

Multiple Messaging Services (MMS) Profile for Applicability Statement 2 (AS2)

Document Information	
Name	Multiple Messaging Services (MMS) Profile for AS2
Version	Validate V01.00.00
Date Updated	August 14, 2008

Legal Disclaimer

RosettaNet™, its members, officers, directors, employees, or agents shall not be liable for any injury, loss, damages, financial or otherwise, arising from, related to, or caused by the use of this document or the specifications herein, as well as associated guidelines and schemas. The use of said specifications shall constitute your express consent to the foregoing exculpation.

Copyright

©2008 RosettaNet. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. Printed in the United States of America.

Trademarks

RosettaNet, Partner Interface Process, PIP and the RosettaNet logo are trademarks or registered trademarks of "RosettaNet," a non-profit organization. All other product names and company logos mentioned herein are the trademarks of their respective owners. In the best effort, all terms mentioned in this document that are known to be trademarks or registered trademarks have been appropriately recognized in the first occurrence of the term.

Additional Disclaimers

Inclusion of Document Type Definitions (DTDs) and Element descriptions in this document are for ease of comprehension. While every effort has been made to ensure that what appears in this document matches the separately published DTD files (*.dtd) and Message Guideline specifications associated with this document, in the event of discrepancies, the DTD file or Message guideline specification is to be used.

Use of examples throughout this document is intended to illustrate the concepts or rules being discussed. They must not be treated as specifications themselves.

Document Version History

<u>Version</u>	<u>Date</u>	<u>Document History</u>
V01.00.00	14Aug2008	Published as validated specification

AS2 MMS Team

<u>Members</u>	<u>Company</u>
Abou-Rizk, Mitri	Nokia Corporation
Baxter, Scott	DHL International, Ltd
Binder, Gary	DHL International, Ltd
Hawtrey Peter	RCN Corporation
Hutchins, Jeffrey	Oracle Corporation
Kane, Peter	Hewlett-Packard, Inc.
Kongkeo-Marlow, Annabelle	RosettaNet
Kraft, Chris	Texas Instruments, Inc.
Liu, Canyang Kevin	SAP Labs, LLC
Loaisigax, Jeff	Hewlett-Packard, Inc.
Moberg, Dale	Cyclone Commerce Inc.
Smiley, David	WebMethods, Inc.
Stojanovic, Nikola	RosettaNet
Tedesco, Carlo	Hewlett-Packard, Inc.

Table of Contents

1.1	Notational Conventions	5
2	INTRODUCTION	6
2.1	Overview of Intent	7
2.2	MMS Program Guiding Principles	7
2.2.1	General Guidance	8
2.2.2	Message Exchange vs. Message Choreography	8
2.2.3	Receipt Acknowledgement vs. Message Validation	9
3	PROFILE CONFORMANCE	10
4	OVERVIEW OF AS2	11
4.1	Use of HTTP Headers	11
4.2	Participants Identification	11
4.3	Required AS2 Version	12
4.4	AS2 Receipt Features	13
5	MESSAGE COMPONENTS	15
5.1	Validation (Schema & dictionaries)	15
5.2	PIP Business Documents	15
5.2.1	Data Type Definition (DTD)-based Business Document	15
5.2.2	XML Schema (XSD)-based Business Document	15
5.2.3	Business Document as Payload	16
5.2.4	Attachments	16
6	MESSAGE PACKING AND UNPACKING	17
6.1	Compression / Encryption	17
6.2	Multiple-document support	17

7	MESSAGE TRANSFER	18
7.1	Synchronous vs. Asynchronous Messages	18
7.2	HTTP Transport	18
8	SECURITY / TRADING PARTNER AUTHENTICATION	19
8.1	Authentication	19
8.2	Authorization	19
8.3	Non-Repudiation	19
8.3.1	Non-Repudiation of Origin and Content.....	19
8.3.2	Non-Repudiation of Receipt.....	19
8.4	Handling Failures	20
8.5	Retries and Timeouts	20
8.6	PIPOA1: Notification of Failure (NoF)	20
9	ACKNOWLEDGEMENTS	21
9.1	Message Disposition Notification (MDN)	21
9.2	RosettaNet Receipt Acknowledgement and Exceptions	21
10	QUALITY OF SERVICE (QOS)	22
10.1	Reliability	22
10.2	Security	22
10.2.1	Secure transport.....	22
10.2.2	Encryption.....	22
10.3	Service Level Agreement (SLA)	22
11	AS2 INTEROPERABILITY TESTING	23
12	SUMMARY	24
13	APPENDIX I: REFERENCED SPECIFICATIONS	25
14	APPENDIX II: GLOSSARY OF TERMS	26

