OASIS

EAN•UCC Deployment Guide Version 1.0

Instance of the ebXML Messaging Deployment Template 1.0

for ebXML Message Service Specification 2.0

Produced in Collaboration with

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Editors:

Thomas Bikeev, EAN International <bikeev@ean-int.org>

Pete Wenzel, SeeBeyond <pete@seebeyond.com>

Abstract:

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This document is an editor's draft, candidate for committee specification, and is updated periodically on no particular schedule.

Committee members should send comments on this specification to the ebxml-iic@lists.oasis-open.org list. Others should subscribe to and send comments to the ebxml-iic-comment@lists.oasis-open.org list. To subscribe, send an email message to ebxml-iic-comment-request@lists.oasis-open.org with the word "subscribe" as the body of the message.

For more information about this work, including any errata and related efforts by this committee, please refer to our home page at http://www.oasis-open.org/committees/ebxml-iic.

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1   Introduction

This document describes the details of the ebXML Message Service Implementation specified for EAN•UCC. Full description of the implementation can be found in the EAN•UCC Implementation Guidelines for ebXML Messaging Service V2.0.

Implementation of the ebXML Message Service Protocol MUST comply with the ebXML Message Service Specification 2.0 **[ebMS]**. This specification is organized around the topics specified by EAN•UCC where additional restrictions or conditions on the Message Service are applied.

1.1 Terminology

The keywords *must*, *must not*, *required*, *shall*, *shall not*, *should*, *should not*, *recommended*, *may*, and *optional* in this document are to be interpreted as described in **[RFC2119]**.

For items that are not relevant to the community, "Not Applicable" is specified. Likewise, "No Recommendation Given" will indicate that there is no modification or preference for an item notated as such. The Deployment Guide may also note "Recommendation Pending" for items that are likely to be specified in future versions of the Guide.

2 Business-Level Requirements

[The items in this section are intended to be answered by a business process designer, and are either specific to the use cases and Business Processes being deployed, or are a matter of general policy.]

3.1.1.1 PartyId Element

Specification	Value
Is a specific standard used for party identification? Provide details.	Value of the PartyId SHOULD be a GLN (EAN•UCC Global Location Number. Ref.: ISO6523 - ICD0088). **[GLN]**

Example:

```
<eb:PartyId
eb:type="http:/www.iso.int/schemas/eanucc/gln">1234567890128</eb:PartyId>
```

3.1.2 CPA Access

Specification	Value
Is a specific registry for storing CPAs required? If so, provide details.	No recommendation made.
Is there a set of predefined CPA templates that can be used to create given Parties' CPAs?	No recommendation made.

3.1.4 Service Element

Specification	Value
Are Services (related groups of Actions) defined for each party of each business process? List them, or provide a reference to the source of these values. [Per-process; absent from BPSS definitions.]	Value of the Service element within EAN•UCC system SHOULD be EAN•UCC specified value and is currently "transaction".

Example:

```
<eb:Service eb:type="http://www.ean-ucc.org/">transaction</eb:Service>
```

3.1.5 Action Element

Specification	Value
Are Actions defined for each party to each business process? List them, or provide a reference to the source of these values. [Per-process; may reference BusinessAction values in BPSS definitions. Appears as ThisPartyActionBinding/@action in CPA.]	Value of the Action must be one of the EAN•UCC approved values as specified by **[MSIG]**.

Example:

```
<eb:Action>Confirmation</eb:Action>
```

3.1.1.2 Role Element

Specification	Value
Are Roles defined for each party of each business process? List them, or provide a reference to the source of these values. [Per-process; may reference Role values in BPSS definitions. Appears as Role/@name in CPA.]	Value of the Role SHOULD be registered EAN•UCC role, specified in accordance to **[MSIG]**.

Example:

```
<eb:Role>http://www.ean-ucc.org/roles/seller</eb:Role>
```

Appendix C: Supported Security Services

Specification	Value
Which security profile(s) are used, and under what circumstances (for which Business Processes)? [Refer to Appendix C of Message Service Specification. May be partially captured by BPSS isConfidential, isTamperproof, isAuthenticated definitions.]	EAN•UCC RECOMMENDS the EAN•UCC community to adopt persistent security at the application level, including: • Persistent digital signature • Persistent signed receipt • Persistent confidentiality • Persistent authorisation [This corresponds to Security Profile 21.]
Are any specific third-party security packages approved or required?	No recommendation made.

