DATA-EXCHANGE STANDARD FOR THE CHEMICAL INDUSTRY

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INTRODUCTION

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Overview

In an effort by BASF, Dow and DuPont Version 1 of XML-based eStandard have been developed for use by the Chemical Industry for exchanging data company-to-company and company-to-marketplace. By initiating this effort, there is foreseen substantial benefit to be gained by developing and adopting data interchange standards industry wide based for all of the Chemical Industry. This view has been validated with many other Chemical Industry companies during the project. All companies believe adopting industry standards will reduce the overall cost of implementation and enable e-business gains to be more fully realized.

This eStandard was developed primarily by a limited number of subject matter experts. The intent was to develop an eStandard that is freely available for broad appropriate use without royalty by all Chemical Industry participants.

This Version 1.0 eStandard will be submitted to the Chemical Industry Data Exchange (CIDX) for endorsement and on-going support to ensure that this eStandard is kept current with industry needs going forward. In doing so, BASF, Dow and DuPont intend that CIDX will be the standards owner and maintenance facility for XML-based standards for the Chemical Industry.

Future eStandards and enhancements to those provided in this Version 1.0 will be developed and released in future versions of this XML-based eStandard.

Scope

This Version 1.0 document provides 12 business transactions that support a general business-processing model. Specifically, the initial deliverable of the eStandard document supports data interchange in the following areas:

Customer/Company Information

Includes data interchanges necessary to support customer/company information sharing of related data with Marketplace(s).

Product Catalogs

Includes data interchanges necessary to support the promoting, selling, selecting and buying of products.

Orders

Includes data interchanges necessary to support the transmission of data regarding orders for products and related services.

Envelope and Security

Includes utilizing Internet protocols to identify and protect computer-to-computer transaction data shared between business entities.

Scope (continued)

Business Transactions

The 12 business transactions provided in this document are:

Customer/Company Information

Business Transaction	Description
Qualification Request	Notification of a Buyer, from the Marketplace, to one or more Sellers
Qualification Request Response	Seller's response to the Marketplace, for a specific Qualification Request

Product Catalogs

Business Transaction	Description
Request for Quote	Used to request terms different from those available in the Product Catalog.
Product Catalog Update	Updates the entries in a Product Catalog. This transaction adds, updates, or deletes whole products or their attributes and related information (e.g., specifications, descriptions, prices).
Customer Specific Catalog Update	Updates the entries in a Customer Specific Catalog. This transaction adds, updates or deletes whole products or their related pricing information for a specified Buyer at an item/location level.

Orders

Business Transaction	Description
Create Order	The Create Order Transaction takes place between the Marketplace or Buyer and the Seller(s). It enables new purchase order information to be communicated to the Seller.
Order Response	The Order Response Transaction is initiated by the Seller to communicate to the Buyer (either directly or through a Marketplace) the Seller's agreement to supply a specific amount of product, at a specific price, according to set pricing terms, on an agreed-upon date, using agreed-upon transportation arrangements.
Order Status	The Order Status Transaction is initiated by the Seller to communicate to the Buyer (either directly or through a Marketplace) to identify the current status of orders that have been previously placed.
Order Status Inquiry	The Order Status Inquiry Transaction is initiated by a Buyer (either directly or through a Marketplace) to inquire about the status of an order.
Change Order	The Change Order Transaction is initiated by a Buyer (either directly or through a Marketplace) to request that an existing order be changed in specific ways.
Cancel Order	The Cancel Order Transaction is initiated by a Buyer (either directly or through a Marketplace) to request that an existing order be cancelled.
Cancel Order Response	The Cancel Order Response Transaction is initiated by a Seller to communicate to a Buyer (either directly or through a Marketplace) that an "Order Cancel" transaction has been received and has been accepted or rejected by the Seller's order processing system.

Principles and Philosophies

The content of this document was developed using the following operating principles and philosophies:

- No ownership; standards developed will be freely available for appropriate use without royalty for acquisition or use.

- No customization; whenever possible, leverage work from other industries and endorse if appropriate; position for cross-industry endorsement, incorporation/collaboration.

- Standardize data content not business processes; standards were built to support any business model.

- Platform independent; nothing within the eStandard should limit the use of hardware and software.

Guiding Principles on eStandard Creation

Creating an individual message for each business transaction purpose was the preferred solution versus using the same message for multiple purposes. There are two levels:

1. A message serves a single transaction. It should not have more than one meaning based on a code value within the message (a separate message for both create order and change order).
2. A message supports a single business type. It should not have more than one function based on a type value within the message (a separate message for both a regular order and a blanket).

This is a general statement, and guidelines/principles are being developed to guide the decision of when to, or when not to, follow this direction. These guidelines will be made available in a future release of this eStandard.

The key pros and cons in this decision:

Pros	Cons
• More clearly defined use of messages • Reduced the number of optional fields, reducing the amount of negotiation involved in trying to use the standards properly • Ease of implementing specific solutions.	• A large number of business transactions standards may get created, however, given the correct set of guidelines/principles, this is considered a controllable issue.

Structure of the eStandard

The eStandard structure has been set up to:

- More closely align to approaches taken by other XML standards across vertical industries

- Ease the use of reading and using the eStandard

- Better leverage XML capabilities and syntax

- Organize the data in logical manor

eStandard Conventions

The creation of this eStandard required the development of a number of conventions for the content and structures of the data models/messages that it describes and related information. These conventions are described in following subjects:

- eStandard Message Responses

- eStandard Message Structure

- eStandard Message Elements

eStandard Message Responses

This eStandard discusses two types of message responses referred to as technical responses and transaction responses.

Technical responses are returned upon the delivery of messages from source to destination. Partner software following the specification defined in the Envelope and Security section is responsible for ensuring a technical response is returned for all messages.

Transaction responses are unique messages used as part of a business transaction as a reply to some requested action. Messages are not required to have a transactional response. The CreateOrder message does, in the form of the OrderResponse message. The RequestForQuote message does not.

eStandard Message Structure

Each eStandard message is an XML document conforming to a specific Document Type Definition (DTD) described in this standard for the transaction being executed. The DTDs for each of these transactions is described through the standard. Where there are any discrepancies between the narrative and the DTD that describes a message, the DTD should be considered correct. The XML specification describes structured data. XML document elements may either contain other data data elements or data (or both). The approach used in this eStandard is that message elements may only contain other elements or data.

Each eStandard message payload (contents) begins with a root element with the same name as the message itself. For example, the root element of the CreateOrder message is named CreateOrder. Below this every message has a Header and a Body element. The Header structure is common across all messages, while the Body element may have any/all of the following three elements: Properties, Parties, and Details.

Use of a common header and a body message structure was evaluated prior to choosing this approach for the standard's messages. It is common for data to have metadata that assists in its handling or disposition. Other XML specifications that have chosen to use a header and body structure include RosettaNet™, cXML (Ariba), and xCML (CommerceOne). Many data exchange specifications also include a header/body structure of one form or another.

eStandard Message Structure (continued)

This header structure in this eStandard contains information on the disposition of the message itself, but not specifics on the data being exchanged. The Body section contains this message-specific metadata in three sections: Properties, Partners and Details. These structures are optional and provide information to be used in the data exchange. Properties contain message meta-data, Partners contains information about the parties involved in the data exchange, and Details contains the remainder of the message data.

These message structures contain further elements (which may contain further elements) and data values as needed to fully represent the data of the message.

The following diagram illustrates the message structure of this eStandard:

Header

MessageName

Properties

Body

Partners

Details
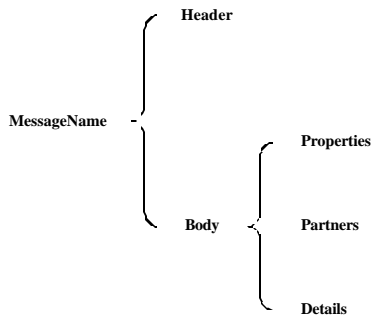
Figure 1: eStandard message payload structure

The eStandard approach is to create structures that match the most natural relationship amongst the elements in the messages.

This eStandard message structure has been defined in order to:

- Facilitate standardization amongst other standards and future extensions

- Organize information in components to facilitate change management

- Structure information in the message to facilitate understanding

- Take advantage of XML data structuring capabilities

The above message structure is delivered within a RosettaNet format enveloping structure, the details of which are located at RosettaNet and discussed elsewhere in this document.

eStandard Message Elements

The approach used in the definition of eStandard message elements is:

- To adopt RosettaNet element names and data structures where there is a match between a RosettaNet message and this standard.

- When new element names are required, to follow the RosettaNet naming convention of:

- creating element names comprised of one to several words

- using letters only; no underscores, hyphens or other non-letter characters

- using singular tense

- avoiding abbreviations and acronyms

- not using numbers in names (ex., AddressLine1, AddressLine2, etc.)

- Most message elements do not have attributes. Most attribute information is defined as element information. Elements should be used where the data being delivered is "persistent".

- Attributes are only used where they are considered to modify an element, such as the Version tag for the overall message, or Type for TelephoneNumber (which may be work number, mobile, etc.).

- Attributes follow the same naming convention as elements.

- Where possible elements are specified to have values based on industry standard code sources (ex. ISO 8601 or ANSI ASC X12 335).

- The definitions and code sources of all elements have been reused when elements have been borrowed from existing standards.

All message elements are part of a common data dictionary with eStandard level scope. There are no elements that are private to a particular message.

CUSTOMER

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Introduction and Scope of Effort

This section of the eStandard document defines the data exchange interfaces necessary to support the qualification and identification of registered Buyers between a Marketplace and participating Sellers. The following business transactions, which may be considered part of a Buyer Qualification process, are supported and discussed in detail below:

- **Qualification Request** - Notification of a Buyer, from the Marketplace, to one or more Sellers

- **Qualification Request Response** - Seller's response to the Marketplace, for a specific Qualification Request

The Qualification Request transaction takes place between the Marketplace and the Seller and enables the identification of a Buyer through the Marketplace. The only required data element for this message is the Dun & Bradstreet D-U-N-S® Number (D-U-N-S). If the company does not have a D-U-N-S Number, request from Dun & Bradstreet. The Company Name, although not required, is desirable. Finally, optional data elements (such as account information, addresses, and financial information) are defined and may be included at the discretion of the Marketplace.

The Qualification Request message includes many of the basic data elements of a typical customer registration record. The Qualification Request Response is a short message containing the return status of the initial Qualification Request.

Key Scope Assumptions

- A Business Partner is identified at the individual company level. Individual companies may be further identified as Buyers, Sellers, Distributors, etc. within the Marketplace.

- A standard coding scheme is necessary to uniquely identify Business Partners. This assumption implies the need for a central repository to manage company information, independent of any Marketplace or Business Partner.

- It is not the intent of the eStandard to develop a scheme for the synchronization of customer master information across Marketplaces and Business Partners. These specifications include a minimum set of information necessary to identify a Buyer to a Seller.

- It is not the intent of the eStandard to change current business processes for Buyer evaluation, creation or maintenance within the Seller's organization.

Key Business Model Assumptions

The Marketplace model introduces a new method for establishing and maintaining business relationships for electronic business-to-business (B2B) transactions in the Chemical Industry. The following are assumptions regarding these relationships within a Marketplace environment.

- Within the various eStandard transactions, the D-U-N-S Number is used to uniquely identify individual registered Business Partners. This code allows for the granularity of identifying individual Business Partner locations.

Key Business Model Assumptions (continued)

- The Marketplace collects and maintains a record of Buyers and Sellers, their relationships, and their transactions in the Marketplace.

- The evaluation and decision-making regarding a Buyer's credit worthiness, reputation, and product stewardship, is the responsibility of the Seller.

- The Buyer Qualification process, as described in this document, is not relevant for direct, business-to-business transactions between Buyers and Sellers (i.e., Qualification Request and Qualification Request Response transactions are not applicable in a Business to Business Model between Buyers and Sellers).

- The Marketplace ensures that a Seller is given the opportunity to accept or reject a new Buyer by offering Qualification prior to the execution of a business transaction and/or triggering Qualification at the point of a first transaction. This processing applies to both contract and non-contract purchases.

Business Process Diagrams with Descriptions

The general business process model for the qualification and identification of Buyers via a Marketplace is depicted in the following diagram. Solid thick lines illustrate the transaction between the Marketplace and Seller. Dashed thick lines indicate the Buyer to Seller transactions. Solid thin lines illustrate the Buyer to Marketplace transactions (communications can be via phone, fax, email, browser, and use of this eStandard).
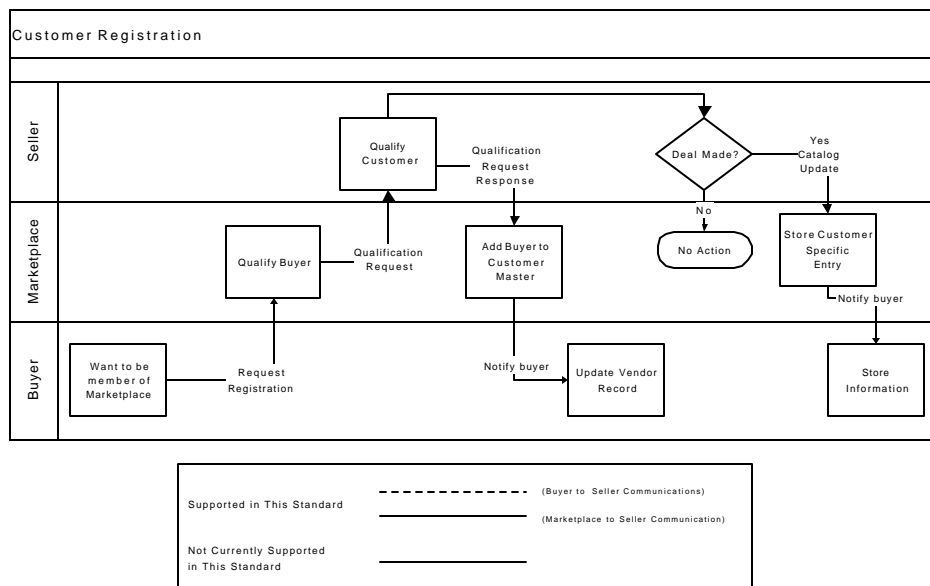
Business Process Diagrams with Descriptions (continued)

In general, a Buyer chooses to participate in a Marketplace, which is typically followed by the Registration process for that Marketplace. Next, although not necessarily triggered by the Registration process itself, the Marketplace facilitates a Buyer Qualification process between the Buyer and a registered Seller. This process entails sending the Qualification Request transaction to the Seller. (It is important to note that the Buyer Qualification process may be initiated by several different business events within the Marketplace, each are discussed in detail below.) Upon receiving a Qualification Request and obtaining the information contained within the message, a Seller typically evaluates the potential Buyer. After evaluating the Qualification Request, the Seller needs to return a Qualification Request Response transaction to the Marketplace. Based on the information contained within the Qualification Request Response from the Seller, the Marketplace typically performs a Marketplace-defined business process (for example, if approved, provide access to Buyer). Finally, the Marketplace may choose to communicate the response (i.e., status) of the Qualification Request to the Buyer.

Business to Business Model

As discussed above in the Key Business Model Assumptions section, the Buyer Qualification process, as described in this document, is not relevant for direct, business-to-business transactions between Buyers and Sellers (i.e., Qualification Request and Qualification Request Response transactions are not applicable in a Business to Business Model between Buyers and Sellers).

The following business processes and their associated transactions, as outlined above, is discussed in further detail below:

- Marketplace Registration

- Buyer Qualification

Marketplace Registration

The Marketplace Registration process, which is characterized by the collection of required business information by the Marketplace from either a Seller or Buyer, is triggered when a Seller or Buyer makes a business decision to join a Marketplace. An eStandard has not been developed to enable the Marketplace Registration process for the following reasons:

- Since the event that initiates the Marketplace Registration process is a manual, business decision, it is unlikely that Registration will become an automated transaction requiring a standard XML schema. However, once a Seller's or Buyer's identity has been established within a Marketplace (i.e., saved or stored electronically), automated transactions between Buyers, Sellers, and the Marketplace may occur.

- Marketplaces within the Chemical Industry may adopt different business models, provide different types of services, and target different segments of the market, which in turn drive very diverse registration requirements from Business Partners. The diverse registration requirements that can be anticipated between Marketplaces may likely limit the adoption and compliance of an eStandard for the Marketplace Registration process.

Marketplace Registration (continued)

However, in order to effectively leverage the eStandard that is described in this document, and to successfully enable automated transactions between Buyers and Sellers following the Marketplace Registration process, certain data elements need to be captured during the Marketplace Registration process.

The following data element **must** be obtained from all Business Partners that desire to join a Marketplace:

- D-U-N-S Number - Unique, 9-digit global company or business identifier assigned and maintained by Dun & Bradstreet. Note: All Business Partner locations desiring to participate in a Marketplace must be registered with a D-U-N-S Number.