1.1 Notational Conventions

The keywords MUST, MUST NOT, REQUIRED, SHALL, SHALL NOT, SHOULD, SHOULD NOT, RECOMMENDED, MAY and OPTIONAL, when they appear in this document, are to be interpreted as described in [RFC2119](#) as quoted here:

<i>MUST</i>	<i>This word, or the terms "REQUIRED" or "SHALL", means that the definition is an absolute requirement of the specification.</i>
<i>MUST NOT</i>	<i>This phrase, or the phrase "SHALL NOT", means that the definition is an absolute prohibition of the specification.</i>
<i>SHOULD</i>	<i>This word, or the adjective "RECOMMENDED", means that there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.</i>
<i>SHOULD NOT</i>	<i>This phrase, or the phrase "NOT RECOMMENDED", means that there may exist valid reasons in particular circumstances when the particular behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.</i>
<i>MAY</i>	<i>This word, or the adjective "OPTIONAL", mean that an item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because the vendor feels that it enhances the product while another vendor may omit the same item. An implementation, which does not include a particular option, MUST be prepared to interoperate with another implementation, which does include the option, though perhaps with reduced functionality. In the same vein an implementation, which does include a particular option, MUST be prepared to interoperate with another implementation, which does not include the option (except, of course, for the feature the option provides).</i>

Normative statements of requirements in this Profile are presented in the following manner: ***"Rnnnn Statement text here"***

Where a number that is unique among the requirements in the Profile replaces "nnnn". To avoid conflicts with requirements defined in other profiles, the qualification MMS-AS2 should be used together with the Rnnnn number to form a unique requirement identifier, for example MMS-AS2 R0001.

Abstract

This document defines the RosettaNet Multiple Messaging Services profile for AS2. The Profile provides guidance and best practices about how to use the AS2 message system to transport RosettaNet PIP business messages between trading partners.

2 Introduction

RosettaNet implementations currently require users to buy a B2B gateway capable of running the RosettaNet Implementation Framework (RNIF). Other vertical markets do not commonly use RNIF implementations and as a result, companies who support both the high tech industry and other verticals are forced to support more than one messaging standard for e-business transactions.

To address this problem, RosettaNet has created the Multiple Messaging Services (MMS) Foundational Program to provide guidance on how to use two commercially available standard-based messaging systems to transport RosettaNet PIP business messages between trading partners: Applicability Statement 2 (AS2), and ebXML Messaging System (ebMS). Additionally, the program addresses the use of Web Services, which is not currently configured as a messaging system.

As part of the MMS program, the AS2 Profile provides guidance on how to best use an AS2 Messaging System to transport RosettaNet PIP business messages between trading partners. It requires that an AS2 messaging system must meet the specification of IETF RFC 4130, or [MIME-Based Secure Peer-to-Peer Business Data Interchange Using HTTP, Applicability Statement 2 \(AS2\)](#), unless superseded by this Profile, along with clarifications, refinements, and interpretations explicitly specified in this profile for optimized interoperability.

- Section 1 introduces the Profile, and explains its relationship to the RosettaNet Implementation Framework (RNIF), Multiple Messaging Services Foundational Program (MMS), and Message Control and Choreography Foundational Program (MCC)
- Section 2 explains how conformance to this Profile is measured.
- Section 3 provides an overview of AS2
- Each subsequent section addresses how to map the key RosettaNet features in AS2, including message components, message packing and unpacking, message transfer, security provisions and trading partner authentication, acknowledgements, and quality of services.

2.1 Overview of Intent

There is a clear separation between the protocols required for inter-enterprise connectivity. As the related technologies become more standardized, the lower level protocols become reusable and exchangeable commodities. In the B2B arena, there are three distinct protocol layers:

- **Layer 1: Message Transport**
A commodity: HTTP, HTTPs, FTP, FTPs, and SMTP
- **Layer 2: Messaging System**
Topic of this specification, Applicability Statement 2 (AS2), as part of the MMS Foundational Program
- **Layer 3: Message Choreography**
Topic for the MCC Foundational Program

This Profile focuses on the messaging system layer, and defines the process on how to exchange RosettaNet business documents over the Internet utilizing the messaging system, Applicability Statement 2 (AS2). The areas to be examined include:

- Document and Messaging System Headers
- Packaging Options
- Compression
- Encryption
- Multiple document support
- Non-repudiation of Origin and Non-repudiation of receipt
- Acknowledgments (Functional and Business)

2.2 MMS Program Guiding Principles

This section lists the MMS Foundational Program guiding principles for profiling messaging systems. These principles should help understand the design of this Profile, but should be considered as **non-normative** since they are not requirements for the underlying messaging systems.

