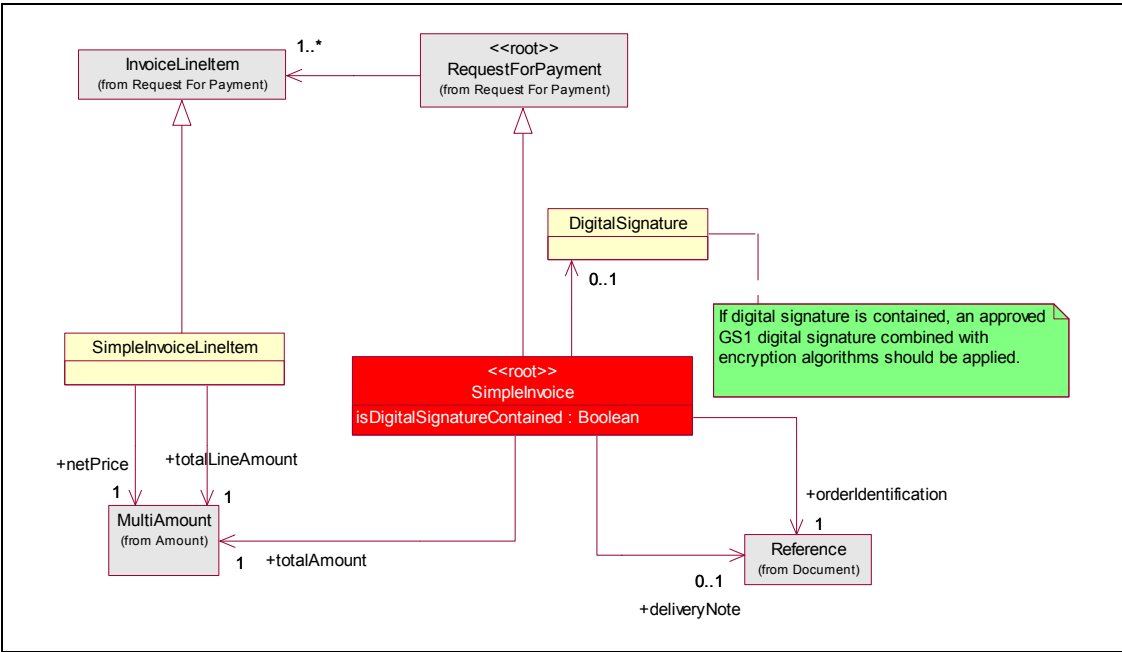
Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity
				Association. Digital Signature	upon: Trading Partner Agreement, Level of Security Requirements, Industry Requirements, Legal Requirements, and Regional Requirements.	
		totalAmount	MultiAmount	Simple_ Invoice. Total Amount_ Association. Multi-currency Amount	Not Available	1..1
		deliveryNote	Reference	Simple_ Invoice. Delivery Note. Entity Reference	Not Available	0..1
		orderIdentification	Reference	Simple_ Invoice. Order. Entity Reference	Not Available	1..1
		None	RequestForPayment	Simple_ Invoice. Inheritance_ Association. Invoice	Not Available	1..1
SimpleInvoiceLineItem				Simple_ Invoice Line. Details	Not Available	

Business Solution Design

Class (ABIE)	Attribute (BBIE)	Association (ASBIE)	Secondary Class	Official Dictionary Entry Name	Definition	Multiplicity
		None	InvoiceLineItem	Simple_ Invoice Line. Inheritance_ Association. Invoice Line	Not Available	1..1
		netPrice	MultiAmount	Simple_ Invoice Line. Net Price_ Association. Multi- currency Amount	Not Available	1..1
		totalLineAmount	MultiAmount	Simple_ Invoice Line. Total Line Amount_ Association. Multi- currency Amount	Not Available	1..1

1.5.3 Class Diagrams



1.5.4 Code Lists

No Code Lists

Business Solution Design

1.6 Business Document Example

None

1.7 Implementation Considerations

None

1.8 Testing

1.8.1 Pass / Fail Criteria

None

Nu mb er	Test Criteria	Related Re- quirement	Design Element	Pass Criteria	Fail Criteria
1					
2					
3					

1.8.2 Test Data

None

Attribute	Value

1.9 Appendices

None

1.10 Summary of Changes

Change	BMS Version	Associated CR Number
Change request 04-000128 states that there is a legal requirement in Spain for a digital (electronic) signature to be part of a paperless (electronic) invoice. The changes are listed below.	2.0.1	04-000128
<u>Created optional DigitalSignature Class.</u> A digital (electronic) signature may be required based upon: <ul style="list-style-type: none">• Trading Partner Agreement• Level of Security Requirements• Industry Requirements• Legal Requirements• Regional Requirements		
<u>Created a mandatory attribute: isDigitalSignatureContained.</u> The XML simple invoice message shall specify that the message contain an encrypted digital signature or not.		
<u>Created a note in class diagram regarding the statement below.</u> When a digital signature is included as part of the invoice, the digital signature must be encrypted using an approved GS1 encryption technique.		

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