Buyer Qualification

The Buyer Qualification process is initiated when a Buyer indicates an interest in doing business with a Seller via the Marketplace. Since many Marketplaces are 'open,' in that Buyers and Sellers that choose to participate in the Marketplace may not have a pre-existing business relationship, the Buyer Qualification process may be triggered at several points during the Buyer's interaction with the Marketplace. The following scenarios that may initiate the Buyer Qualification process are discussed in detail below:

- Existing Contracts

- First-time Purchase Order

- First-Time RFQ

The Buyer Qualification process as it is described below, is limited to qualification at the company level (i.e., financial evaluation, credit worthiness, or reputation). Since Buyers and Sellers in 'open' Marketplaces may not have an existing business relationship, qualification at the product level (i.e., product stewardship, regulatory restrictions), may only take place following the submission of a Purchase Order or RFQ to the Marketplace. Finally, the Buyer Qualification process occurs only once for a given Seller/Buyer relationship.

The Business Process Model for "Existing Contracts" using either the Marketplace or Business-to-Business models is depicted in the following diagram. Solid thick lines illustrate the transaction between the Marketplace and Seller. Dashed thick lines indicate the Buyer to Seller transactions. Solid thin lines illustrate the Buyer to Marketplace transactions (communications can be via phone, fax, email, browser, and use of this eStandard).
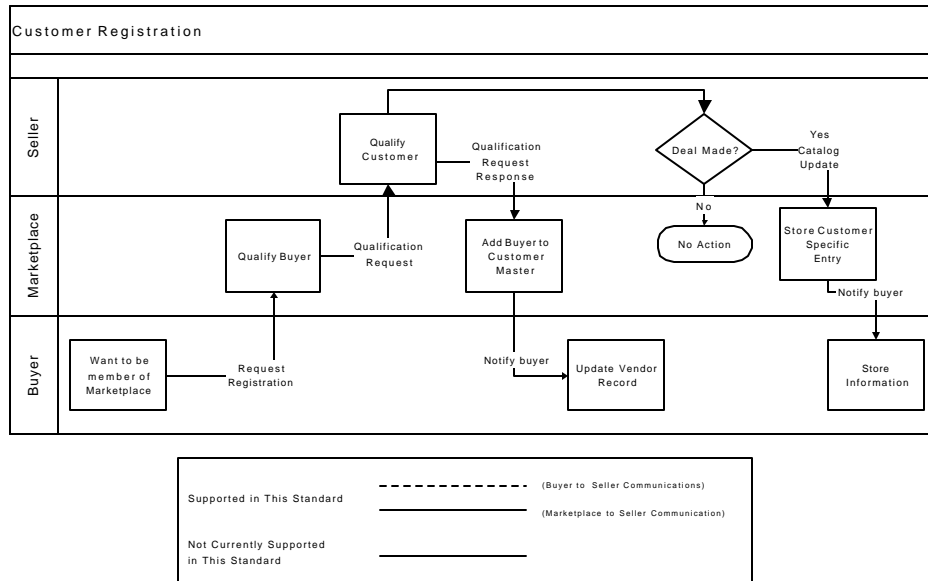
Existing Contracts refers to a Buyer that has a pre-existing business relationship with a Seller, which is typically characterized by a contract arrangement or purchase agreement between the Buyer and Seller. If a Buyer, during Marketplace Registration process, chooses to provide information to the Marketplace regarding its current business relationships with registered Sellers (i.e., D-U-N-S Number, Company Names, or Contract Numbers), the Marketplace transmits a Qualification Request to each of the registered Sellers requesting a response from the Seller indicating whether or not the Seller is willing to do business with the Buyer via the Marketplace. The Qualification Request transmission includes the following information:

- Buyer's D-U-N-S Number

- Buyer Name

- Contract Numbers

- Optional Data Elements (e.g., addresses, business language, currency, etc.)

Scenario #1: Existing Contracts (continued)

The Qualification Request Response transmission, which is required from the Seller to whom the Qualification Request was issued, includes the following information:

- Buyer D-U-N-S Number

- Seller D-U-N-S Number

- Status (e.g., Acknowledged, Approved, Denied, etc.)

- Description of Status

A return status of acknowledged or approved generally allows the Buyer to proceed with a Purchase Order or RFQ with the Seller within the Marketplace, whereas a return status of denied prevents the Buyer from conducting further business with that Seller. Additionally, if the Seller approves an Existing Contract Buyer, then the Buyer may be granted more immediate access to their contract pricing via the Marketplace. Finally, the Marketplace may choose to forward the Qualification Request Response to the Buyer as a means of notification.

Scenario #2: First-Time Purchase Order

The Business Process Model for "First-Time Purchase Order" using either the Marketplace or Business-to-Business models is depicted in the following diagram. Solid thick lines illustrate the transaction between the Marketplace and Seller. Dashed thick lines indicate the Buyer to Seller transactions. Solid thin lines illustrate the Buyer to Marketplace transactions (communications can be via phone, fax, email, browser, and use of this eStandard).

First-time Purchase Order refers to a Buyer that has not purchased a product or service via the Marketplace from a given Seller or Sellers. For example, upon browsing the Marketplace's catalog of products and services, a registered Buyer may indicate a desire to purchase a product, potentially at list price, from a given Seller. If the Marketplace determines that the Buyer has not yet been qualified by the Seller to conduct business via the Marketplace, the Marketplace transmits a Qualification Request to the Seller, which gives the Seller an opportunity to evaluate and qualify the potential Buyer. The Seller then returns a Qualification Request Response to the Marketplace. If the Seller has acknowledged or approved the Buyer, the Marketplace generally proceeds with the Purchase Order transaction. Finally, the Marketplace may choose to forward the Qualification Request Response to the Buyer in question as a means of notification.

Scenario #3: First-Time RFQ

The Business Process Model for "First-Time RFQ" using either the Marketplace or Business-to-Business models is depicted in the following diagram. Solid thick lines illustrate the transaction between the Marketplace and Seller. Dashed thick lines indicate the Buyer to Seller transactions. Solid thin lines illustrate the Buyer to Marketplace transactions (communications can be via phone, fax, email, browser, and use of this eStandard).
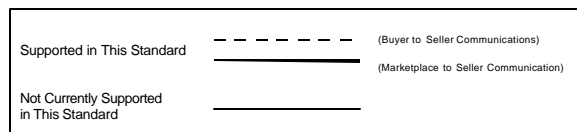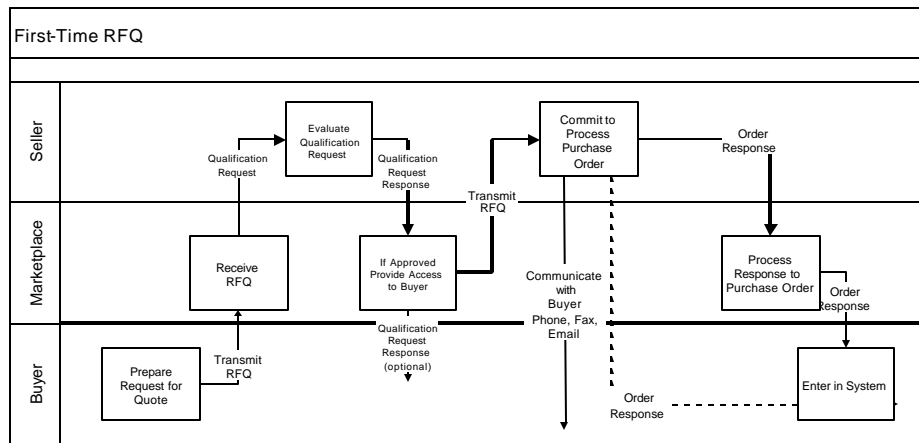
First-time RFQ refers to a Buyer that has not submitted a request for quote (RFQ) via the Marketplace to a given Seller. For example, upon browsing the Marketplace's catalog of products and services, a registered Buyer may desire to purchase a product from a given Seller, but not at the list price included in the on-line catalog. If the Marketplace determines that the Buyer has not yet been qualified by the Seller to conduct business via the Marketplace, the Marketplace transmits a Qualification Request to the Seller, which gives the Seller an opportunity to evaluate and qualify the potential Buyer. The Seller then returns a Qualification Request Response to the Marketplace. If the Seller has acknowledged or approved the Buyer, the Marketplace generally proceeds with the Transmit RFQ transaction. Finally, the Marketplace may choose to forward the Qualification Request Response to the Buyer in question as a means of notification.

Note: It is reasonable to assume that a Buyer need not be qualified for both the First-time RFQ and the First-time Purchase Order scenarios (i.e., the Buyer Qualification process between a given Seller and Buyer should occur only once).

Qualification Request

The Qualification Request transaction functions as the notice to the Seller that a registered Buyer is requesting purchasing access through the Marketplace. Data elements of a basic customer registration record are included in this message. The data model and document type definition for the Qualification Request are documented below:

Qualification Request Data Model

The following diagrams show the graphical representation of the Qualification Request Data Model:

Key:

Icon	Description
~	Data element has attribute(s)
?	Data element occurs 0-1 times
*	Data element occurs 0-many times
+	Data element occurs 1-many times
< connecting data elements	Contains one of the child data elements
[connecting data elements	Contains all of the child data elements
Square box with lines	Data
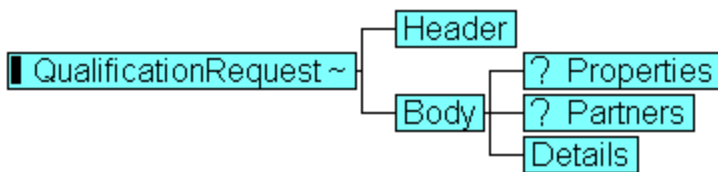
Figure 1: QualificationRequest structure.
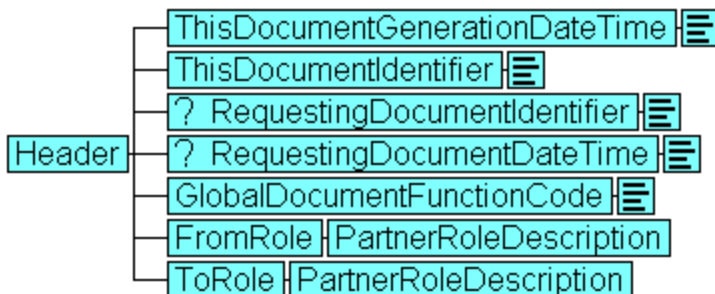
Figure 2: Header structure.

Qualification Request Data Model (continued)
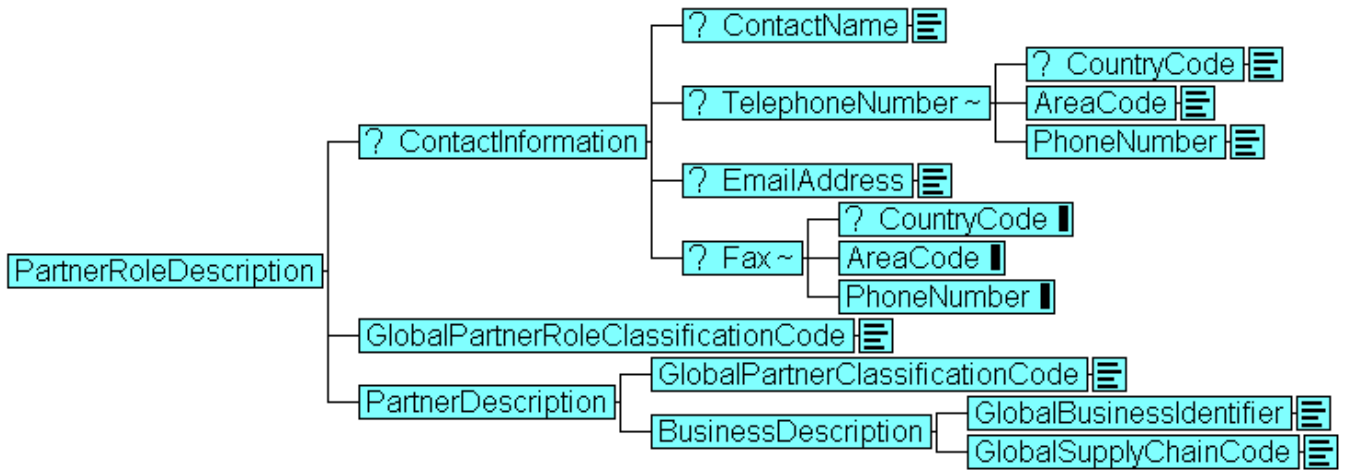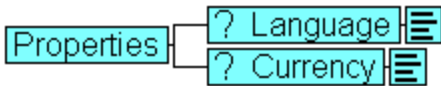
Figure 3: PartnerRoleDescription structure.

Figure 4: Properties structure.
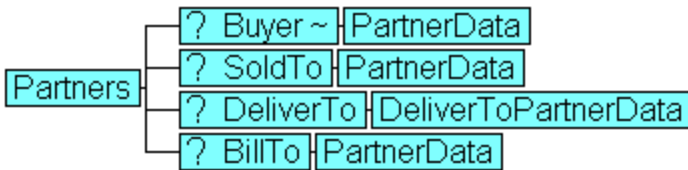
Figure 5: Partners structure.
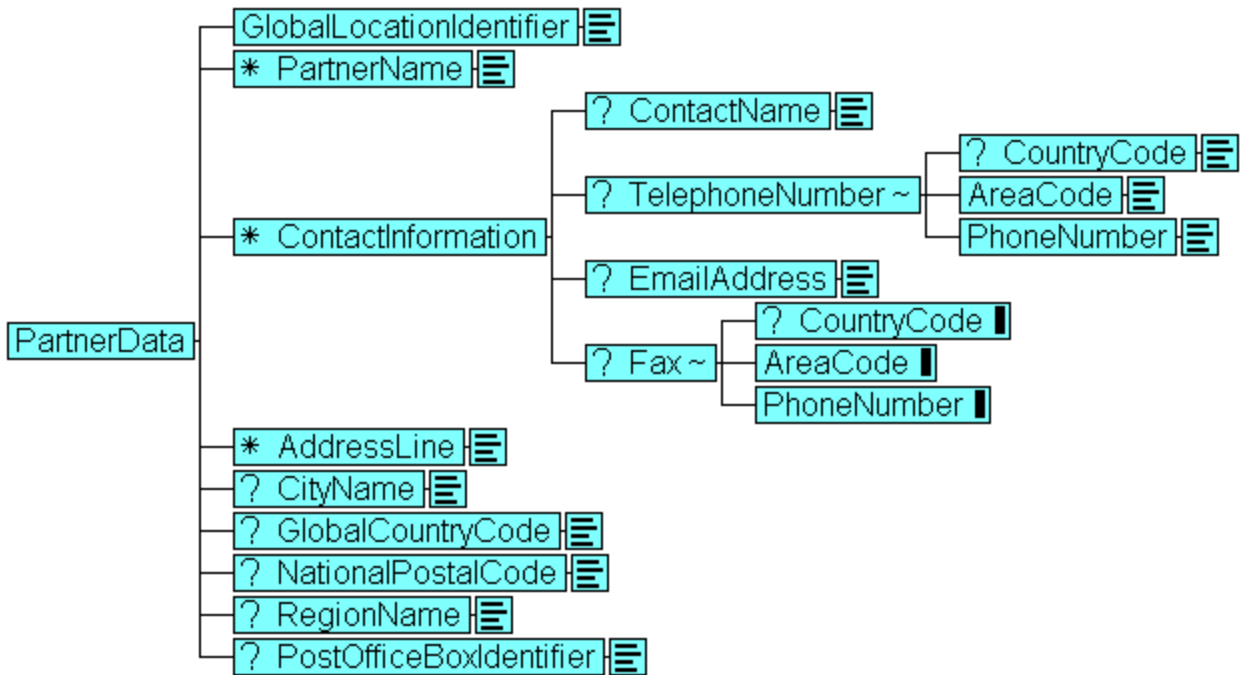
Figure 6: PartnerData structure.
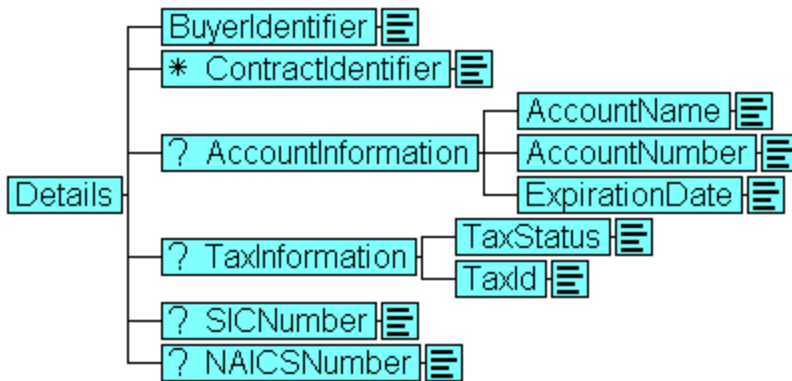
Figure 7: Details structure.