4.1.2 Security and Management

Specification	Value
What security and management policies and practices are recommended?	No recommendation made.

6.6 Reliable Messaging Combinations

Specification	Value
Which Reliable Messaging feature combinations are required? [Refer to Section 6.6 of Message Service Specification.]	No recommendation made.

3 Technical-Level Requirements

This section requires an in-depth knowledge of the ebXML Message Service and all its constituent standards and technologies, and their application to the specific use cases and Business Processes of the user community being addressed.

2 ebXML with SOAP
2.1 Packaging Specification
2.1.3 Header Container
2.1.3.2 charset attribute

Specification	Value
Is the "charset" parameter of Content-Type header necessary? If so, what is the (sub)set of allowed values?	No recommendation made.

2.1.4 Payload Container

Specification	Value
How many Payload Containers must be present? What is the structure and content of each container? [List MIME Content-Types and other process-specific requirements.] How is each container distinguished from the others? [By a fixed ordering of containers, a fixed Manifest ordering, or specific Content-ID values.]	No recommendation made.

2.3 ebXML SOAP Envelope extensions
2.3.6 #wildcard Element Content

Specification	Value
Are additional namespace-qualified extension elements required? If so, specify.	No recommendation made.

2.3.7 id attribute

Specification	Value
Is a unique "id" attribute required for each (or any) ebXML SOAP extension elements, for the purpose of referencing it alone in a digital signature?	No recommendation made.

2.3.8 version attribute

Specification	Value
Is a version other than "2.0" allowed or required for any extension elements?	No recommendation made.

3 Core Extension Elements
3.1 MessageHeader Element
3.1.1 From and To Elements
3.1.1.1 PartyId Element

Specification	Value
Should multiple PartyId elements be present in From and To elements? [See section 3.1.1.1 of Business-Level Requirements. Appears as PartyId element in CPA.]	No recommendation made.
Is the type attribute needed for each PartyId, and if so, what must it contain? [Appears as PartyId/@type in CPA.]	The value of the type attribute SHOULD be URI.

Example:

```
<eb:PartyId
eb:type="http:/www.iso.int/schemas/eanucc/gln">1234567890128</eb:PartyId>
```

3.1.2 CPAId Element

Specification	Value
What identification scheme is used for the CPAId, and what form should it take? [If a URI, how is it constructed? Does it reference a real CPA, or is it just a symbolic identifier? See section 3.1.2 of Business-Level Requirements for repository information. Appears as CollaborationProtocolAgreement/@cpaid in CPA.]	Value of the CPAId SHOULD be concatenation of the Sender and Receiver GLNs followed by a four digit serial number.

Example:

```
1234567890128  - GLN Party A

3456789012340  - GLN Party B

0001           - CPA Number between parties A and B


<eb:CPAId>123456789012834567890012340001</eb:CPAId>
```

3.1.4 Service Element

Specification	Value
Is there a defined "type" for Service elements? If so, what value must the type attribute contain?	Value of the type attribute within EAN•UCC

Specification	Value
[Appears as Service/@type in CPA.]	system MUST be "URI".
If not provided in Business-Level Requirements above, what is the set of possible values for the Service element? Is there a URI format scheme for this element? [Appears as Service element in CPA.]	[See reference in Business Requirements section.]

3.1.6 MessageData Element
3.1.6.2 Timestamp Element

Specification	Value
Must Timestamp include the 'Z' (UTC) identifier? [Also for Timestamp elements described in ebMS sections 6.3.2.2, 6.4.5, 7.3.2.]	No recommendation made.

3.1.8 Description Element

Specification	Value
Are one or more Message Header Description elements required? In what language(s)? Is there a convention for its contents?	No recommendation made.

3.2 Manifest Element
3.2.2 Manifest Validation

Specification	Value
How many Manifest elements must be present, and what must they reference?	No recommendation made.
Must a URI that cannot be resolved be reported as an error?	No recommendation made.