2.2.1 General Guidance

The MMS Foundational Program has a set of guiding principles which must be met by all of the three messaging system Profiles, including the AS2 Profile:

- Each messaging system **MUST** be implemented as defined in its respective underlying specifications. A RosettaNet MMS Profile only provides guidance on how to use the messaging system to transport business document. The underlying specification of the relevant messaging system **MUST NOT** be changed.
- Expected functionality is defined with respect to RNIF 2.0. Any functionality gaps, either missing or limited or beyond RNIF 2.0, **SHOULD** be explicitly noted.
- Service Level Agreement (SLA) settings **SHALL** be separated from the messaging system. If the messaging system provides SLA settings, they **SHOULD** be unitized as appropriate.
- The specification should address both DTD and schema instances, if possible
- The MMS specifications **SHOULD** only address message handling; it **SHOULD** not be extended to address choreography.

2.2.2 Message Exchange vs. Message Choreography

In addition to the MMS Foundational Program, which is chartered to address the message exchange problem, RosettaNet has the Message Control and Choreography (MCC) Foundational Program for addressing messaging choreography concerns. The MCC program is designed to address the following areas:

- Process orchestration (PIP)
- Process exception handling
- Intermediate routing
- Error handling
- Document Correlation, Validation, Sequencing
- Multiple document support (Batching & De-batching)

The following principles provide guidance on what falls into the scope of which program:

- Two-Action PIPs **SHOULD NOT** be defined in MMS Profiles.
- Two-Action, three-action or N-action PIPs **SHOULD** be defined in the MCC Foundational Program.
- The PIP OA1 Notification of Failure (NoF) **SHOULD** be treated just as a PIP and therefore out of scope in this context.
- Synchronous message exchange **SHOULD NOT** be addressed in this version of the MMS specification.

2.2.3 Receipt Acknowledgement vs. Message Validation

The RNIF specification defines a receipt acknowledgment that provides both exchange and functional information: it indicates that a message has been received, and assures that the message has been validated with its corresponding XML schema or DTD with message guidelines.

In AS2, the exchange acknowledgment is called a Message Disposition Notification (MDN) and there is no equivalent to the functional information. In the Electronic Data Interchange (EDI) world, the Functional Acknowledgement provides this feature.

Note:

The purpose of the MMS Foundational Program is to render the messaging systems to the status of a commodity by separating the process from the messaging system, from the document. It is acknowledged that the notion that a receipt acknowledgment also indicates the validity of a message is unique to RNIF, and none of the three MMS messaging systems provide provisions for validation of the payload and should not.

- The AS2 MDN SHOULD be used, not the RosettaNet Receipt Acknowledgments.
- The Fictional Acknowledgement SHALL be addressed in the MCC Foundational Program.

3 Profile Conformance

Conformance to the Profile is defined by adherence to the set of requirements defined within the scope of the Profile. This section explains these terms and describes how conformance is defined and used.

Requirements state the criteria for conformance to the Profile. They typically refer to an existing specification and embody refinements, amplifications, interpretations and clarifications to it in order to improve interoperability. All numbered requirements in the Profile are considered normative, and those in the specifications it references that are in-scope (see "Conformance Scope") should likewise be considered normative. When requirements in the Profile and its referenced specifications contradict each other, the Profile's requirements take precedence for purposes of Profile conformance.

Requirement levels, using [RFC2119](#) language (e.g., MUST, MAY, SHOULD) indicate the nature of the requirement and its impact on conformance.

Each requirement statement contains exactly one requirement level keyword (e.g., "MUST") and one conformance target keyword (e.g., "MESSAGE"). Additional text may be included to illuminate a requirement or group of requirements (e.g. rationale and examples); however, prose surrounding requirement statements must not be considered in determining conformance.

Definitions of terms in the Profile are considered authoritative for the purposes of determining conformance.