Qualification Request DTD

```
<!-- QualificationRequest -->

<!ELEMENT QualificationRequest (Header, Body)>
<!ATTLIST QualificationRequest Version CDATA #REQUIRED>

<!ELEMENT Header (ThisDocumentGenerationDateTime, ThisDocumentIdentifier,
RequestingDocumentIdentifier?, RequestingDocumentDateTime?,
GlobalDocumentFunctionCode, FromRole, ToRole)>

<!ELEMENT ThisDocumentGenerationDateTime (#PCDATA)>

<!ELEMENT ThisDocumentIdentifier (#PCDATA)>
```

Qualification Request DTD (continued)

```
<!ELEMENT ThisDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentDateTime (#PCDATA)>

<!ELEMENT GlobalDocumentFunctionCode (#PCDATA)>

<!ELEMENT FromRole (PartnerRoleDescription)>

<!ELEMENT PartnerRoleDescription (ContactInformation?,
GlobalPartnerRoleClassificationCode, PartnerDescription)>

<!ELEMENT ContactInformation (ContactName?, TelephoneNumber?, EmailAddress?, Fax?)>

<!ELEMENT ContactName (#PCDATA)>

<!ELEMENT TelephoneNumber (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST TelephoneNumber Type CDATA #IMPLIED>

<!ELEMENT CountryCode (#PCDATA)>

<!ELEMENT AreaCode (#PCDATA)>

<!ELEMENT PhoneNumber (#PCDATA)>

<!ELEMENT EmailAddress (#PCDATA)>

<!ELEMENT Fax (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST Fax Type CDATA #IMPLIED>

<!ELEMENT GlobalPartnerRoleClassificationCode (#PCDATA)>

<!ELEMENT PartnerDescription (GlobalPartnerClassificationCode,
BusinessDescription)>

<!ELEMENT GlobalPartnerClassificationCode (#PCDATA)>

<!ELEMENT BusinessDescription (GlobalBusinessIdentifier, GlobalSupplyChainCode)>

<!ELEMENT GlobalBusinessIdentifier (#PCDATA)>

<!ELEMENT GlobalSupplyChainCode (#PCDATA)>

<!ELEMENT ToRole (PartnerRoleDescription)>

<!ELEMENT Body (Properties?, Partners?, Details)>

<!ELEMENT Properties (Language?, Currency?)>

<!ELEMENT Language (#PCDATA)>

<!ELEMENT Currency (#PCDATA)>
```

Qualification Request DTD (continued)

```
<!ELEMENT Partners (Buyer?, SoldTo?, DeliverTo?, BillTo?)>

<!ELEMENT Buyer (PartnerData)>

<!ATTLIST Buyer Identifier CDATA #REQUIRED>

<!ELEMENT PartnerData (GlobalLocationIdentifier, PartnerName*, ContactInformation*,
AddressLine*, CityName?, GlobalCountryCode?, NationalPostalCode?, RegionName?,
PostOfficeBoxIdentifier?)>

<!ELEMENT GlobalLocationIdentifier (#PCDATA)>

<!ELEMENT PartnerName (#PCDATA)>

<!ELEMENT AddressLine (#PCDATA)>

<!ELEMENT CityName (#PCDATA)>

<!ELEMENT GlobalCountryCode (#PCDATA)>

<!ELEMENT NationalPostalCode (#PCDATA)>

<!ELEMENT RegionName (#PCDATA)>

<!ELEMENT PostOfficeBoxIdentifier (#PCDATA)>

<!ELEMENT SoldTo (PartnerData)>

<!ELEMENT DeliverTo (DeliverToPartnerData)>

<!ELEMENT DeliverToPartnerData (GlobalLocationIdentifier, PartnerName*,
ContactInformation*, AddressLine*, CityName?, GlobalCountryCode?,
NationalPostalCode?, RegionName?)>

<!ELEMENT BillTo (PartnerData)>

<!ELEMENT Details (BuyerIdentifier, ContractIdentifier*, AccountInformation?,
TaxInformation?, SICNumber?, NAICSNumber?)>

<!ELEMENT BuyerIdentifier (#PCDATA)>

<!ELEMENT ContractIdentifier (#PCDATA)>

<!ELEMENT AccountInformation (AccountName, AccountNumber, ExpirationDate)>

<!ELEMENT AccountName (#PCDATA)>

<!ELEMENT AccountNumber (#PCDATA)>

<!ELEMENT ExpirationDate (#PCDATA)>

<!ELEMENT TaxInformation (TaxStatus, TaxId)>
```

```
<!ELEMENT TaxStatus (#PCDATA)>

<!ELEMENT TaxId (#PCDATA)>

<!ELEMENT SICNumber (#PCDATA)>

<!ELEMENT NAICSNumber (#PCDATA)>
```

Qualification Request Response

The Qualification Request Response transaction functions as the notice to the Marketplace that the registered Buyer is either acknowledged, approved, or denied purchasing access to the Seller through the Marketplace. The data model and document type definition for the Qualification Request Response are documented below:

Qualification Request Response Data Model

The following diagrams show the graphical representation of the Qualification Request Response Data Model:

Key:

Icon	Description
~	Data element has attribute(s)
?	Data element occurs 0-1 times
*	Data element occurs 0-many times
+	Data element occurs 1-many times
< connecting data elements	Contains one of the child data elements
[connecting data elements	Contains all of the child data elements
Square box with lines	Data

Figure 1: QualificationRequestResponse Structure.

Qualification Request Response Data Model (continued)

Header structure (Figure 2):
- Header
  - ThisDocumentGenerationDateTime
  - ThisDocumentIdentifier
  - ? RequestingDocumentIdentifier
  - ? RequestingDocumentDateTime
  - GlobalDocumentFunctionCode
  - FromRole — PartnerRoleDescription
  - ToRole — PartnerRoleDescription

Figure 2: Header structure.

PartnerRoleDescription structure (Figure 3):
- PartnerRoleDescription
  - ? ContactInformation
    - ? ContactName
    - ? TelephoneNumber ~
      - ? CountryCode
      - AreaCode
      - PhoneNumber
    - ? EmailAddress
    - ? Fax ~
      - ? CountryCode
      - AreaCode
      - PhoneNumber
  - GlobalPartnerRoleClassificationCode
  - PartnerDescription
    - GlobalPartnerClassificationCode
    - BusinessDescription
      - GlobalBusinessIdentifier
      - GlobalSupplyChainCode

Figure 3: PartnerRoleDescription structure.

QualificationRequestResponse structure (Figure 4):
- QualificationRequestResponse ~
  - Header
  - Body
    - Properties
      - BuyerIdentifier
      - SellerIdentifier
    - Details — StatusInformation
      - Status
      - ? Description

Figure 4: QualificationRequestResponse structure.

Qualification Request Response DTD

```
<!-- QualificationRequestResponse -->

<!ELEMENT QualificationRequestResponse  (Header , Body )>
<!ATTLIST QualificationRequestResponse  Version CDATA  #REQUIRED >

<!ELEMENT Header  (ThisDocumentGenerationDateTime , ThisDocumentIdentifier ,
RequestingDocumentIdentifier? , RequestingDocumentDateTime? ,
GlobalDocumentFunctionCode , FromRole , ToRole )>
```

Qualification Request Response DTD (continued)

```
<!ELEMENT ThisDocumentGenerationDateTime  (#PCDATA )>

<!ELEMENT ThisDocumentIdentifier  (#PCDATA )>

<!ELEMENT RequestingDocumentIdentifier  (#PCDATA )>

<!ELEMENT RequestingDocumentDateTime  (#PCDATA )>

<!ELEMENT GlobalDocumentFunctionCode  (#PCDATA )>

<!ELEMENT FromRole  (PartnerRoleDescription )>

<!ELEMENT PartnerRoleDescription  (ContactInformation? ,
GlobalPartnerRoleClassificationCode? , PartnerDescription? )>

<!ELEMENT ContactInformation  (ContactName? , TelephoneNumber? , EmailAddress? ,
Fax? )>

<!ELEMENT ContactName  (#PCDATA )>

<!ELEMENT TelephoneNumber  (CountryCode? , AreaCode , PhoneNumber )>
<!ATTLIST TelephoneNumber  Type CDATA  #IMPLIED >

<!ELEMENT CountryCode  (#PCDATA )>

<!ELEMENT AreaCode  (#PCDATA )>

<!ELEMENT PhoneNumber  (#PCDATA )>

<!ELEMENT EmailAddress  (#PCDATA )>

<!ELEMENT Fax  (CountryCode? , AreaCode , PhoneNumber )>
<!ATTLIST Fax  Type CDATA  #IMPLIED >

<!ELEMENT GlobalPartnerRoleClassificationCode  (#PCDATA )>

<!ELEMENT PartnerDescription  (GlobalPartnerClassificationCode ,
BusinessDescription )>

<!ELEMENT GlobalPartnerClassificationCode  (#PCDATA )>

<!ELEMENT BusinessDescription  (GlobalBusinessIdentifier , GlobalSupplyChainCode )>

<!ELEMENT GlobalBusinessIdentifier  (#PCDATA )>

<!ELEMENT GlobalSupplyChainCode  (#PCDATA )>

<!ELEMENT ToRole  (PartnerRoleDescription )>

<!ELEMENT Body  (Properties , Details )>

<!ELEMENT Properties  (BuyerIdentifier , SellerIdentifier )>
```
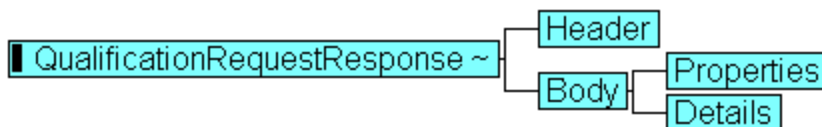
Qualification Request Response DTD (continued)

```
<!ELEMENT BuyerIdentifier  (#PCDATA )>

<!ELEMENT SellerIdentifier  (#PCDATA )>

<!ELEMENT Details  (StatusInformation )>

<!ELEMENT StatusInformation  (Status , Description? )>

<!ELEMENT Status  (#PCDATA )>

<!ELEMENT Description  (#PCDATA )>
```

CATALOG AND RFQ

IMPORTANT: While the information and data contained herein are presented in good faith, it is provided gratis "as is" for your guidance only and neither BASF Corporation, The Dow Chemical Company, nor E.I. duPont de Nemours and Co., Inc. represent or warrant that any use of the materials or standards disclosed herein will not infringe patent, copyright, trademark, trade secret or other intellectual right of any third party.

Catalog and RFQ Table of Contents

Introduction and Scope of Effort

This section of the document defines the data exchange interfaces necessary to support the sharing of data regarding products, for the purpose of populating catalogs which make possible the promotion, selection, purchasing and sales of chemical products over a Marketplace. The following business transactions are supported and discussed in detail below:

- **Product Catalog Update** - Updates the entries in a Product Catalog. This transaction adds, updates, or deletes whole products or their attributes and related information (e.g., specifications, descriptions, prices).

- **Customer Specific Catalog Update** - Updates the entries in a Customer Specific Catalog. This transaction adds, updates or deletes whole products or their related pricing information for a specified Buyer at an item/location level.

- **Request For Quote** - Used to request terms different from those available in the Product Catalog.

The Product Catalog Update is used by Sellers to update the Product Catalog on a Marketplace. The Product Catalog contains product information, conditions of sale and list prices viewable by all Registered participants in the Marketplace.

The Customer Specific Catalog Update is used by Sellers to update the Customer Specific Catalog on a Marketplace. This catalog contains special pricing arrangements or conditions of sale between Buyers and Sellers viewable only by the Buyer and the Seller involved in the arrangement.

The Request For Quote is a transaction sent from a Buyer to a Seller to request special conditions of sale different from the standard conditions of sale offered in the Product catalog.

Note: The Catalog and RFQ transactions may be used to support communication between a Buyer and Seller through a Marketplace, or direct business-to-business communication. It is assumed that these transactions will be used in support of a Marketplace, and so the descriptions are written in terms of a Marketplace, but any place in the document where "Marketplace" is used may also be interpreted to include direct Buyer to Seller.

Key Scope Assumptions

CATALOG

- Entries in the Product Catalog are accessible by all parties who have access to the catalog. The ability to provide a product to only a select subset of Buyers for viewing is not supported.

- Customer Specific Catalog entries do not exist independently of Product Catalog entries (i.e., a Seller does not offer a Buyer a special price on a product if that product is not sold in the Marketplace).

- The catalogs are designed to support on-line buying and selling of chemical products; however, they do not to support detailed technical research.

Key Scope Assumptions (continued)

RFQ

- The RFQ is intended for—but not limited to—small companies that need to request simple changes to the standard price or conditions of sale offered in the Product Catalog. The intent is that it is not to be used as the first step for complex negotiations. It is expected that Sellers will attempt to automate the RFQ process as much as possible, but for the foreseeable future this will remain mostly a manual process.

- RFQ's are not interactive; they either generate a negative response (sent via alternate means such as fax, telephone, e-mail) or a positive response (also sent via alternate means) that is followed up with one or more Customer Specific Catalog Update transactions.

- RFQ's are for products in the Product Catalog only.

Key Business Model Assumptions

- Each and every orderable item in the Product Catalog has a unique Seller/SKU combination.

- Within the various Marketplace transactions, the D-U-N-S Number is used to uniquely identify individual Buyers, Sellers, and other Business Partners (such as Carriers).

- All catalog maintenance is the responsibility of the Seller, insofar as updates to content via catalog update transactions are concerned. The Marketplace or other entity that receives the transactions and physically maintains the database is responsible for proper sequencing of updates (by date) and maintaining the integrity of the data.

- Sellers maintain the primary sources of information that are loaded into the catalog. "Master" product information is stored in an ERP (or other) system at the Seller. The Seller is responsible for issuing catalog updates to keep the various Marketplace catalogs in synch.

- The Seller (or participating Marketplace) defines the rules for which optional field in the catalogs is populated.

IMPORTANT: Providing standard list price information and Buyer-specific pricing information is a desirable function of the Marketplace. With this assumption in mind, a facility for the transmission of pricing information to be stored in a Marketplace catalog is provided in these transactions. However, transmission, storage, and presentation of product pricing information **is not a requirement** for Marketplaces using these transactions.

Business Process Diagram with Descriptions – Catalog

The general business process model for the update of catalog information on an on-line Marketplace is depicted in the following diagram. Solid thick lines illustrate the transaction between the Marketplace and Seller. Dashed thick lines indicate the Buyer to Seller transactions. Solid thin lines illustrate the Buyer to Marketplace transactions (communications can be via phone, fax, email, browser, and use of this eStandard).

Business Process Diagram with Descriptions – Catalog (continued)
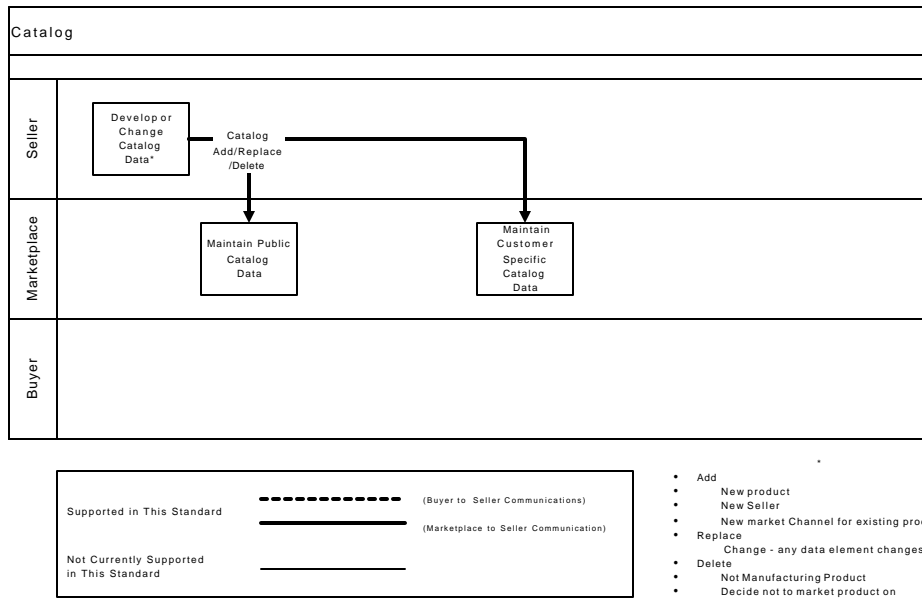
Conceptually, there are two components to a catalog. These are individually referenced as the Product Catalog and the Customer Specific Catalog. Sellers update these catalogs as necessary through the use of Product Catalog Update and Customer Specific Catalog Update transactions.

The Product Catalog is where the offered items are defined, along with all key attributes necessary to further qualify or search for the item. It is similar to an Item Master File found in most Sales Order systems.

The Customer Specific catalog contains Buyer specific agreed price and conditions of sale. It also allows for multiple pricing such as location specific pricing for a Buyer.

The Sellers of products offered on the Marketplace perform updates to Product and Customer Specific Catalogs on a Marketplace. Specific scenarios that intiate an update are discussed below, but in general, any change in product information and any new contractual agreements entered into between a Buyer and a Seller should initiate a Customer Specific Catalog Update.

Requirements for catalog content, architecture and other technical definitions are the domain of the Marketplace. Population and maintenance of the actual data in the catalog are the domain of the Sellers. It is anticipated that different emerging Marketplaces have differing business models. In the development of these transactions, and in an attempt to create an "open" standard, various scenarios for catalog management have been incorporated.

Business Process Diagram with Descriptions – Catalog (continued)

Marketplace Model

The most likely scenario is that the Marketplace maintains the Product Catalog and Customer Specific Catalogs on behalf of the Buyers and Sellers. In this case, Sellers transmit Update transactions to the Marketplace, which implements updates to the catalogs.