3.2.1 Reference Element

Specification	Value
Is the xlink:role attribute required? What is its value?	No recommendation made.
Are any other namespace-qualified attributes required?	No recommendation made.

3.2.1.1 Schema Element

Specification	Value
Are any Schema elements required? If so, what	No recommendation made.

Specification	Value
are their location and version attributes?	

3.2.1.2 Description Element

Specification	Value
Are any Description elements required? If so, what are their contents?	No recommendation made.

4.1 Security Module
4.1.5 Security Considerations

Specification	Value
Are any recommendations given, with respect to protection or proper handling of MIME headers within an ebXML Message?	Pending.

4.1.4.1 Persistent Digital Signature

Specification	Value
Must messages be digitally signed? [Yes, for Security Services Profiles 1, 6-21. Appears as BusinessTransactionCharacteristics/@isAuthenticated=persistent and BusinessTransactionCharacteristics/@isTamperProof=persistent in CPA]	Recommended.

4.1.1 Signature Element

Specification	Value
Are additional Signature elements required, by whom, and what should they reference?	Pending.

4.1.3 Signature Generation

Specification	Value
What canonicalization method(s) must be applied to the data to be signed? [Recommended method is "http://www.w3.org/TR/2001/REC-xml-c14n-20010315".]	Pending.
What canonicalization method(s) must be applied to each payload object, if different from above?	Pending.
What signature method(s) must be applied?	Pending.

Specification	Value
What Certificate Authorities (issuers) are allowed or required for signing certificates?	Pending.
Are direct-trusted (or self-signed) signing certificates allowed?	Pending.
What certificate verification policies and procedures must be followed?	Pending.

4.1.4.2 Persistent Signed Receipt

Specification	Value
Is a digitally signed Acknowledgment message required? [Yes, for Security Services Profiles 7, 8, 10, 12, 14, 15, 17, 19-21. See the items beginning with Section 4.1.4.1 for specific Signature requirements. Appears as BusinessTransactionCharacteristics/@isNonRepudiationReceiptRequired=persistent in CPA.]	Recommended.
If so, what is the Acknowledgment or Receipt schema?	Pending.

4.1.4.3 Non-persistent Authentication

Specification	Value
Are communication channel authentication methods required? [Yes, for Security Services Profiles 2-5.] Which methods are allowed or required? [Appears as BusinessTransactionCharacteristics/@isAuthenticated=transient in CPA.]	Pending.

4.1.4.4 Non-persistent Integrity

Specification	Value
Are communication channel integrity methods required? [Yes, for Security Services Profile 4.] Which methods are allowed or required? [Appears as BusinessTransactionCharacteristics/@isTamperproof=transient in CPA.]	Pending.

4.1.4.5 Persistent Confidentiality

Specification	Value
Is selective confidentiality of elements within an ebXML Message SOAP Header required? If so, how is this to be accomplished? [Not addressed by Messaging Specification 2.0.]	Pending.
Is payload confidentiality (encryption) required? [Yes, for Security Services Profiles 13, 14, 16, 17, 21, 22.] Which methods are allowed or required? [Appears as BusinessTransactionCharacteristics/@isConfidential=persistent in CPA.]	Recommended.

4.1.4.6 Non-persistent Confidentiality

Specification	Value
Are communication channel confidentiality methods required? [Yes, for Security Services Profiles 3, 6, 8, 11, 12.] Which methods are allowed or required? [Appears as BusinessTransactionCharacteristics/@isConfidential=transient in CPA.]	Pending.

4.1.4.7 Persistent Authorization

Specification	Value
Are persistent authorization methods required? [Yes, for Security Services Profiles 18-21.] Which methods are allowed or required? [Appears as BusinessTransactionCharacteristics/@isAuthorizationRequired=persistent in CPA.]	Recommended.

4.1.4.8 Non-persistent Authorization

Specification	Value
Are communication channel authorization methods required? [Yes, for Security Services Profile 2.] Which methods are allowed or required? [Appears as BusinessTransactionCharacteristics/@isAuthorizationRequired=transient in CPA.]	Pending.