The following conformance targets are used in the Profile:

- **MESSAGE** - protocol elements that transport the MIME ENVELOPE
- **ENVELOPE** - the serialization of the MIME Envelope element and its content
- **SENDER** - software that generates a message according to the protocol(s) associated with it
- **RECEIVER** - software that consumes a message according to the protocol(s) associated with it
- **MESSAGING SYSTEM** – In the context of this Profile, a messaging system refers to the software that implements the AS2 specification and maybe other messaging features.

4 Overview of AS2

This Profile incorporates the following specification for AS2 requirements. It requires that an AS2 messaging system must meet all the requirements as defined in the following specification unless superseded by this Profile, along with clarifications, refinements, and interpretations explicitly specified in this Profile for optimized interoperability:

Often referred to as AS2, the Internet Engineering Task Force (IETF) RFC 4130, titled as ***"MIME-Based Secure Peer-to-Peer Business Data Interchange Using HTTP, Applicability Statement 2 (AS2)"***, is a messaging standard for securely exchanging business documents over the Internet

4.1 Use of HTTP Headers

The AS2 protocol uses HTTP header information for several purposes:

- To identify the participants in the document exchange
- To identify the version of the AS2 protocol in use.
- To indicate what features of the receipt acknowledgement are in use

4.2 Participants Identification

AS2 is mainly a peer-to-peer protocol and each peer is identified by header information using the *AS2-To* or *AS2-From* header. The sender places identifying information in the *AS2-From* header and information identifying the intended receiver in the *AS2-To* header. For example,

- AS2 To: 987654321
- AS2 From: 123456789

A BNF grammar for the values and lengths allowed in these headers is found in the AS2 specification, but roughly the values must be comprised of from 1 to 128 printable ASCII characters. The AS2 specification requires:

- The AS2-name for the AS2-To header in a response or Message Disposition Notification (MDN) MUST match the AS2-name of the AS2-From header in the corresponding request message.
- The AS2-name for the AS2-From header in a response or MDN MUST match the AS2-name of the AS2-To header in the corresponding AS2 request message."

4.3 Required AS2 Version

The *AS2-Version* HTTP header is used to indicate what version of the protocol is in use.

R0001 A MESSAGE MUST set the value the *AS2-Version* HTTP header to "1.1" or higher.

Rationale: The version should be at least 1.1. For this version value, in addition to the core AS2 protocol behavior, the AS2 protocol implementations support compression as defined by [RFC 3274]. For example, to indicate AS2-Version 1.1 is required

```
MIME-Version: 1.0
Content-Type: Multipart/Related; boundary=MIME_boundary; type=text/xml;
Content-Description: This is the optional message description.

--MIME_boundary
Content-Type: text/xml; charset=UTF-8
Content-Transfer-Encoding: 8bit
Content-ID: rootpart@example.com
AS2-Version: 1.1
```

4.4 AS2 Receipt Features

AS2 uses a Message Disposition Notification (MDN) to acknowledge receipt of the business data from the initial sender. There are two main features, which can be selected for use with AS2.

- A feature to specify a URL for returning the receipt in a separate communication session.
- A feature to return a signed receipt to the sending trading partner.

The MDN protocol itself requires a header to indicate that some receipt is expected from the recipient back to the initiating sender. When the receipt is returned in a separate communication session it is called "asynchronous," and when it is returned as a MIME entity in the HTTP response, the receipt is called "synchronous." [Incidentally, these terms carry no implications about whether threads block while awaiting MDNs. Since AS2 makes use of HTTP 1.1, the initial sender is expected to receive a HTTP response, with at least a status code, and perhaps with a signed or unsigned MDN.]

Three headers carry information that is needed to indicate what features are selected for receipts.