Business-to-Business Model

In a Business-to-Business situation, catalogs may be resident at either the Seller or Buyer location. If resident at the Buyer, the Seller transmits Updates to the Buyer, who implements the updates to the catalogs. If resident at the Seller, the need for Update transactions becomes less clear because their use becomes a local system design decision. For example, one Seller may choose to use these transactions to promote a common interface for all divisions within the company that need to update catalog information, while another may specify their own internal process.

The following transactions are discussed in greater detail:

- Product Catalog Update

- Customer Specific Catalog Update

- Request for Quote

Product Catalog Update

The Product Catalog is where the offered item is defined with all key attributes necessary to further qualify or search for the item. It is similar to an Item Master file found in most Sales Order systems.

Just as each implementation of an ERP system (i.e., SAP) is somewhat unique because of differing levels of data capture – it is expected that the different Sellers will populate their catalogs with detail to varying levels (subject to Marketplace rules, if participating in one). Some Sellers may perhaps only define a minimal amount of SKU attributes, while another Seller defines and maintains a much richer file. To accommodate this requirement, much of the data defined in the messages to populate and maintain the catalog is optional.

Included in each item's list of elements in the Product Catalog, and optionally provided by the Seller, may be the "list" price that the Seller has offered to the general population of potential Buyers. These transactions accommodate "common attributes" (those of common interest that span all types of items and are relevant to all items). These transactions also accommodate "unique attributes" (those that are unique, or specific, to a product or group of products). Items within the Product Catalog are available for viewing by all Registered participants in the Marketplace.

The Product Catalog Update is a multi-purpose transaction that is intended to serve the following purposes:

- Add – to insert new records into an existing Product Catalog file

- Replace – to update existing records in a Product Catalog file

- Delete – to remove existing records in a Product Catalog file

Scenarios for Product Catalog Update

The following scenarios cause Product Catalog Updates and their corresponding Actions:

- Seller joins a Marketplace initially – **Add**

Required to populate the catalog – to "open for business" on the Marketplace
A Business Partner is joining the Marketplace as a Seller. This scenario occurs either at the startup of the Marketplace itself, or as the Seller makes the strategic decision to market products via the existing Marketplace. In either case, the Seller needs to do an initial load of the items it offers onto the catalog that is accessed by the Buyers of the Marketplace. The initial load is done using a Product Catalog Update transaction, with the Action set to "Add" for every SKU to be offered on the Marketplace. This assumes the Product Catalog is hosted remotely to the Seller.

- Seller introduces new Products – **Add**

Required to allow Buyers to purchase new Product introductions
A Seller that is already selling on a Marketplace, and already has its Product Catalog populated, develops a new product or configuration (creates a brand new SKU) and elects to market this item via the Marketplace. This scenario involves a simple Product Catalog Update (Action = Add) transaction for the SKUs involved. The internal process necessary to initiate this event, and the responsible parties, along with the exact timing, is varied and controlled by the Seller. Since the presence of these SKUs on the catalog may be a requirement for potential Buyers to execute Purchase Orders, timing is critical.

- Seller expands Product offering on Marketplace – **Add**

Required to allow Buyers to purchase a broader range of Products
A Seller that is already selling on a Marketplace, and already has its Product Catalog populated, decides to increase the total items offered on the Marketplace with additional items. This scenario is likely for many reasons, such as, strategic decisions to expand marketing breadth or depth on a particular Marketplace, mergers and acquisitions by the Seller that provide additional products to be marketed, or as part of an overall migration effort to use electronic Marketplaces. There are many possible reasons a Seller may need to occasionally add SKUs to a Marketplace. For these scenarios, a simple Product Catalog Update (Action = Add) transaction for the SKUs is involved. The internal process necessary to initiate this event, the responsible parties involved and the exact timing, may be varied and controlled by the Seller. Since the presence of SKUs on the catalog may be a requirement for potential Buyers to execute Purchase Orders, timing is critical.

Scenarios for Product Catalog Update (continued)

- Seller changes price, conditions of sale or other attributes of an item – **Replace**

Required catalog maintenance
A Seller that is already selling on a Marketplace, and already has its Product Catalog populated, changes any coding associated with an item that is currently offered in the Product Catalog. A key assumption is that the Seller is maintaining the primary source for all catalog data within internal systems and files. Therefore, in order to keep these files and data elements in synchronization with those presented on the Product Catalog, a process is required to identify when updates occur on the internal records which need to be reflected within the Product Catalog. Assuming this process is available, the designated source data elements need to be monitored for changes. Upon changes to any of these designated elements, a Product Catalog (Action = Replace) transaction is generated by the Seller and transmitted to the Marketplace, or the body controlling the Product Catalog.

Sellers make changes to the descriptions, attributes and other related data of their products for any number of reasons. These internal decisions need to be reflected in the overall data integrity of the internal system and the related Product Catalog records. Identifying the need to create a Product Catalog (Action = Replace) transaction, and then correctly populating and transmitting it into the Product Catalog are necessary for proper catalog maintenance. Without these processes in place, the Product Catalog is not synchronized with the internal files resulting in downstream problems as Purchase Orders are placed via the Marketplace. To properly manage this process a Seller may require an automated process to monitor changes to the source system and create corresponding Product Catalog (Action = Replace) records. Without such a process, a Seller risks lack of synchronization if they are participating in any Marketplace at a significant level. As Marketplace activity increases, the need for automated synchronization becomes critical. If a Seller offers the same SKU on multiple Marketplaces, it may be necessary to generate multiple occurrences of the Product Catalog transaction, depending on the hosting strategies deployed.

The Product Catalog (Action = Replace) is designed to provide any and all possible elements to be changed. It is possible to use this transaction to convey only those items that have changed and their corresponding new data. In this scenario, the receiving system or Marketplace needs to recognize that the elements that are contained in the message need to be updated for the product defined. It is also possible to provide all data relevant to the product so that the receiving system does a delete/replace function to achieve the same result. The decision on the level of data necessary to achieve an update is driven by the needs of the specific Marketplace. These transactions accommodate either design and do not mandate which method must be used.

The presence of synchronized product information on the catalog with current and up-to-date internal codes may be a requirement for potential Buyers to execute Purchase Orders, which means that timing is critical.

Scenarios for Product Catalog Update (continued)

- Seller discontinues a product – **Delete**

Required catalog maintenance
A Seller that is already selling on a Marketplace, and already has its Product Catalog populated, discontinues a product or configuration (deletes an SKU) and therefore must reflect this in the offerings via the Marketplace. This scenario involves a simple Product Catalog Update (Action = Delete) transaction for the SKUs involved. The internal process necessary to initiate this event, and the responsible parties, along with the exact timing may be varied and controlled by the Seller. Since the presence of these SKUs on the catalog allows potential Buyers to execute Purchase Orders, timing is critical. Timely Deletes ensure potential Buyers are not misled into thinking a Seller is still offering Products it has in fact discontinued.

- Seller elects to remove an item from Marketplace – **Delete**

A product will continue to exist, but it will no longer be available on the Marketplace, so removal will preclude further orders via the Marketplace.
A Seller that is already selling on a Marketplace, and already has its Product Catalog populated, decides to restrict the total items offered on the Marketplace by deleting one or more items. This scenario is likely for many reasons, which include strategic decisions to narrow marketing breadth or depth on a particular Marketplace, divestitures of business units or Product lines by the Seller which limit products to be marketed, part of an overall strategy/migration effort to reduce the use of electronic Marketplaces, shifting from one Marketplace to another for competitive reasons. There are many possible reasons a Seller may need to occasionally delete products or particular SKUs from a Marketplace. For these scenarios, a simple Product Catalog Update (Action = Delete) is involved. The internal process necessary to trigger this event, and the responsible parties, along with the exact timing may be varied and controlled by the Seller. Since the presence of these SKUs on the catalog allow potential Buyers to execute Purchase Orders, timing is critical. Timely Deletes ensure potential Buyers are not mislead into thinking a Seller is still offering products it has in fact discontinued.

Customer Specific Catalog Update

The Customer Specific catalog contains Buyer specific agreed price and conditions of sale. It also allows for multiple pricing such as location specific pricing for a Buyer. Therefore, entries are not available for viewing by all Registered participants in the Marketplace, only those participants for whom the special pricing is intended. The Customer Specific Catalog is meant to facilitate the contractual agreements inherent in Business-to-Business relationships. It is not assumed that Customer Specific data is a mandatory requirement of the Marketplace; however, it provides for the storage and maintenance of this level of data in the event that it is relevant.

These transactions do not assume that there are two separate and distinct physical catalogs, nor does it assume where these files are physically resident. Conceptually, a Seller may maintain a single catalog that contains list pricing as well as contractual pricing, host this catalog internally or externally, and these transactions should accommodate that choice.

Customer Specific Catalog Update (continued)

The purpose of logically separating into "Product" and "Customer Specific" is to accommodate the different emerging business models and expected Marketplace functions. In a Business-to-Consumer model (B2C), as well as a "Big Business-to-little business" model (B2b) many Buyers are looking to procure commodity items from Sellers using searchable catalogs that typically contain list pricing. Many of the emerging Chemical Marketplaces are expected to cover the contract business space where Buyers and Sellers already conduct commerce for large volumes of pre-determined Product over defined time periods. This activity is prevalent in the Chemical Industry, and this emerging Business-to-Business Model was adopted for these transactions to support the "Customer Specific Catalog" concept.

By providing public versus private content, and using different transactions accordingly, the transactions are able to meet the various needs currently envisioned within the rapidly developing Marketplace environment.

The Customer Specific catalog update is similar to the Product Catalog Update in that it is also a multi-purpose transaction intended to serve the following purposes:

- Add –insert new records into an existing Customer Specific Catalog file

- Replace –update existing records in a Customer Specific Catalog file

- Delete –remove existing records in a Customer Specific Catalog file

Scenarios for Customer Specific Catalog Update

Because the content and purpose of the Product Catalog and Customer Specific Catalog are different, the causes and effects relative to these are different. Conceptually, the Product Catalog contains general information to be used by generic Marketplace Buyers, and Customer Specific Catalog items are generally a result of a negotiated process that may have been initiated by a Request for Quote.

The following scenarios outline causes for Customer Specific Catalog Updates and their corresponding Actions:

- Seller joins a Marketplace initially – **Add**

Required to populate the catalog – to "open for business" on the Marketplace
A Business Partner is joining the Marketplace as a Seller. This scenario occurs either at the startup of the Marketplace itself, or as the Seller makes the strategic decision to market products via the existing Marketplace. In either case, the Seller needs to do an initial load for the items already covered by existing contracts for Buyers already established on the Marketplace. To facilitate this, each product covered by a Buyer specific price or conditions of sale that may be potentially ordered must be loaded via a Customer Specific Update (Action = Add) transaction. These transactions must follow the load of the Product Catalog Update for each SKU, since the Product Catalog acts as parent to the Customer Specific Catalog records. This assumes the Customer Specific Catalog is hosted remotely to the Seller.

Note: This only needs to be done for Products of potential Buyers on the Marketplace. As new Buyers join the Marketplace, if any contracts exist for that relationship, those Customer Specific Catalog updates are processed at that time.

Scenarios for Customer Specific Catalog Update (continued)

- Seller accepts an RFQ – **Add**

Required to allow Buyers to purchase product at Buyer specific pricing
A Seller that is already selling on a Marketplace, and already has its Product Catalog populated, receives and accepts an RFQ from a potential Buyer. Upon acceptance of this, a Customer Specific Catalog Update (Action = Add) is issued to allow this agreement to be executed in the forthcoming orders from this Buyer.

The internal process necessary for this event, and the responsible parties, along with the exact timing may be varied and controlled by the Seller. Since the presence of these records on the Customer Specific Catalog may be a requirement for potential Buyers to execute correct Purchase Orders, timing is critical.

- Seller introduces new Products – **Add**

Required to allow certain Buyers to purchase new product introductions at Buyer specific prices and conditions of sale.
A Seller that is already selling on a Marketplace, and already has its Product Catalog populated, develops a new product or configuration (creates a brand new SKU) and elects to market this item via the Marketplace. Assuming the pre-requisite Product Catalog Update (Action = Add) transaction for the SKUs has already been processed, a Customer Specific Catalog Update (Action = Add) must follow for those instances necessary to allow Buyer specific pricing and conditions of sale to be enabled immediately. The internal process necessary for this event, and the responsible parties, along with the exact timing may be varied and controlled by the Seller. Since this is a new product, it is likely that the occurrence of pre-arranged Buyer specific pricing and conditions of sale for these items may be limited. Since the presence of these SKUs on the catalog may be a requirement for contract Buyers to execute properly priced Purchase Orders, timing is critical.

- Seller expands product offering on Marketplace for items which are covered by contracts or agreements previously negotiated outside the Marketplace – both Buyer and Seller are Marketplace participants – **Add**

Required to allow contract Buyers to purchase a broader range of products
A Seller that is already selling on a Marketplace, and already has its Product Catalog populated, decides to increase the total items offered on the Marketplace by adding additional items. This scenario is likely for many reasons, such as, strategic decisions to expand marketing breadth or depth on a particular Marketplace, mergers and acquisitions by the Seller that provide additional Products to be marketed, part of an overall migration effort to use electronic Marketplaces. There are many possible reasons a Seller may need to occasionally add SKUs to a Marketplace. For these scenarios, after the Product Catalog Update (Action = Add) transaction for the SKUs is processed, a subsequent Customer Specific Catalog Update (Action = Add) must follow. The internal process necessary for this event, and the responsible parties, along with the exact timing may be varied and controlled by the Seller. Since the presence of these SKUs on the catalog may be a requirement for contract Buyers to execute properly priced Purchase Orders, timing is critical.

Scenarios for Customer Specific Catalog Update (continued)

- Seller changes price, conditions of sale or other item attributes covered by an agreement – **Replace**

Required catalog maintenance
A Seller that is already selling on a Marketplace, and already has its Customer Specific Catalog populated, changes any coding associated with an item that is currently offered on the Customer Specific Catalog. A key assumption is that the Seller is maintaining the primary source for all catalog data within internal systems and files. Therefore, in order to keep these files and data elements in synchronization with those presented on the Customer Specific Catalog, a process is required to identify when updates occur on the internal records which need to be reflected within the Marketplace Customer Specific Catalog. Assuming this process is available, the designated source data elements need to be monitored for changes. Upon changes to any of these designated elements, a Customer Specific Catalog (Action = Replace) transaction is generated by the Seller and transmitted to the Marketplace, or the body controlling the Customer Specific Catalog.

Likely scenarios that may drive this event include:

- A contract is lapsing and the Seller wants to extend the current price

    Note: This scenario assumes the Marketplace deletes or otherwise makes unavailable the Customer Specific Catalog records upon expiration of the contract date. If this is not the case and the expiration date acts only as information, then this scenario does not trigger the need for the Customer Specific Catalog Update (Action = Replace) transaction since a lapsed contract is still "valid."

- A contract price is re-negotiated during the term of the contract – Buyer agrees

The Customer Specific Catalog (Action = Replace) is designed to provide all data relevant to the agreement so that the receiving system does a delete/replace function with respect to that agreement.

Since current and up-to-date internal codes, including Buyer specific pricing, along with the presence of synchronized data on the catalog may be a requirement for contract Buyers to execute properly priced Purchase Orders, timing is critical.

- Seller discontinues a product – **Delete**

Required catalog maintenance
A Seller that is already selling on a Marketplace, and has Customer Specific Catalog entries for an SKU that becomes discontinued must be reflected in the Marketplace by processing Customer Specific Catalog Update (Action = Delete) transactions. This scenario involves a simple Customer Specific Catalog Update (Action = Delete) transaction for each of the contracts associated with the SKUs involved. These should be processed prior to the Product Catalog Update deletes of the parent items. The internal process necessary for this event, and the responsible parties, along with the exact timing may be varied and controlled by the Seller. Since the presence of these SKUs on the catalog allows contract Buyers to execute Purchase Orders, timing is critical. Timely Deletes ensure Buyers are not misled into thinking a Seller is still offering products it has in fact discontinued.

Scenarios for Customer Specific Catalog Update (continued)

- Seller elects to remove an item from Marketplace – **Delete**

A product continues to exist, but it is no longer be available on the Marketplace, so removal precludes further orders via the Marketplace
A Seller that is already selling on a Marketplace, and already has its Customer Specific Catalog populated, decides to restrict the total items offered on the Marketplace by deleting one or more items. This scenario is likely for many reasons, such as, strategic decisions to narrow marketing breadth or depth on a particular Marketplace, divestitures of business units or product lines by the Seller which limit Products to be marketed, part of an overall strategy/migration effort to reduce the use of electronic Marketplaces, shifting from one Marketplace to another for competitive reasons. There are many possible reasons a Seller may need to occasionally delete SKUs from a Marketplace. For these scenarios, Customer Specific Catalog Update (Action = Delete) transactions for each of the contract items for each of the SKUs involved is necessary. The internal process necessary to trigger this event, and the responsible parties, along with the exact timing may be varied and controlled by the Seller. Since the presence of these SKUs on the catalog allow contract Buyers to execute Purchase Orders via this Marketplace, timing is critical. Timely Deletes ensure potential Buyers are not misled into thinking a Seller is still offering products it has in fact discontinued from the Marketplace.