4.1.4.9 Trusted Timestamp

Specification	Value
Is a trusted timestamp required? [Yes, for Security Services Profiles 9-12, 15-17, 20, 21.] If so, provide details regarding its usage.	Pending.

4.2 Error Handling Module
4.2.3 ErrorList Element
4.2.3.2 Error Element
4.2.3.2.2 codeContext attribute

Specification	Value
Is an alternative codeContext used? If so, specify.	No recommendation made.

4.2.3.2.3 errorCode attribute

Specification	Value
If an alternative codeContext is used, what is its errorCode list?	No recommendation made.
When errors should be reported to the sending application, how should this notification be performed (e.g. using a logging mechanism or a proactive callback)?	No recommendation made.

4.2.4 Implementing Error Reporting and Handling
4.2.4.2 Identifying the Error Reporting Location

Specification	Value
Should errors be reported to a URI that is different from that identified within the From element? What are the requirements for the error reporting URI and the policy for defining it?	No recommendation made.
What is the policy for error reporting?	No recommendation made.

4.3 SyncReply Module

Specification	Value
Is SyncReply mode allowed, disallowed, or required, and under what circumstances? [May be process-specific.]	No recommendation made.
If SyncReply mode is used, are MSH signals, business messages or both expected synchronously? [Affects setting of 6.4.7	No recommendation made.

Specification	Value
syncReplyMode element. Appears as MessagingCharacteristics/@syncReplyMode in CPA.]	

6 Reliable Messaging Module
6.2 Methods of Implementing Reliable Messaging

Specification	Value
If reliable messaging is required, by which method(s) may it be implemented? [The ebXML Reliable Messaging protocol, or an alternative reliable messaging or transfer protocol.]	No recommendation made.

6.3 Reliable Messaging SOAP Header Extensions
6.3.1 AckRequested Element
6.3.1.1 SOAP actor attribute

Specification	Value
Are point-to-point (nextMSH) MSH Acknowledgments to be requested? [Yes, for RM Combinations 1, 3, 5, 7; refer to ebMS section 6.6. Appears as MessagingCharacteristics/@ackRequested with @actor=nextMSH in CPA.]	No recommendation made.
Are end-to-end (toParty) MSH Acknowledgments to be requested? [Yes, for RM Combinations 1, 2, 5, 6. Appears as MessagingCharacteristics/@ackRequested with @actor=toPartyMSH in CPA.]	No recommendation made.

6.3.1.2 signed attribute

Specification	Value
Must MSH Acknowledgments be (requested to be) signed? [Appears as MessagingCharacteristics/@ackSignatureReque sted in CPA.]	No recommendation made.

6.4 Reliable Messaging Parameters
6.4.1 DuplicateElimination

Specification	Value
Is elimination of duplicate messages required? [Yes, for RM Combinations 1-4. Appears as MessagingCharacteristics/@duplicateEliminatio n in CPA.]	No recommendation made.

Specification	Value
What is the expected scope in time of duplicate elimination? In other words, how long should messages or message Ids be kept in persistent storage for this purpose?	No recommendation made.

6.4.3 Retries

Specification	Value
If reliable messaging is used, how many times must an MSH attempt to redeliver an unacknowledged message? [Appears as ReliableMessaging/Retries in CPA.]	No recommendation made.

6.4.4 RetryInterval

Specification	Value
What is the minimum time a Sending MSH should wait between retries of an unacknowledged message? [Appears as ReliableMessaging/RetryInterval in CPA.]	No recommendation made.

6.4.6 PersistDuration

Specification	Value
How long must data from a reliably sent message be kept in persistent storage by a receiving MSH, for the purpose of retransmission? [Appears as ReliableMessaging/PersistDuration in CPA.]	No recommendation made.

6.5 ebXML Reliable Messaging Protocol
6.5.3 Generating an Acknowledgment Message

Specification	Value
Must a response to a received message be included with the acknowledgment of the received message, are they to be separate, or are both forms allowed?	No recommendation made.

6.5.7 Failed Message Delivery

Specification	Value
If a DeliveryFailure error message cannot be delivered successfully, how must the error message's destination party be informed of the	No recommendation made.

Specification	Value
problem?	

7 Message Status Service

Specification	Value
Is the Message Status Service required for reliable and/or best-effort messaging?	No recommendation made.