1. The ***Disposition-Notification-To*** header is used to indicate that a receipt is requested. It contains an email address because MDNs were originally used primarily in an email context. For AS2, the value of the header is ignored; it is the presence of the header that indicates that a MDN is expected.
2. The ***Receipt-Delivery-Option*** header is used to indicate that the receipt is to be communicated in a separate communications session. Its value is a URL, and only http: and mailto: schemes are used in these URLs, with http: URLs most commonly used. For example, the header

Receipt-Delivery-Option: <http://www.example.com/Path> would indicate that a signed or unsigned MDN is to be POSTed to www.example.com with a request line and Host header such as:

POST <http://www.example.com/Path> HTTP/1.1

Host: www.example.com

3. The ***Disposition-Notification-Option*** header contains information indicating the security features requested for the MDN that is to be returned, and specifically, what signing options are requested for the MDN. Here is an example:

- Disposition-notification-options:
 - Signed-receipt-protocol=optional,PKCS7-signature
 - Signed-receipt-micalg=optional,SHA1,MD5

The behavior expected of the original receiver is specified by the following clauses:

- When a receipt is requested, explicitly specifying that the receipt be signed, then the receipt **MUST** be returned with a signature.
- When a receipt is requested, explicitly specifying that the receipt be signed, but the recipient cannot support either the requested protocol format, or requested MIC algorithms, then either a signed or unsigned receipt **SHOULD** be returned.
- When a signature is not explicitly requested, or if the signed receipt request parameter is not recognized by the UA, then no receipt, an unsigned receipt, or a signed receipt **MAY** be returned by the recipient.

5 Message Components

5.1 Validation (Schema & dictionaries)

R0002 A RECEIVER MUST NOT rely on the messaging exchange layer for message validation.

Rationale: Per the MMS guidelines (refer to section 2), it is unique to RNIF to provide message validity information in a receipt acknowledgement

Note: This topic will be addressed in the MCC Foundational Program.

5.2 PIP Business Documents

5.2.1 Data Type Definition (DTD)-based Business Document

R0003 An AS2 MESSAGING SYSTEM MUST NOT alter the structure of a DTD based PIP message

Rationale: Any document type can be exchanged over AS2. The AS2 messaging layer should not interrogate or alter the message structure.

Open Issue: The Preamble, Delivery, and Service Headers are not relevant when using the AS2 Messaging System.

Note: This topic will be addressed in the MCC Foundational Program.

5.2.2 XML Schema (XSD)-based Business Document

R0004 A MESSAGE MUST contain the RosettaNet Standard Business Document Header (SBDH) when transferred via AS2

Rationale: The XML Schema based PIP provides an optional header, the Standard Business Document Header (SBDH) which contains information on: Business Services, Correlation, and the Document (header, Identification, Information, Manifest, Security, Receiver, Requesting Document, and Sender)

Note: The information contained in the SBDH is necessary to support intermediate routing i.e. routing through Hubs, when implementing over AS2.

5.2.3 Business Document as Payload

R0005 A PIP business document SHOULD be transported as the payload of the AS2 messaging system

R0006 The messaging System DOES NOT interrogate the payload.

Rationale: Per the AS2 specification, the payload is not introspected by the messaging system; this profile does not make additional requirement on the process of payload

5.2.4 Attachments

This section of the Profile incorporates the following specification to support multiple attachments: "Multiple Attachments for EDIINT"

R0007 A MESSAGE MAY contain multiple attachments

Rationale: AS2 supports multiple attachments using a MIME Multipart/Related structure based on "***Multiple Attachments for EDIINT***"

6 Message Packing and Unpacking

6.1 Compression / Encryption

This section of the Profile incorporates the following specifications by reference to support compression and encryption: ***"Compressed Data for EDIINT"***

In particular, the Profile incorporates the sections of the referenced specification:

- 1.1 Compressed-Data Mime Wrapper
- 1.2.1 No encryption, no signature
- 1.2.2.1 No encryption, signature
- 1.2.3 Encryption, no signature
- 1.2.4.1 Encryption, signature

6.2 Multiple-document support

This section of the Profile incorporates the following specification to support multiple documents: ***"Multiple Attachments for EDIINT"***. AS2 provides multiple documents support based on the above referenced specification. This Profile provides the following constraints and clarifications on the use of the referenced specification:

R0007 When Multiple attachments are transmitted via AS2, the MESSAGE MUST be packed in a multipart / related MIME envelope.

Unlimited number of attachments MAY be supported.

R0009 Attachments MUST be inter-related to complete a transaction.

R0010 Attachments MUST NOT be used for batch processing of un-related documents.

7 Message Transfer

7.1 Synchronous vs. Asynchronous Messages

The RosettaNet PIP model is primarily based on an asynchronous message exchange mechanism, where reliable messaging is accomplished by means of exchanging separate acknowledgments for each message.