- Marketplace revokes a Buyers' registration from the Marketplace - **Delete**

Catalog maintenance
It is possible for a Marketplace to remove the permission of a Buyer to participate. Under this scenario, no further Purchase Orders are processed or entered into the Marketplace. Removal of existing Customer Specific Catalog records is good practice, but not mandatory. However, depending upon the rules and practices of the particular Marketplace, Customer Specific Catalog Update (Action = Delete) transactions may be necessary.

General Discussion on Synchronization of Catalog Data

The Product Catalog is expected to be fairly stable, and once a Seller loads it originally, maintenance should be an infrequent event. Conversely, the Customer Specific Catalog is expected to be much more dynamic. The maintenance involved to keep the various Buyer specific pricing and other conditions of sale is more intense. Sellers need to address this issue. The need to maintain accurate and timely Customer Specific Catalog records may play a critical role in a Seller's success of the Marketplace environment. Also, this issue may determine if the Marketplace itself succeeds, because if the Sellers collectively do not maintain the Customer Specific Catalog to the necessary degree, potential Buyers may not consider the Marketplace viable.

A key assumption is that the Seller is maintaining the primary source for all catalog data within internal systems and files. Therefore, in order to keep these files and data elements in synchronization with those presented on the Marketplace catalog(s), a process is required to identify when updates occur on the internal records which need to be reflected within the Marketplace catalog. Assuming this process is available, the designated source data elements need to be monitored for changes. New records need to generate Customer Specific Catalog Update (Action = Add) transactions. Changes to any of these designated elements must generate a Customer Specific Catalog (Action = Replace) transaction by the Seller. Expirations of these agreements or deletions for other reasons must generate Customer Specific Catalog Update (Action =

General Discussion on Synchronization of Catalog Data (continued)

Delete) transactions, and be transmitted to the Marketplace, or the body controlling the Customer Specific Catalog.

Business Process Diagram with Description – Request For Quote (RFQ)

The general business process model for the Request For Quote is depicted in the following diagram. Solid thick lines illustrate the transaction between the Marketplace and Seller. Dashed thick lines indicate the Buyer to Seller transactions. Solid thin lines illustrate the Buyer to Marketplace transactions (communications can be via phone, fax, email, browser, and use of this eStandard).
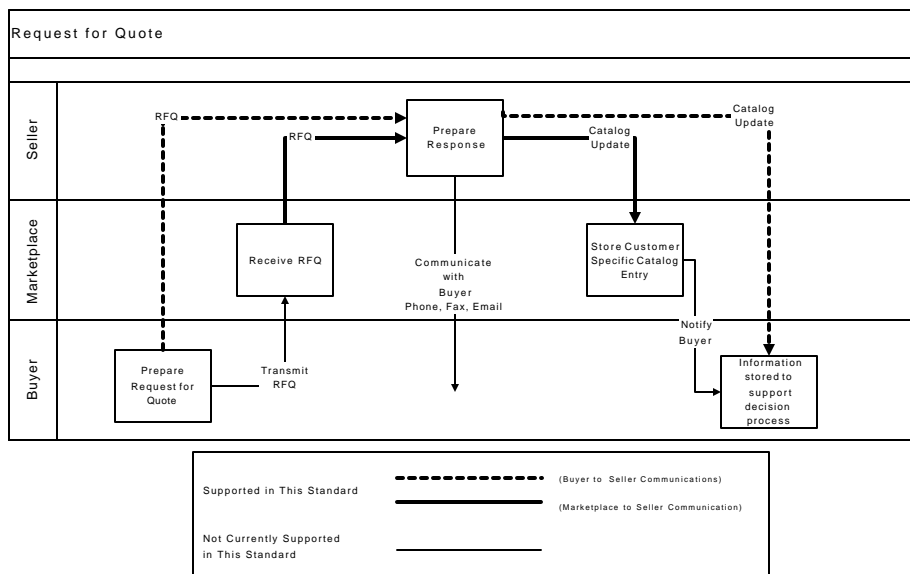
In general, the Request For Quote (RFQ) transaction is a mechanism by which a Buyer participating in the Marketplace may request pricing or conditions of sale different from those currently available to that Buyer.

The RFQ process is Buyer initiated. The Buyer determines future demand requirements and Sellers for these items using a variety of methods. The Buyer obtains the standard list price and conditions of sale for the product from the Seller (or from the Product Catalog on Marketplace, if the Marketplace's business model includes this service). If these are acceptable, the Buyer may place an Order. If not, the Buyer may send an RFQ to request a different price or conditions. If accepted (the Seller agrees to enter into a special arrangement with the Buyer), the Customer Specific Catalog may be updated.

Marketplace Model

If a Marketplace is acting as an intermediary, then the RFQ transaction specified herein flows from the Marketplace to the Seller as a result of an intiating Buyer action. The method by which the Buyer does this is not specified as part of the RFQ design since a Buyer could log on to a Marketplace web site via a browser to "build" an RFQ and then press a "send" button.

Marketplace Model (continued)

If accepted, then a Customer Specific Catalog Update flows back to the Marketplace to insert Buyer specific pricing in the catalog. (Please see the section on Catalog design for more detail).

Business-to-Business Model

In a Business-to-Business situation, the Buyer builds the RFQ transaction and transmits it directly to the Seller. If accepted, the Customer Specific Catalog is updated to reflect the Buyer specific arrangement. This may include a Customer Specific Catalog Update if the catalog is resident at the Buyer. (Please see the section on Catalog design for more detail.)

Scenarios for Request For Quote

An RFQ always begins with Buyer initiatation. There are three possible outcomes: The Seller rejects all line items in the RFQ; accepts all lines items in the RFQ; or accepts some line items in the RFQ and rejects others.

- • Buyer initiates an RFQ which is rejected by the Seller in its entirety

External communications occur, but no catalog updates are required
The RFQ flows to the Seller and is declined by the Seller. The Seller contacts the Buyer and informs the Buyer of the RFQ decision. This communication may occur in various forms (phone, fax, e-mail, etc.). No other action is required.

- • Buyer initiates an RFQ which is accepted by the Seller in its entirety

External communications occur and catalog updates are required
The RFQ flows to the Seller and is declined by the Seller. The Seller contacts the Buyer and informs the Buyer of the RFQ decision. This communication may occur in various forms (phone, fax, e-mail, etc.). If a Customer Specific Catalog is involved, the Seller issues one or more Customer Specific Catalog Updates. The transactions are sent to whichever Business Partner maintains the Customer Specific Catalog for this Buyer and Seller.

- • Buyer initiates an RFQ which is accepted by the Seller in part

External communications occur and catalog updates are required
The RFQ flows to the Seller and some indiviual line items are declined. The Seller contacts the Buyer and informs the Buyer of the RFQ decision. This communication may occur in various forms (phone, fax, e-mail, etc.). If a Customer Specific Catalog is involved, the Seller issues one or more Customer Specific Catalog Updates for those items that were accepted. The transactions are sent to whichever Business Partner maintains the Customer Specific Catalog for this Buyer and Seller.

Request For Quote (FRQ)

The Request For Quote is used to request terms different from those available in the Product Catalog.

RFQ Data Model

The following diagrams show the graphical representation of the RFQ Data Model:

Key:

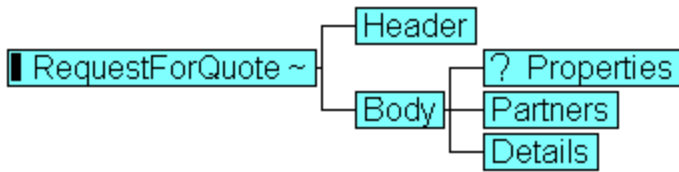| Icon	Description
~	Data element has attribute(s)
?	Data element occurs 0-1 times
*	Data element occurs 0-many times
+	Data element occurs 1-many times
< connecting data elements	Contains one of the child data elements
[connecting data elements	Contains all of the child data elements
Square box with lines	Data

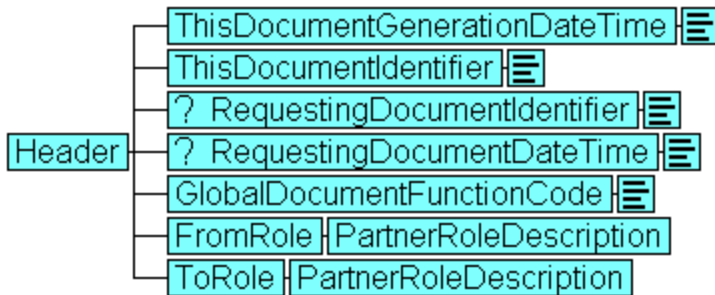Figure 1: RequestforQuote structure.

Figure 2: Header structure.
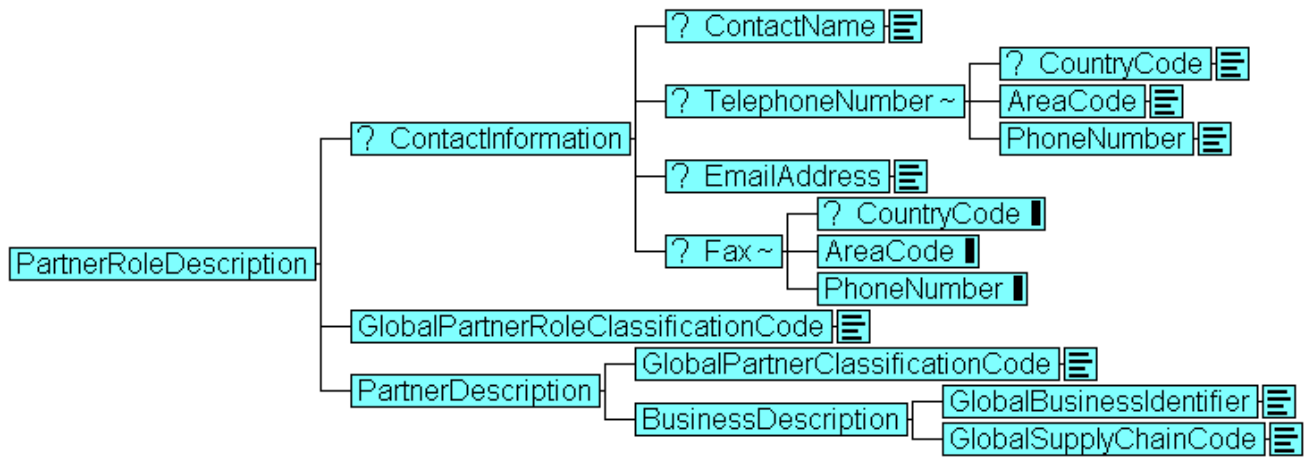
RFQ Data Model (continued)

Figure 3: PartnerRoleDescription structure.
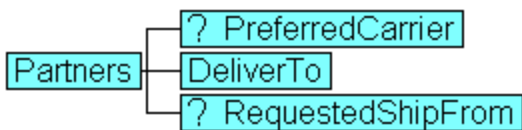

Figure 4: Properties structure.

Figure 5: Partners structure.
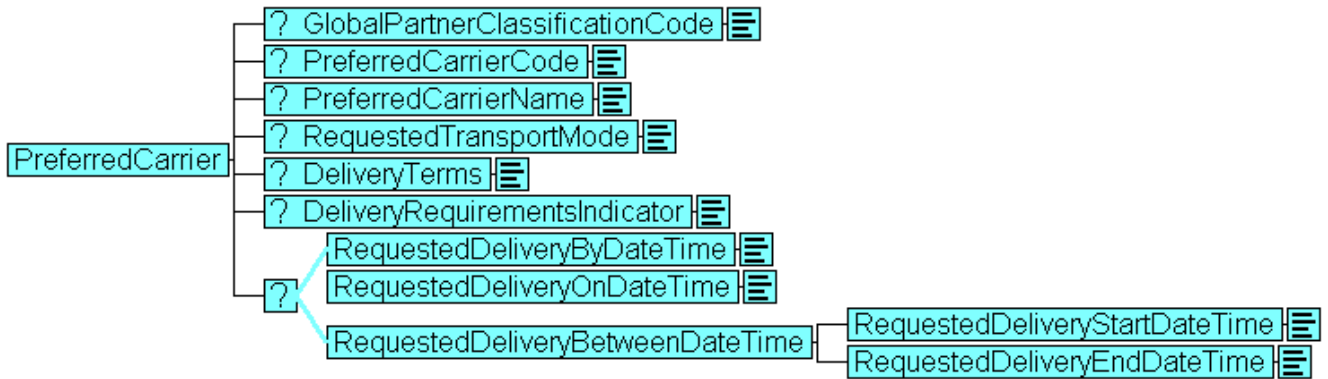
RFQ Data Model (continued)

Figure 6: PreferredCarrier structure.
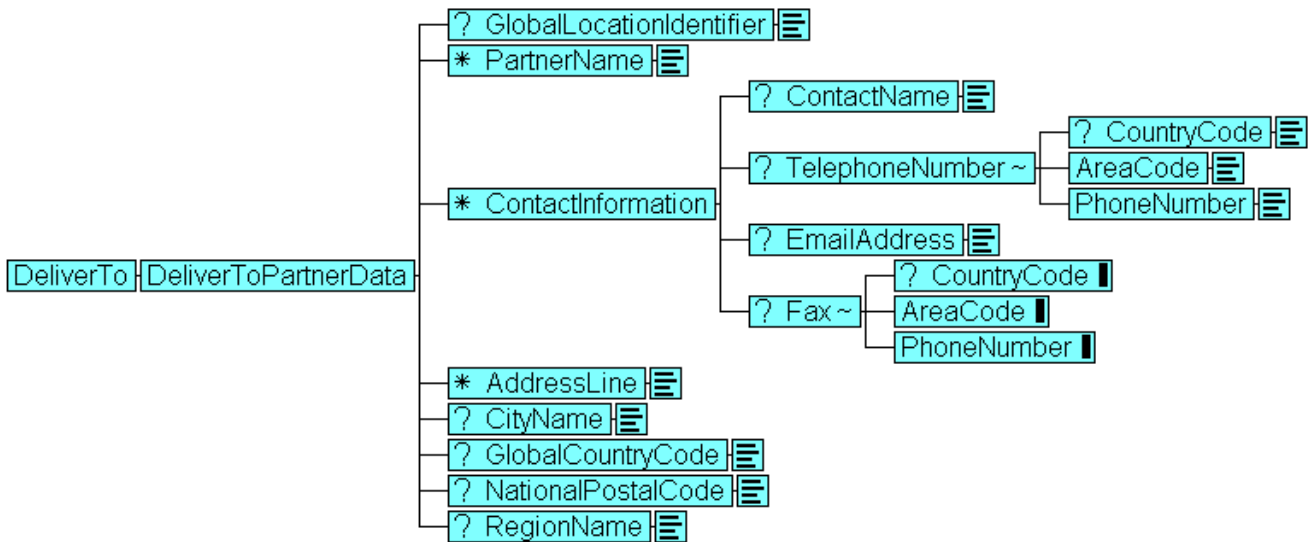
Figure 7: DeliverTo structure.
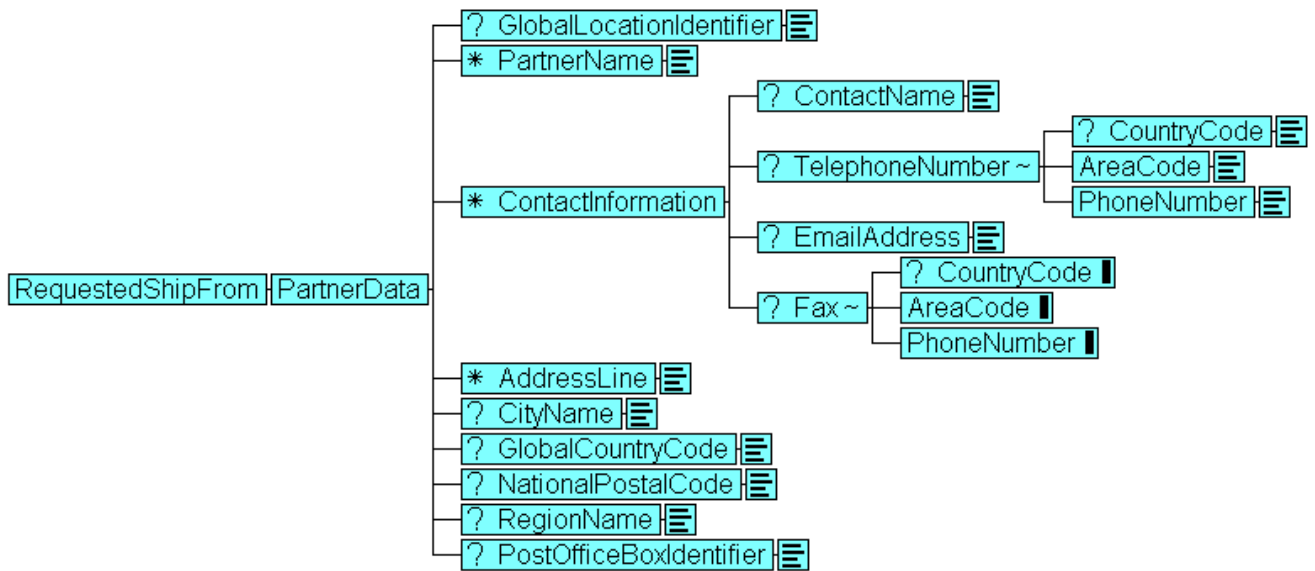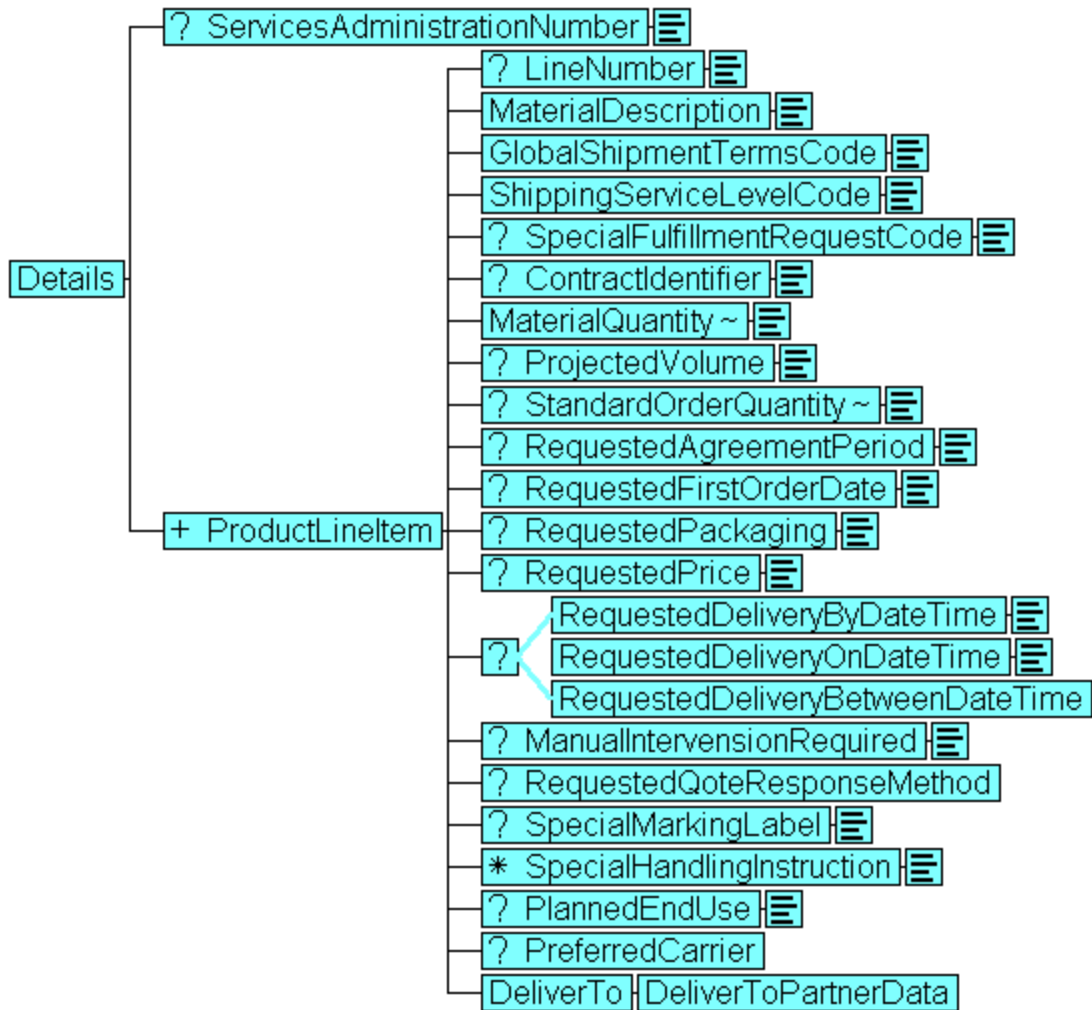
Figure 8: RequestedShipFrom structure.
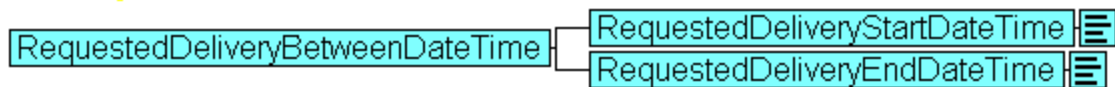
Figure 9: Details structure.