7.1 Message Status Messages
7.1.1 Message Status Request Message

Specification	Value
If used, must Message Status Request Messages be digitally signed?	No recommendation made.

7.1.2 Message Status Response Message

Specification	Value
If used, must Message Status Response Messages be digitally signed?	No recommendation made.

7.1.3 Security Considerations

Specification	Value
Must unauthorized Message Status Request messages be ignored, rather than responded to, due to security concerns?	No recommendation made.

8 Message Service Handler Ping Service

Specification	Value
Is the Ping Service required?	No recommendation made.

8.1 Message Service Handler Ping Message

Specification	Value
If used, must Ping Messages be digitally signed?	No recommendation made.

8.2 Message Service Handler Pong Message

Specification	Value
If used, must Pong Messages be digitally signed?	No recommendation made.
Under what circumstances must a Pong Message not be sent?	No recommendation made.

8.3 Security Considerations

Specification	Value
If not supported or unauthorized, must the MSH receiving a Ping respond with an error message, or ignore it due to security concerns?	No recommendation made.

9 MessageOrder Module

Specification	Value
Is message ordering (within a Conversation) required? [If so, a once-and-only-once Reliable Messaging scheme must also be selected.]	No recommendation made.

10 Multi-Hop Module

Specification	Value
Are any store-and-forward intermediary MSH nodes present in the message path?	No recommendation made.

10.1 Multi-hop Reliable Messaging

Specification	Value
What are the values of Retry and RetryInterval between intermediate MSH nodes?	No recommendation made.

10.1.1 AckRequested Sample

Specification	Value
Must each intermediary request acknowledgment from the next MSH?	No recommendation made.
Must each intermediary return an Intermediate Acknowledgment Message synchronously?	No recommendation made.

10.1.3 Multi-Hop Acknowledgments

Specification	Value
If both intermediary (multi-hop) and endpoint acknowledgments are requested of the To Party, must they both be sent in the same message?	No recommendation made.

Appendix B Communications Protocol Bindings
B.1 Introduction

Specification	Value
Is HTTP a required or allowed transfer protocol? (See section B.2 for specifics of this protocol.)	No recommendation made.
Is HTTPS a required or allowed transfer protocol? (See section B.2 for specifics of this protocol.)	No recommendation made.
Is (E)SMTP a required or allowed transfer protocol? (See section B.3 for specifics of this protocol.)	No recommendation made.
Are any transfer protocols other than HTTP and SMTP allowed or required? If so, describe the protocol binding to be used.	No recommendation made.

B.2 HTTP
B.2.2 Sending ebXML Service messages over HTTP

Specification	Value
Is a (non-identity) content-transfer-encoding required for any of the MIME multipart entities?	No recommendation made.
If other than "ebXML" what must the SOAPAction HTTP header field contain?	No recommendation made.
What additional MIME-like headers must be included among the HTTP headers?	No recommendation made.

B.2.3 HTTP Response Codes

Specification	Value
What client behaviors should result when 3xx, 4xx or 5xx HTTP error codes are received?	No recommendation made.

B.2.6 Access Control

Specification	Value
Which HTTP access control mechanism(s) are required or allowed? [Basic, Digest, or client certificate (the latter only if transport-layer security is used), for example. Refer to item 4.1.4.8 in Security section. Appears as AccessAuthentication elements in CPA.]	No recommendation made.

B.2.7 Confidentiality and Transport Protocol Level Security

Specification	Value
Is HTTP transport-layer encryption required? What protocol version(s)? [SSLv3, TLSv1, for example. Refer to item 4.1.4.6 in Security section.]	No recommendation made.
What encryption algorithm(s) and minimum key lengths are required?	No recommendation made.
What Certificate Authorities are acceptable for server certificate authentication?	No recommendation made.
Are direct-trust (self-signed) server certificates allowed?	No recommendation made.
Is client-side certificate-based authentication allowed or required?	No recommendation made.
What client Certificate Authorities are acceptable?	No recommendation made.
What certificate verification policies and procedures must be followed?	No recommendation made.