Note:

- AS2 does provide synchronous support with the Message Disposition Notification (MDN)
- *Per the MMS guidelines (Refer to Section 2), Synchronous PIPs SHALL NOT be addressed in this Profile*

7.2 HTTP Transport

Refer use of HTTP Headers

8 Security / Trading Partner Authentication

The purpose of this section is to describe the AS2 features that address authentication, authorization and non-repudiation. Refer to section "Receipt Features" for details.

8.1 Authentication

Authentication is the act of ensuring that the sender of a message is who the sender claims to be. The sending partner digitally signs the message and the receiving partner authenticates the message by following the standard S/MIME and PKCS mechanisms to verify the digital signature.

AS2 enables Authentication with the same functionality.

8.2 Authorization

Authorization is the act of ensuring that the sender of a message is permitted or authorized to send the message. The trading partners must establish an agreement between themselves in advance: identifying the message(s) to be exchanged and the digital certificates that would be used to sign the messages.

AS2 enables Authorization with the same functionality.

8.3 Non-Repudiation

Non-Repudiation is the mechanism for ensuring that an originating trading partner can not deny having originated and sent a message (called "Non-Repudiation of Origin and Content") and that a receiving trading partner cannot deny having received a message sent by its partner (called "Non-Repudiation of Receipt").

8.3.1 Non-Repudiation of Origin and Content

R0011 When non-repudiation of origin and content is required for a PIP, the originating partner MUST digitally sign the message.

AS2 provides Non-Repudiation Of Origin and Content with the same functionality.

8.3.2 Non-Repudiation of Receipt

R0012 When non-repudiation of receipt is required for a PIP, the receiving partner MUST return to the originating partner a digitally signed acknowledgement for the received message.

AS2 provides Non-Repudiation of Receipt with the same functionality: Refer to Section 3.4 "Receipt Features"

8.4 Handling Failures

R0013 Functional (validation) acknowledgments MUST NOT be performed in the message exchange layer.

R0014 Messaging systems layer errors MUST be reported utilizing Message Disposition Notification (MDN)

8.5 Retries and Timeouts

The AS2 specification does not specifically address service level agreement setting, such as Retries and Timeouts.

See section "Service Level Agreement (SLA) for more detail"

Note: This topic will be addressed in the MCC Foundational Program. It is recommended that retries and timeouts SHALL BE recommended and implemented in a consistent manner across messaging systems.

8.6 PIP0A1: Notification of Failure (NoF)

Per the MMS guidelines (refer section 2), the PIP0A1 NoF is to be treated as any other PIP and therefore is out of scope when addressing the messaging layer.

Note: This topic will be addressed in the MCC Foundational Program.

9 Acknowledgements

The RosettaNet Receipt Acknowledgement covers two separate levels:

- Exchange level acknowledgments
 - Indication of successful receipt of a message
 - Verify the data integrity of a message
 - Provides non repudiation of receipt
 - Authentication of sender
- Functional level acknowledgments (validation)
 - DTD Validation (for RNIF headers, Service Content)
 - Data type, length, and values validated per RN Message Guidelines
 - Element sequence or naming validation
 - PIP Dictionary Validation

9.1 Message Disposition Notification (MDN)

R0015 The AS2 Message Disposition Notification MUST be used for message exchange level acknowledgement

R0016 The AS2 Message Disposition Notification MUST be utilized for Authentication, Authorization and non-repudiation.

9.2 RosettaNet Receipt Acknowledgement and Exceptions

Functional Acknowledgment, such as validation, should not be performed in the message exchange layer. It should be noted that a RosettaNet exception is a negative functional acknowledgement

See R0002

Note: This topic will be addressed in the MCC Foundational Program.

10 Quality of Service (QoS)

10.1 Reliability

The RosettaNet PIP model is primarily based on an asynchronous message exchange mechanism, where reliable messaging is accomplished by means of separate acknowledgment message exchange.

See section "Receipt Features".

AS2 provides Reliability with the same functionality utilizing the Message Disposition Notification (MDN)

10.2 Security

10.2.1 Secure transport

RosettaNet utilized Secure Hypertext Transfer Protocol (HTTPS) for secure transport.

AS2 provides Secure Transport with the same functionality

10.2.2 Encryption

See section "Compression / Encryption"

10.3 Service Level Agreement (SLA)

R0017 SLA setting SHOULD NOT be performed in the message exchange layer.

Rationale: For consistent implementation across all messaging systems this functionality MUST BE orchestrated in the Partner Interface Process

Note: This topic will be addressed in the MCC Foundational Program.