Figure 10: RequestedDeliveryBetweenDateTime structure.
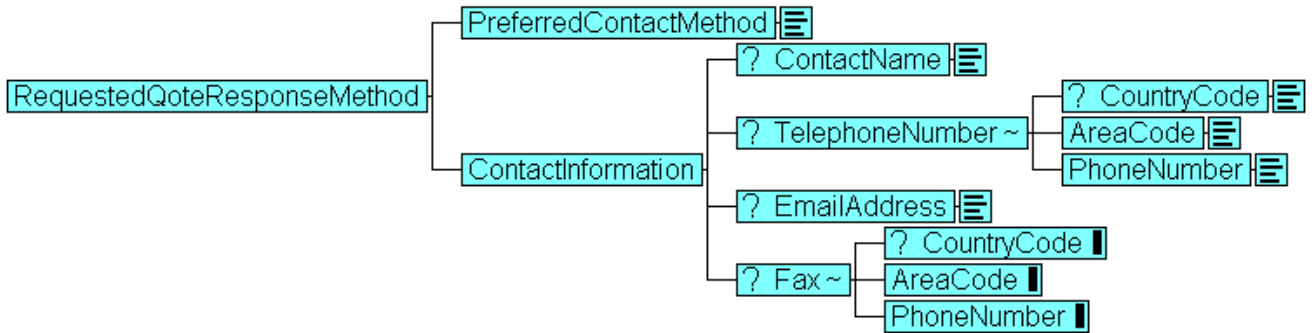
RFQ Data Model (continued)

Figure 11: RequestedQuoteResponseMethod structure.

Figure 12: PreferredCarrier structure.

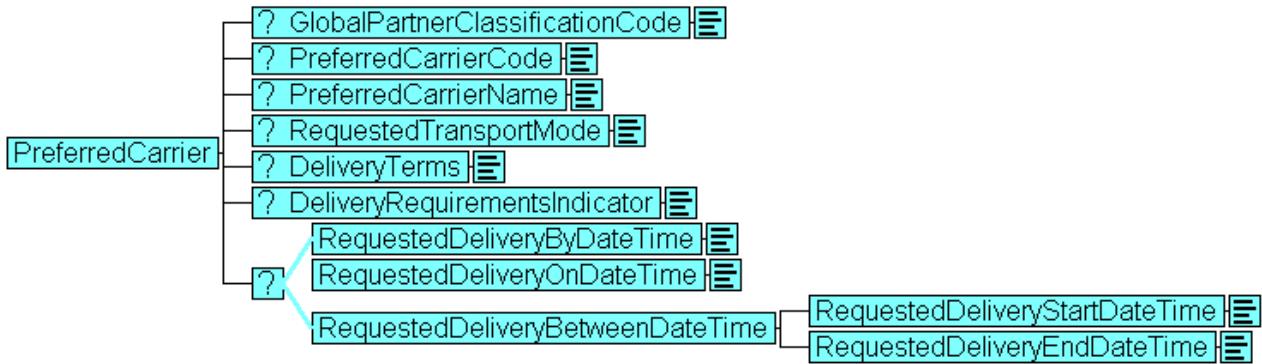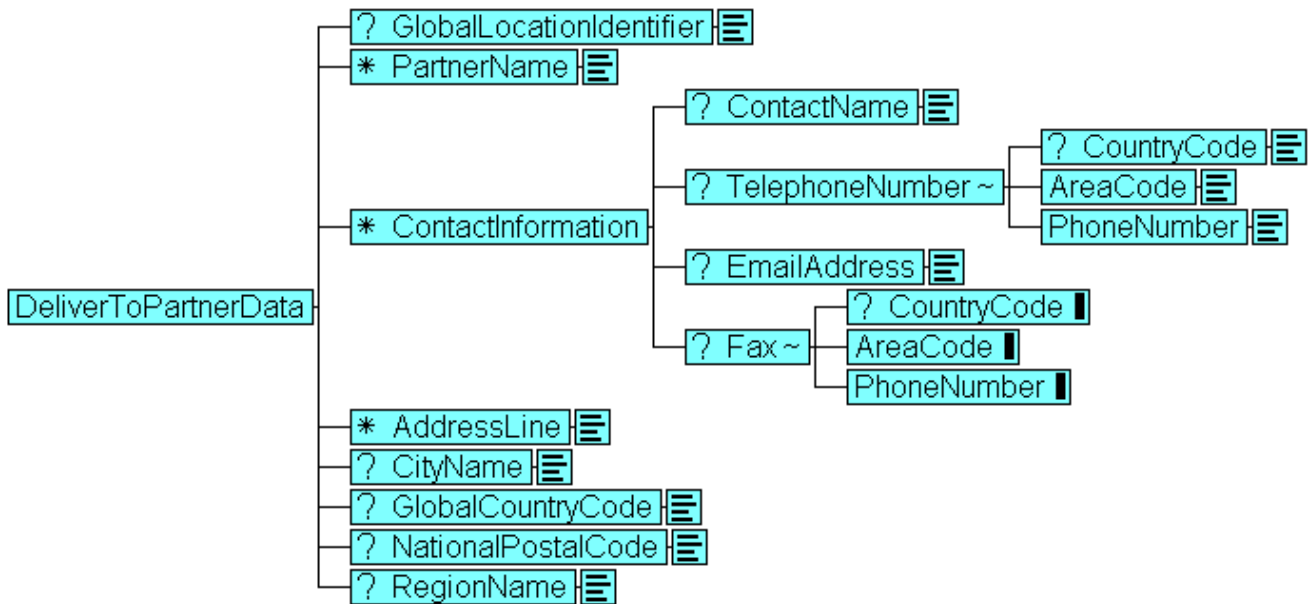Figure 13: DeliverToPartnerData structure.

RFQ Document Type Definition

```
<!--RequestForQuote-->

<!ELEMENT RequestForQuote (Header, Body)>
<!ATTLIST RequestForQuote Version CDATA #IMPLIED>

<!ELEMENT Header (ThisDocumentGenerationDateTime, ThisDocumentIdentifier,
RequestingDocumentIdentifier?, RequestingDocumentDateTime?,
GlobalDocumentFunctionCode, FromRole, ToRole)>

<!ELEMENT ThisDocumentGenerationDateTime (#PCDATA)>

<!ELEMENT ThisDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentDateTime (#PCDATA)>

<!ELEMENT GlobalDocumentFunctionCode (#PCDATA)>

<!ELEMENT FromRole (PartnerRoleDescription)>

<!ELEMENT PartnerRoleDescription (ContactInformation?,
GlobalPartnerRoleClassificationCode, PartnerDescription)>


<!ELEMENT ContactInformation (ContactName?, TelephoneNumber?, EmailAddress?, Fax?)>

<!ELEMENT ContactName (#PCDATA)>

<!ELEMENT TelephoneNumber (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST TelephoneNumber Type CDATA #IMPLIED>

<!ELEMENT CountryCode (#PCDATA)>

<!ELEMENT AreaCode (#PCDATA)>

<!ELEMENT PhoneNumber (#PCDATA)>

<!ELEMENT EmailAddress (#PCDATA)>

<!ELEMENT Fax (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST Fax Type CDATA #IMPLIED>

<!ELEMENT GlobalPartnerRoleClassificationCode (#PCDATA)>

<!ELEMENT PartnerDescription (GlobalPartnerClassificationCode,
BusinessDescription)>

<!ELEMENT GlobalPartnerClassificationCode (#PCDATA)>

<!ELEMENT BusinessDescription (GlobalBusinessIdentifier, GlobalSupplyChainCode)>

<!ELEMENT GlobalBusinessIdentifier (#PCDATA)>
```

RFQ Document Type Definition (continued)

```
<!ELEMENT GlobalSupplyChainCode (#PCDATA)>

<!ELEMENT ToRole (PartnerRoleDescription)>

<!ELEMENT Body (Properties?, Partners, Details)>

<!ELEMENT Properties (EffectiveDates?, Language?, Currency?,
GlobalPaymentMethodCode?, GlobalShipmentTermsCode?)>

<!ELEMENT EffectiveDates (BeginDate, EndDate)>

<!ELEMENT BeginDate (#PCDATA)>

<!ELEMENT EndDate (#PCDATA)>

<!ELEMENT Language (#PCDATA)>

<!ELEMENT Currency (#PCDATA)>

<!ELEMENT GlobalPaymentMethodCode (#PCDATA)>

<!ELEMENT GlobalShipmentTermsCode (#PCDATA)>

<!ELEMENT Partners (PreferredCarrier?, DeliverTo, RequestedShipFrom?)>

<!ELEMENT PreferredCarrier (GlobalPartnerClassificationCode?,
PreferredCarrierCode?, PreferredCarrierName?, RequestedTransportMode?,
DeliveryTerms?, DeliveryRequirementsIndicator?, (RequestedDeliveryByDateTime |
RequestedDeliveryOnDateTime | RequestedDeliveryBetweenDateTime)?)>

<!ELEMENT PreferredCarrierCode (#PCDATA)>

<!ELEMENT PreferredCarrierName (#PCDATA)>

<!ELEMENT RequestedTransportMode (#PCDATA)>

<!ELEMENT DeliveryTerms (#PCDATA)>

<!ELEMENT DeliveryRequirementsIndicator (#PCDATA)>

<!ELEMENT RequestedDeliveryByDateTime (#PCDATA)>

<!ELEMENT RequestedDeliveryOnDateTime (#PCDATA)>

<!ELEMENT RequestedDeliveryBetweenDateTime (RequestedDeliveryStartDateTime,
RequestedDeliveryEndDateTime)>

<!ELEMENT RequestedDeliveryStartDateTime (#PCDATA)>

<!ELEMENT RequestedDeliveryEndDateTime (#PCDATA)>

<!ELEMENT DeliverTo (DeliverToPartnerData)>
```

RFQ Document Type Definition (continued)

```
<!ELEMENT DeliverToPartnerData (GlobalLocationIdentifier?, PartnerName*,
ContactInformation*, AddressLine*, CityName?, GlobalCountryCode?,
NationalPostalCode?, RegionName?)>

<!ELEMENT GlobalLocationIdentifier (#PCDATA)>

<!ELEMENT PartnerName (#PCDATA)>

<!ELEMENT AddressLine (#PCDATA)>

<!ELEMENT CityName (#PCDATA)>

<!ELEMENT GlobalCountryCode (#PCDATA)>

<!ELEMENT NationalPostalCode (#PCDATA)>

<!ELEMENT RegionName (#PCDATA)>

<!ELEMENT RequestedShipFrom (PartnerData)>

<!ELEMENT PartnerData (GlobalLocationIdentifier?, PartnerName*,
ContactInformation*, AddressLine*, CityName?, GlobalCountryCode?,
NationalPostalCode?, RegionName?, PostOfficeBoxIdentifier?)>

<!ELEMENT PostOfficeBoxIdentifier (#PCDATA)>

<!ELEMENT Details (ServicesAdministrationNumber?, ProductLineItem+)>

<!ELEMENT ServicesAdministrationNumber (#PCDATA)>

<!ELEMENT ProductLineItem (LineNumber?, MaterialDescription,
GlobalShipmentTermsCode, ShippingServiceLevelCode, SpecialFulfillmentRequestCode?,
ContractIdentifier?, MaterialQuantity, ProjectedVolume?, StandardOrderQuantity?,
RequestedAgreementPeriod?, RequestedFirstOrderDate?, RequestedPackaging?,
RequestedPrice?, (RequestedDeliveryByDateTime | RequestedDeliveryOnDateTime |
RequestedDeliveryBetweenDateTime)?, ManualIntervensionRequired?,
RequestedQoteResponseMethod?, SpecialMarkingLabel?, SpecialHandlingInstruction*,
PlannedEndUse?, PreferredCarrier?, DeliverTo)>

<!ELEMENT LineNumber (#PCDATA)>

<!ELEMENT MaterialDescription (#PCDATA)>

<!ELEMENT ShippingServiceLevelCode (#PCDATA)>

<!ELEMENT SpecialFulfillmentRequestCode (#PCDATA)>

<!ELEMENT ContractIdentifier (#PCDATA)>

<!ELEMENT MaterialQuantity (#PCDATA)>
<!ATTLIST MaterialQuantity GlobalMaterialUnitOfMeasureCode CDATA #IMPLIED>

<!ELEMENT ProjectedVolume (#PCDATA)>
```

RFQ Document Type Definition (continued)

```
<!ELEMENT StandardOrderQuantity (#PCDATA)>
<!ATTLIST StandardOrderQuantity GlobalMaterialUnitOfMeasureCode CDATA #IMPLIED>

<!ELEMENT RequestedAgreementPeriod (#PCDATA)>

<!ELEMENT RequestedFirstOrderDate (#PCDATA)>

<!ELEMENT RequestedPackaging (#PCDATA)>

<!ELEMENT RequestedPrice (#PCDATA)>

<!ELEMENT ManualIntervensionRequired (#PCDATA)>

<!ELEMENT RequestedQoteResponseMethod (PreferredContactMethod, ContactInformation)>

<!ELEMENT PreferredContactMethod (#PCDATA)>

<!ELEMENT SpecialMarkingLabel (#PCDATA)>

<!ELEMENT SpecialHandlingInstruction (#PCDATA)>

<!ELEMENT PlannedEndUse (#PCDATA)>
```

Customer Specific Catalog Update

Customer Specific Catalog Update updates the entries in a Customer Specific Catalog. This transaction adds, updates or deletes whole products or their related pricing information for a specified Buyer at an item/location level.