B.3 SMTP
B.3.1 Minimum Level of Supported Protocols

Specification	Value
What is needed in addition to the ebMS minimum requirements for SMTP?	No recommendation made.

B.3.2 Sending ebXML Messages over SMTP

Specification	Value
Is any specific content-transfer-encoding required, for MIME body parts that must conform to a 7-bit data path? [Base64 or quoted-printable, for example.]	No recommendation made.
If other than "ebXML" what must the	No recommendation made.

Specification	Value
SOAPAction SMTP header field contain?	
What additional MIME headers must be included among the SMTP headers?	No recommendation made.

B.3.4 Access Control

Specification	Value
What SMTP access control mechanisms are required? [Refer to item 4.1.4.8 in Security section.]	No recommendation made.

B.3.5 Confidentiality and Transport Protocol Level Security

Specification	Value
Is transport-layer security required for SMTP, and what are the specifics of its use? [Refer to item 4.1.4.6 in Security section.]	No recommendation made.

B.4 Communication Errors during Reliable Messaging

Specification	Value
What communication protocol-level error recovery is required, before deferring to Reliable Messaging recovery? [For example, how many retries should occur in the case of failures in DNS, TCP connection, server errors, timeouts; and at what interval?]	No recommendation made.

Other Infrastructure Guidelines

The following infrastructure requirements fall outside the scope of the Messaging Specification, but may be important to specify in a Deployment Guide.

Specification	Value
What are typical and maximum message payload sizes that must be handled?	No recommendation made.
What are typical communication bandwidth and processing capabilities of an MSH for these Services?	No recommendation made.

4 References

4.1 Normative

[ebCPPA] OASIS, *Collaboration-Protocol Profile and Agreement Specification Version 2.0*, http://www.oasis-open.org/committees/ebxml-cppa/documents/ebCPP-2_0.pdf, September 23, 2002.

[ebMS] OASIS, *Title*, http://www.oasis-open.org/committees/ebxml-msg/documents/ebMS_v2_0rev_c.pdf, February 21, 2002.

[GLN] EAN•UCC Global Location Number. Ref.: ISO6523 - ICD0088.

[MSIG] EAN•UCC Message Service Implementation Guide.

[RFC2119] S. Bradner, *Key words for use in RFCs to Indicate Requirement Levels*, http://www.ietf.org/rfc/rfc2119.txt, IETF RFC 2119, March 1997.

4.2 Non-normative

[ebTA] ebXML, *ebXML Technical Architecture Specification v1.0.4*, http://www.ebxml.org/specs/ebTA.pdf, February 16, 2001.

Appendix A. Acknowledgments

The following individuals were members of the committee during the development of this specification:

Jacques Durand, Fujitsu <jdurand@fs.fujitsu.com>
Jeff Turpin, Cyclone Commerce <jturpin@cyclonecommerce.com>
Mike Dillon, Drummond Group Inc. <mike@drummondgroup.com>
Jeffery Eck, Global Exchange Services <Jeffery.Eck@gxs.ge.com>
Matthew MacKenzie, Individual <matt@mac-kenzie.net>
Eric van Lydegraf Kinzan <ericv@kinzan.com>
Monica Martin, Sun Microsystems <monica.martin@sun.com>
Steven Yung, Sun Microsystems <steven.yung@sun.com>
Michael Kass, NIST <michael.kass@nist.gov>
Pete Wenzel, SeeBeyond <pete@seebeyond.com>
Aaron Gomez, Drummond Group Inc. <aaron@drummondgroup.com>

In addition, the following people made contributions to this specification:

Thomas Bikeev, EAN International <bikeev@ean-int.org>

Appendix B. Revision History

Rev	Date	By Whom	What
	12 August, 2002	T. Bikeev	EAN•UCC Deployment Guide
	3 October, 2002	P. Wenzel	Deployment Guide Template 0.3.
0.1	21 October, 2002	P. Wenzel	This document, combining the previous 2; initial Draft by
1.0	27 January, 2003	T. Bikeev	Update, following Template version 1.0
1.0	05 March, 2003	T. Bikeev	Update, following Template version 1.0 26 Feb. 2003
1.0	28 March, 2003	P. Wenzel	Update, following Template version 1.0 29 Mar 2003

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