11 AS2 Interoperability Testing

Industry-recognized Interoperability certification for Applicability Statement 2 (AS2) is available and administered by the Drummond Group, Inc.

Within the scope of the guidelines, if the solution provider is AS2 certified then Interoperability testing is not required.

12 Summary

RosettaNet was a pioneer in the industry providing a single specification, which addressed all the components required to enable the secure, and the reliable exchange of messages over the Internet. (RosettaNet Implementation Framework (RNIF)) With the growth and maturity of messaging system technologies, a clear separation of protocol layers has emerged, with the lower level protocols becoming reusable and exchangeable commodities. Refer section 1 "Overview of Intent". Aligning to this paradigm is not an option rather the next logical step. The purpose of this document is to examine the messaging system, Applicability Statement 2 (AS2), and to compare its feature set to the expected features provided by the RosettaNet Implementation Framework (RNIF).

The conclusion is:

- Applicability Statement 2 (AS2) provides all of the features required for secure and reliable exchange of RosettaNet business messages over the Internet
- Any PIP Business Document (as defined by a DTD or XSD) can be exchange over AS2 TODAY.
- Until the Message Control and Choreography Foundation Program is completed the following caveats apply
 - The User MUST define:
 - Process choreography
 - Two Action PIPs
 - RosettaNet Receipt Acknowledgements (validation)
 - Since the payload is not interrogated any deviations from the standard DTD /XSD will be detect in the business process
- The Message Control and Choreography Foundation Program is required to address:
 - Orchestration on the process (PIP)
 - PIP OA1 Notification of Failure usage
 - Receipt Acknowledgement: Separating the messaging system information from the functional information
 - Intermediate routing
 - Error handling
 - Document
 - Correlation
 - Validation
 - Sequencing
 - Multiple document support (Batching & De-batching)

13 Appendix I: Referenced Specifications

The following specifications' requirements are incorporated into the Profile by reference, except where superseded by the Profile: (<http://ietfreport.isoc.org/>)

- **MIME-based Secure Peer-to-Peer Business Data Interchange Using HTTP, Applicability Statement 2**
- **Compressed Data for EDIINT**
- **Multiple Attachments for EDIINT**

The following materials are referenced by this Profile as non-normative information sources:

Source	Description
[RNIF2.0]	Title: <i>"RosettaNet Implementation Framework Core Specification"</i> Version: V02.00.01 RosettaNet Retrieved August 13, 2008 from: http://www.rosettanet.org

14 Appendix II: Glossary of Terms

Business-to-Business (B2B)

Term often used to describe websites that sell services to other businesses. A business is serving other businesses as opposed to consumers.

Document Type Definition (DTD)

The Data Type Definition (DTD) is used to describe the elements and attributes allowed in an XML document.

eXtensible Markup Language (XML)

Extensible Markup Language (XML) is a meta data language, approved as a standard by the World Wide Web Consortium in February 1998. Since XML is database-neutral, operating system-neutral and device-neutral, it is an effective tool for defining heterogeneous interoperability. For further information see: <http://www.w3.org/XML/>

HyperText Markup Language (HTML)

A collection of tags typically used in the development of Web pages.

Hypertext Transfer Protocol (HTTP)

One of the TCP/IP protocols used to fetch hypertext objects from remote hosts.

Secure Hypertext Transfer Protocol (HTTP/S)

This is HTTP with a security protocol.

Multipurpose Internet Mail Extensions (MIME)

A protocol for allowing e-mail messages to contain various types of media: text, audio, video, images, etc.

Partner Interface Process (PIP)

RosettaNet Partner Interface Processes® (PIPs®) define business processes between trading partners.

PIPs fit into seven Clusters, or groups of core business processes, that represent the backbone of the trading network. Each Cluster is broken down into Segments cross-enterprise processes involving more than one type of trading partner. Within each Segment are individual PIPs.

PIPs are specialized system-to-system XML-based dialogs. Each PIP specification includes a business document with the vocabulary, and a business process with the choreography of the message dialog.

RosettaNet Business Dictionary

The RosettaNet Business Dictionary defines, the Business Properties, Business Data Entities and, Fundamental Business Data, Entities in PIP Message, Guidelines

RosettaNet Implementation Framework

The RosettaNet Implementation Framework (RNIF) Core Specification is the packaging, routing, and transport of all PIP® messages and business signals