Customer Specific Catalog Update Data Model

Key:

Icon	Description
~	Data element has attribute(s)
?	Data element occurs 0-1 times
*	Data element occurs 0-many times
+	Data element occurs 1-many times
< connecting data elements	Contains one of the child data elements
[connecting data elements	Contains all of the child data elements
Square box with lines	Data

Figure 1: CustomerSpecificCatalogUpdate structure

Customer Specific Catalog Update Data Model (continued)

Figure 2: Header structure

Figure 3: PartnerRoleDescription structure

Figure 4: Properties structure

Figure 5: Details structure

Customer Specific Catalog Update Data Model (continued)

Figure 6: ProductInformation structure

Figure 7: PriceStructure structure

Customer Specific Catalog Update DTD

```
<!--CustomerSpecificCatalogUpdate-->

<!ELEMENT CustomerSpecificCatalogUpdate (Header, Body)>
<!ATTLIST CustomerSpecificCatalogUpdate Version CDATA #IMPLIED>

<!ELEMENT Header (ThisDocumentGenerationDateTime, ThisDocumentIdentifier,
RequestingDocumentIdentifier?, RequestingDocumentDateTime?,
GlobalDocumentFunctionCode, FromRole, ToRole)>

<!ELEMENT ThisDocumentGenerationDateTime (#PCDATA)>

<!ELEMENT ThisDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentDateTime (#PCDATA)>

<!ELEMENT GlobalDocumentFunctionCode (#PCDATA)>
```

```
<!ELEMENT FromRole (PartnerRoleDescription)>

<!ELEMENT PartnerRoleDescription (ContactInformation?,
GlobalPartnerRoleClassificationCode, PartnerDescription)>

<!ELEMENT ContactInformation (ContactName?, TelephoneNumber?, EmailAddress?, Fax?)>

<!ELEMENT ContactName (#PCDATA)>

<!ELEMENT TelephoneNumber (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST TelephoneNumber Type CDATA #IMPLIED>

<!ELEMENT CountryCode (#PCDATA)>

<!ELEMENT AreaCode (#PCDATA)>

<!ELEMENT PhoneNumber (#PCDATA)>

<!ELEMENT EmailAddress (#PCDATA)>

<!ELEMENT Fax (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST Fax Type CDATA #IMPLIED>

<!ELEMENT GlobalPartnerRoleClassificationCode (#PCDATA)>

<!ELEMENT PartnerDescription (GlobalPartnerClassificationCode,
BusinessDescription)>

<!ELEMENT GlobalPartnerClassificationCode (#PCDATA)>

<!ELEMENT BusinessDescription (GlobalBusinessIdentifier, GlobalSupplyChainCode)>

<!ELEMENT GlobalBusinessIdentifier (#PCDATA)>

<!ELEMENT GlobalSupplyChainCode (#PCDATA)>

<!ELEMENT ToRole (PartnerRoleDescription)>

<!ELEMENT Body (Properties, Details)>

<!ELEMENT Properties (EffectiveDates, Language, Currency?)>

<!ELEMENT EffectiveDates (BeginDate, EndDate)>

<!ELEMENT BeginDate (#PCDATA)>

<!ELEMENT EndDate (#PCDATA)>

<!ELEMENT Language (#PCDATA)>

<!ELEMENT Currency (#PCDATA)>

<!ELEMENT Details (ProductLineItem+)>
```
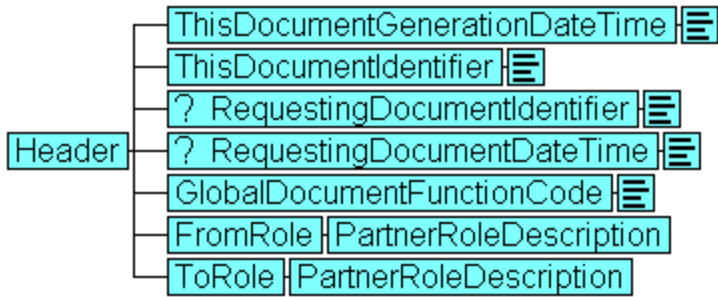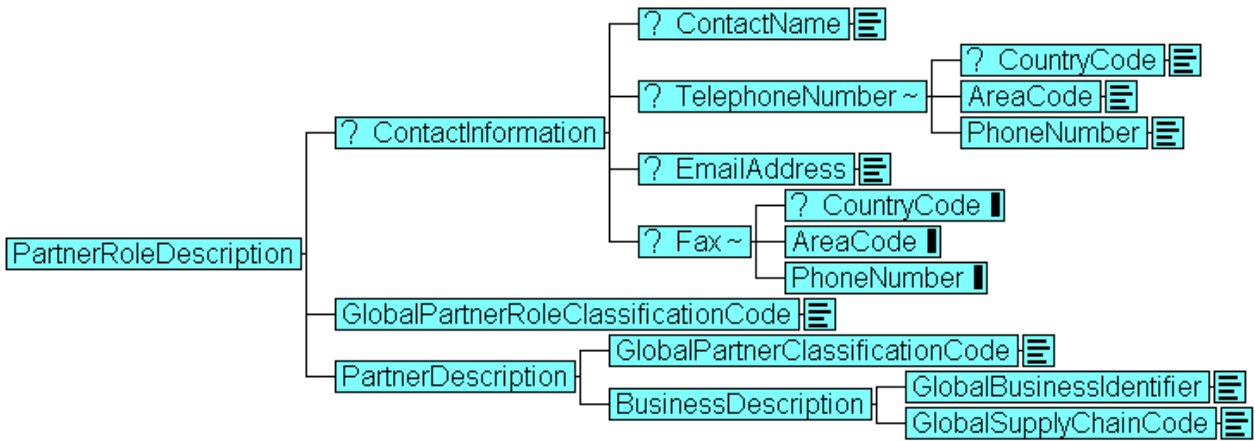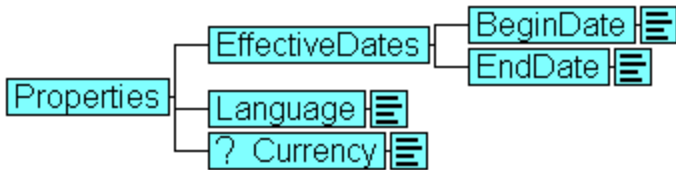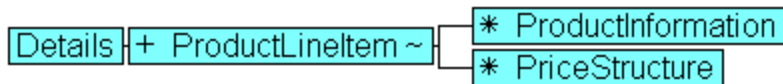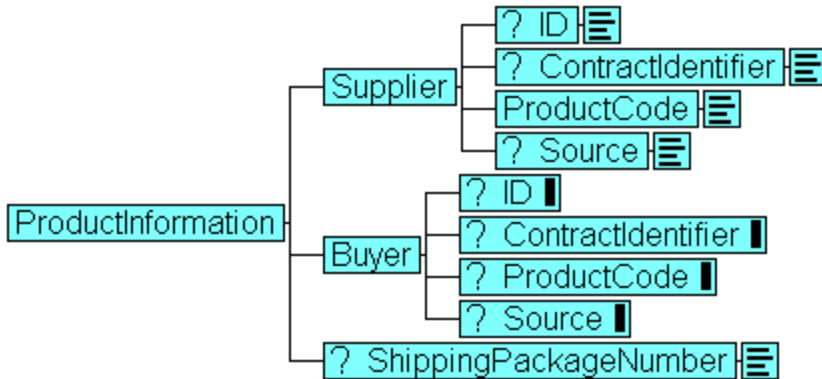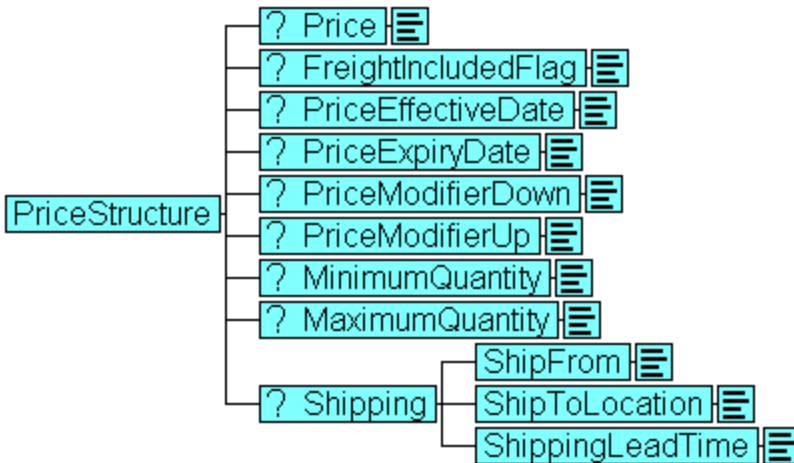
Customer Specific Catalog Update DTD (continued)

```
<!ELEMENT ProductLineItem (ProductInformation*, PriceStructure*)>
<!ATTLIST ProductLineItem Action CDATA #IMPLIED>

<!ELEMENT ProductInformation (Supplier, Buyer, ShippingPackageNumber?)>

<!ELEMENT Supplier (ID?, ContractIdentifier?, ProductCode, Source?)>

<!ELEMENT ID (#PCDATA)>

<!ELEMENT ContractIdentifier (#PCDATA)>

<!ELEMENT ProductCode (#PCDATA)>

<!ELEMENT Source (#PCDATA)>

<!ELEMENT Buyer (ID?, ContractIdentifier?, ProductCode?, Source?)>

<!ELEMENT ShippingPackageNumber (#PCDATA)>

<!ELEMENT PriceStructure (Price?, FreightIncludedFlag?, PriceEffectiveDate?,
PriceExpiryDate?, PriceModifierDown?, PriceModifierUp?, MinimumQuantity?,
MaximumQuantity?, Shipping?)>

<!ELEMENT Price (#PCDATA)>

<!ELEMENT FreightIncludedFlag (#PCDATA)>

<!ELEMENT PriceEffectiveDate (#PCDATA)>

<!ELEMENT PriceExpiryDate (#PCDATA)>

<!ELEMENT PriceModifierDown (#PCDATA)>

<!ELEMENT PriceModifierUp (#PCDATA)>

<!ELEMENT MinimumQuantity (#PCDATA)>

<!ELEMENT MaximumQuantity (#PCDATA)>

<!ELEMENT Shipping (ShipFrom, ShipToLocation, ShippingLeadTime)>

<!ELEMENT ShipFrom (#PCDATA)>

<!ELEMENT ShipToLocation (#PCDATA)>

<!ELEMENT ShippingLeadTime (#PCDATA)>
```

Product Catalog Update

The Product Catalog Update updates the entries in a Product Catalog. This transaction adds, updates or deletes whole products or their attributes and related information (e.g., specifications, descriptions, prices).

Product Catalog Update Data Model

Key:

Icon	Description
~	Data element has attribute(s)
?	Data element occurs 0-1 times
*	Data element occurs 0-many times
+	Data element occurs 1-many times
< connecting data elements	Contains one of the child data elements
[connecting data elements	Contains all of the child data elements
Square box with lines	Data

Figure 1: ProductCatalogUpdate structure
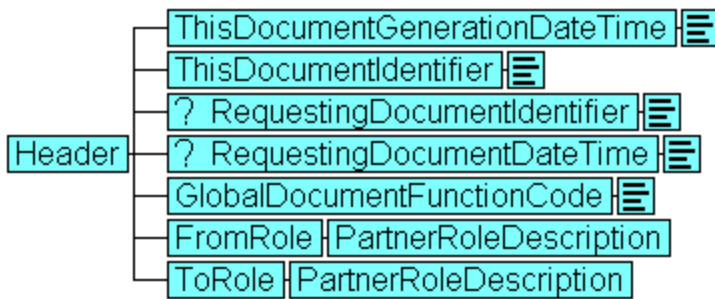
Figure 2: Header structure

Product Catalog Update Data Model (continued)

Figure 3: PartnerRoleDescription structure

Figure 4: Properties structure

Product Catalog Update Data Model (continued)

Details — + ProductLineItem ~
- Supplier
- ? Manufacturer
- FullDescription
- ShortDescription
- ? Keywords — + Keyword
- + ParametricDataset
- ? TradeName
- ? ProductFamilyName
- ? Codes
- ? OrderLeadTime
- ? RequestedPrice
- ? PriceEffectiveDate
- ? PriceExpiryDate
- ? MinimumOrderQuantity
- ? PackageCode
- ? StandardShippingPackageNumber
- ? EstimatedWeight
- ? GlobalMaterialUnitOfMeasureCode
- ? SpecialHandelingInstruction
- * ProductAvailableInCountries
- ? CountryOfOrigin
- ? ShelfLife
- ? DangerousGoodsIndicator
- ? TechnicalSpecificationsURL
- ? MSDS
- ? RestrictedOrder
- ? Restrictions
- ? HandelingCertificationRequired
- * Regulations
- ? PriceModifierDown
- ? PriceModifierUp

Figure 5: Details structure

Supplier —
- ID
- ProductCode
- ? URL

Figure 6: Supplier structure

Manufacturer —
- ID
- ProductCode
- ? URL

Figure 7: Manufacturer structure

Product Catalog Update Data Model (continued)

Figure 8: ParametricDataset structure

Figure 9: Codes structure

Figure 10: MSDS structure

Product Catalog Update DTD

```
<!--ProductCatalogUpdate-->

<!ELEMENT ProductCatalogUpdate (Header, Body)>
<!ATTLIST ProductCatalogUpdate Version CDATA #IMPLIED>

<!ELEMENT Header (ThisDocumentGenerationDateTime, ThisDocumentIdentifier,
RequestingDocumentIdentifier?, RequestingDocumentDateTime?,
GlobalDocumentFunctionCode, FromRole, ToRole)>

<!ELEMENT ThisDocumentGenerationDateTime (#PCDATA)>

<!ELEMENT ThisDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentDateTime (#PCDATA)>

<!ELEMENT GlobalDocumentFunctionCode (#PCDATA)>

<!ELEMENT FromRole (PartnerRoleDescription)>

<!ELEMENT PartnerRoleDescription (ContactInformation?,
GlobalPartnerRoleClassificationCode, PartnerDescription)>

<!ELEMENT ContactInformation (ContactName?, TelephoneNumber?, EmailAddress?, Fax?)>

<!ELEMENT ContactName (#PCDATA)>
```
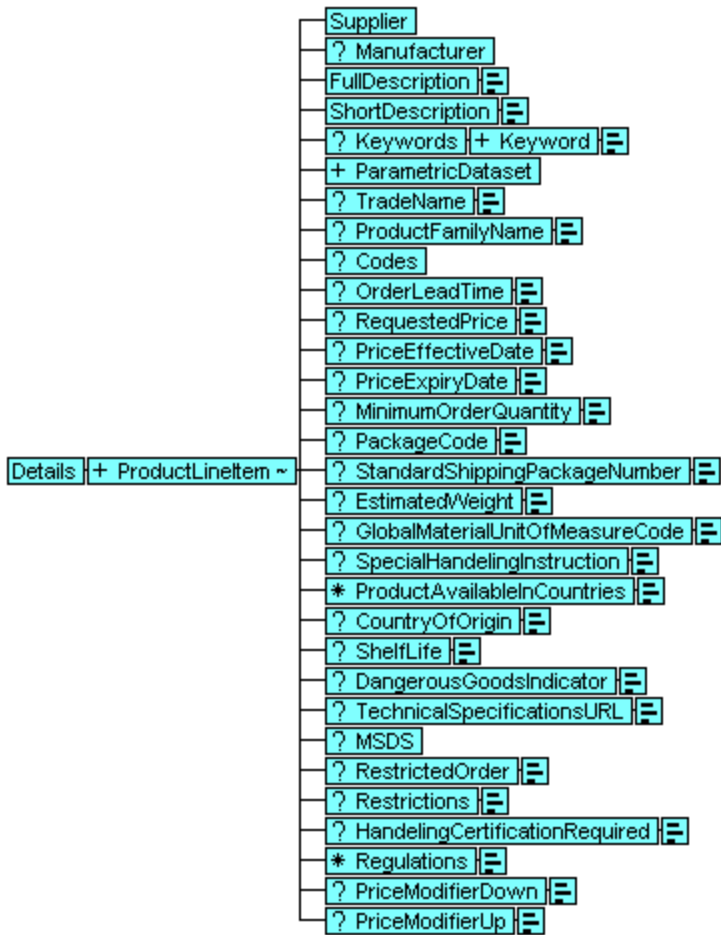
Product Catalog Update DTD (continued)

```
<!ELEMENT TelephoneNumber (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST TelephoneNumber Type CDATA #IMPLIED>

<!ELEMENT CountryCode (#PCDATA)>

<!ELEMENT AreaCode (#PCDATA)>

<!ELEMENT PhoneNumber (#PCDATA)>

<!ELEMENT EmailAddress (#PCDATA)>

<!ELEMENT Fax (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST Fax Type CDATA #IMPLIED>

<!ELEMENT GlobalPartnerRoleClassificationCode (#PCDATA)>

<!ELEMENT PartnerDescription (GlobalPartnerClassificationCode,
BusinessDescription)>

<!ELEMENT GlobalPartnerClassificationCode (#PCDATA)>

<!ELEMENT BusinessDescription (GlobalBusinessIdentifier, GlobalSupplyChainCode)>

<!ELEMENT GlobalBusinessIdentifier (#PCDATA)>

<!ELEMENT GlobalSupplyChainCode (#PCDATA)>

<!ELEMENT ToRole (PartnerRoleDescription)>

<!ELEMENT Body (Properties, Details)>

<!ELEMENT Properties (EffectiveDates, Language, Currency)>

<!ELEMENT Language (#PCDATA)>

<!ELEMENT Currency (#PCDATA)>

<!ELEMENT EffectiveDates (BeginDate, EndDate)>

<!ELEMENT BeginDate (#PCDATA)>

<!ELEMENT EndDate (#PCDATA)>

<!ELEMENT Details (ProductLineItem+)>
```
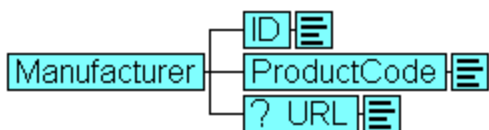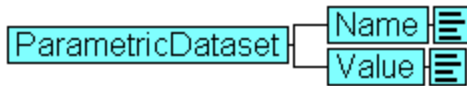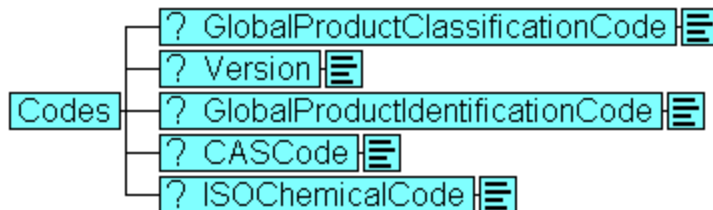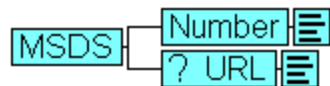
Product Catalog Update DTD (continued)

```
<!ELEMENT ProductLineItem (Supplier, Manufacturer?, FullDescription,
ShortDescription, Keywords?, ParametricDataset+, TradeName?, ProductFamilyName?,
Codes?, OrderLeadTime?, RequestedPrice?, PriceEffectiveDate?, PriceExpiryDate?,
MinimumOrderQuantity?, PackageCode?, StandardShippingPackageNumber?,
EstimatedWeight?, GlobalMaterialUnitOfMeasureCode?, SpecialHandelingInstruction?,
ProductAvailableInCountries*, CountryOfOrigin?, ShelfLife?,
DangerousGoodsIndicator?, TechnicalSpecificationsURL?, MSDS?, RestrictedOrder?,
Restrictions?, HandelingCertificationRequired?, Regulations*, PriceModifierDown?,
PriceModifierUp?)>

<!ATTLIST ProductLineItem Action CDATA #REQUIRED>

<!ELEMENT Supplier (ID, ProductCode, URL?)>

<!ELEMENT ID (#PCDATA)>

<!ELEMENT ProductCode (#PCDATA)>

<!ELEMENT URL (#PCDATA)>

<!ELEMENT Manufacturer (ID, ProductCode, URL?)>

<!ELEMENT FullDescription (#PCDATA)>

<!ELEMENT ShortDescription (#PCDATA)>

<!ELEMENT Keywords (Keyword+)>

<!ELEMENT Keyword (#PCDATA)>

<!ELEMENT ParametricDataset (Name, Value)>

<!ELEMENT Name (#PCDATA)>

<!ELEMENT Value (#PCDATA)>

<!ELEMENT TradeName (#PCDATA)>

<!ELEMENT ProductFamilyName (#PCDATA)>

<!ELEMENT Codes (GlobalProductClassificationCode?, Version?,
GlobalProductIdentificationCode?, CASCode?, ISOChemicalCode?)>

<!ELEMENT GlobalProductClassificationCode (#PCDATA)>

<!ELEMENT Version (#PCDATA)>

<!ELEMENT GlobalProductIdentificationCode (#PCDATA)>

<!ELEMENT CASCode (#PCDATA)>

<!ELEMENT ISOChemicalCode (#PCDATA)>
```

```
<!ELEMENT OrderLeadTime (#PCDATA)>

<!ELEMENT RequestedPrice (#PCDATA)>

<!ELEMENT PriceEffectiveDate (#PCDATA)>

<!ELEMENT PriceExpiryDate (#PCDATA)>

<!ELEMENT MinimumOrderQuantity (#PCDATA)>

<!ELEMENT PackageCode (#PCDATA)>

<!ELEMENT StandardShippingPackageNumber (#PCDATA)>

<!ELEMENT EstimatedWeight (#PCDATA)>

<!ELEMENT GlobalMaterialUnitOfMeasureCode (#PCDATA)>

<!ELEMENT SpecialHandelingInstruction (#PCDATA)>

<!ELEMENT ProductAvailableInCountries (#PCDATA)>

<!ELEMENT CountryOfOrigin (#PCDATA)>

<!ELEMENT ShelfLife (#PCDATA)>

<!ELEMENT DangerousGoodsIndicator (#PCDATA)>

<!ELEMENT TechnicalSpecificationsURL (#PCDATA)>

<!ELEMENT MSDS (Number, URL?)>

<!ELEMENT Number (#PCDATA)>

<!ELEMENT RestrictedOrder (#PCDATA)>

<!ELEMENT Restrictions (#PCDATA)>

<!ELEMENT HandelingCertificationRequired (#PCDATA)>

<!ELEMENT Regulations (#PCDATA)>

<!ELEMENT PriceModifierDown (#PCDATA)>

<!ELEMENT PriceModifierUp (#PCDATA)>
```

PURCHASE ORDER

Purchase Order Table of Contents

Introduction and Scope of Effort

This section of the eStandard document defines the data exchange interfaces necessary to support the interchange of order related data between Buyers, Marketplace(s) and Sellers.

Create Order
The Create Order Transaction takes place between the Marketplace or Buyer and the Seller(s). It enables new purchase order information to be communicated to the Seller.

Order Response

The Order Response Transaction is initiated by the Seller to communicate to the Buyer (either directly or through a Marketplace) the Seller's agreement to supply a specific amount of product, at a specific price, according to set pricing terms, on an agreed-upon date, using agreed-upon transportation arrangements.

Change Order

The Change Order Transaction is initiated by a Buyer (either directly or through a Marketplace) to request that an existing order be changed in specific ways.

Cancel Order

The Cancel Order Transaction is initiated by a Buyer (either directly or through a Marketplace) to request that an existing order be cancelled.

Cancel Order Response

The Cancel Order Response Transaction is initiated by a Seller to communicate to a Buyer (either directly or through a Marketplace) that an "Order Cancel" transaction has been received and has been accepted or rejected by the Seller's order processing system.

Order Status Inquiry

The Order Status Inquiry Transaction is initiated by a Buyer (either directly or through a Marketplace) to inquire about the status of an order.

Order Status

The Order Status Transaction is initiated by the Seller to communicate to the Buyer (either directly or through a Marketplace) to identify the current status of orders that have been previously placed.

Key Scope Assumptions

- All transactions are domestic.

- All transactions may be used in B2B and Business to Marketplace communications.

- All transactions were designed from a Buyer's perspective; excluded are data elements not needed by the buyer to communicate with the Seller (used only in the Seller's internal systems).

- The use of the order messages was not investigated for Buyer to Market Place interactions, but there are no known limitations for their use in these interactions.

Key Business Model Assumptions

- An order will have at least one line item.

- The order status may be pushed by the Seller or pulled Buyer/Marketplace.

- Order cancellation implies cancellation of an entire order.

- Before an order may be processed, the customer must be previously defined to the Seller's system.

- A Seller initiated response transaction is paired with each Buyer/Market place initiated transaction.

  - Create Order → Order Response

  - Change Order → Order Response

  - Cancel Order → Order Cancellation Response

  - Order Status Inquiry → Order Status

Business Process Diagram with Description

Create Order/Order Response

The Business Process Model for "Create Order" and "Order Response" using either the Marketplace or Business-to-Business models is depicted in the following diagram. Solid thick lines illustrate the transaction between the Marketplace and Seller. Dashed thick lines indicate the Buyer to Seller transactions. Solid thin lines illustrate the Buyer to Marketplace transactions (communications can be via phone, fax, email, browser, and use of this eStandard).
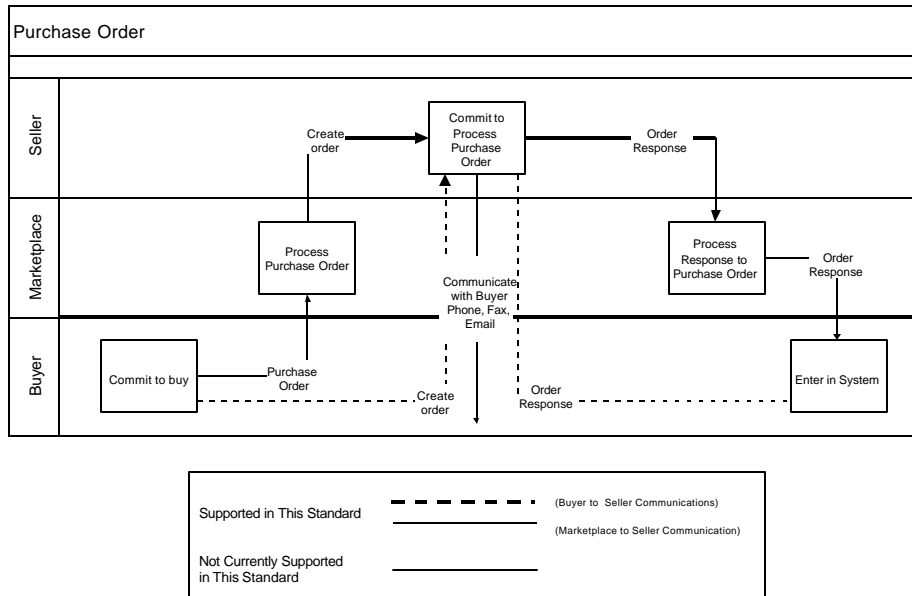
Figure 1: Create Order/Order Response transactions

The Create Order process is initiated when a Buyer commits to buy a product from a Seller.

There are two possible flows to enable this:

Business-to-Business Model
A Buyer or buying organization initially creates a Create Order message and sends the message directly to a Seller. The Seller acknowledges acceptance of the order by returning an Order Response message to the Buyer.

Marketplace Model
A Buyer or buying organization initially creates a purchase order and sends the purchase order to a Marketplace. The Marketplace processes the purchase order, generates a Create Order message and sends the message to the Seller. The Seller acknowledges acceptance of the Create Order message by returning an Order Response message to the Marketplace. The Marketplace returns the order response to the Buyer.

Change Order/Order Response

The Business Process Model for "Change Order" and "Order Response" using either the Marketplace or Business-to-Business models is depicted in the following diagram. Solid thick lines illustrate the transaction between the Marketplace and Seller. Dashed thick lines indicate the Buyer to Seller transactions. Solid thin lines illustrate the Buyer to Marketplace transactions (communications can be via phone, fax, email, browser, and use of this eStandard).
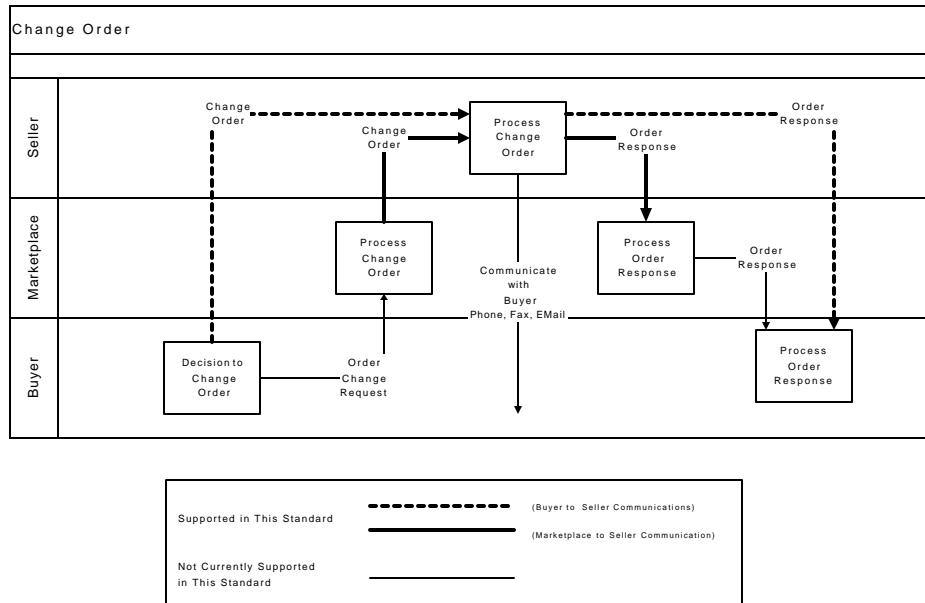
Figure 2: Change Order/Order Response transactions

The Order Change process is triggered when a Buyer decides to change an existing order that has already been received by the seller.

There are two possible flows to enable this:

Business-to-Business Model

A Buyer or buying organization changes a purchase order and sends the Change Order message directly to a Seller. The Seller acknowledges acceptance of the change by returning an Order Response message to the Buyer.

Marketplace Model

A Buyer or buying organization initially changes a purchase order and sends the order change to the Marketplace. The Marketplace processes the order change, creates a Change Order message and sends a message to the Seller. The Seller acknowledges acceptance of the Change Order by returning an Order Response message to the Marketplace. The Marketplace returns the order response to the Buyer.

Order Status/Order Status Inquiry

The Business Process Model for "Order Status" and "Order Status Inquiry" using either the Marketplace or Business-to-Business models is depicted in the following diagram. Solid thick lines illustrate the transaction between the Marketplace and Seller. Dashed thick lines indicate the Buyer to Seller transactions. Solid thin lines illustrate the Buyer to Marketplace transactions (communications can be via phone, fax, email, browser, and use of this eStandard).
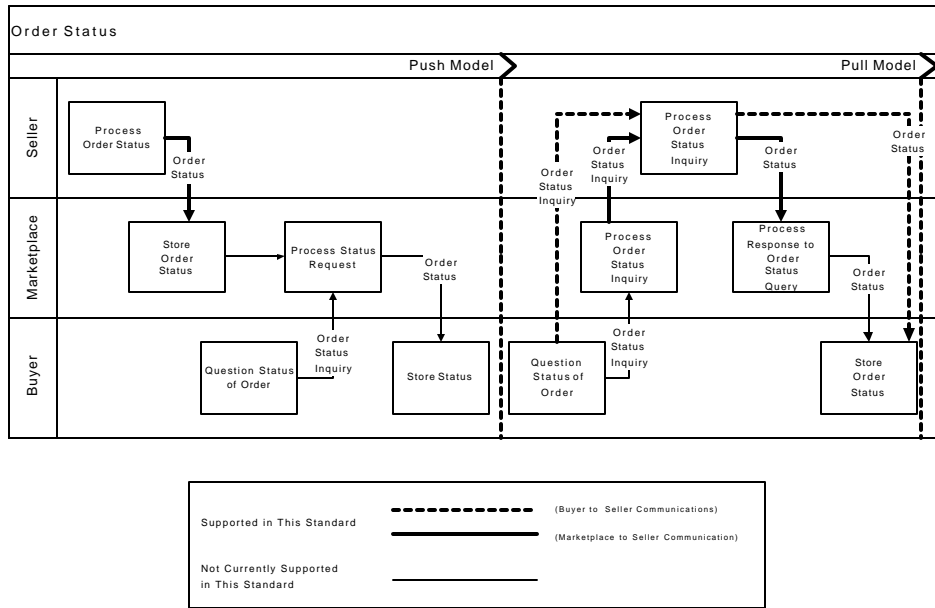

Figure 3 depicts order inquiry/order status transactions.

The Order Status process is triggered either when a Buyer inquires the status of an existing order (pull process) or when a Seller wants to make the Buyer aware of the status of an order (push process).

Push Model
There are two possible flows to enable the push process:
Business-to-Business Model
A Seller sends an Order Status message directly to the Buyer.
Marketplace Model
A Seller sends an Order Status message to a Marketplace. The Marketplace forwards the order status to the Buyer.

Pull Model
There are two possible flows to enable the pull process:
Business-to-Business Model
A Buyer or buying organization sends an Order Status Inquiry request to the Seller. The Seller sends an Order Status to the Buyer.

Marketplace Model

A Buyer sends an order status inquiry to a marketplace. The marketplace processes the request, creates an Order Status Inquiry message and sends the message to the Seller. The Seller sends an Order Status message to the Marketplace. The Marketplace forwards the order status to the Buyer.

Cancel Order/Cancel Order Response

The Business Process Model for "Cancel Order" and "Cancel Order Response" using either the Marketplace or Business-to-Business models is depicted in the following diagram. Solid thick lines illustrate the transaction between the Marketplace and Seller. Dashed thick lines indicate the Buyer to Seller transactions. Solid thin lines illustrate the Buyer to Marketplace transactions (communications can be via phone, fax, email, browser, and use of this eStandard).
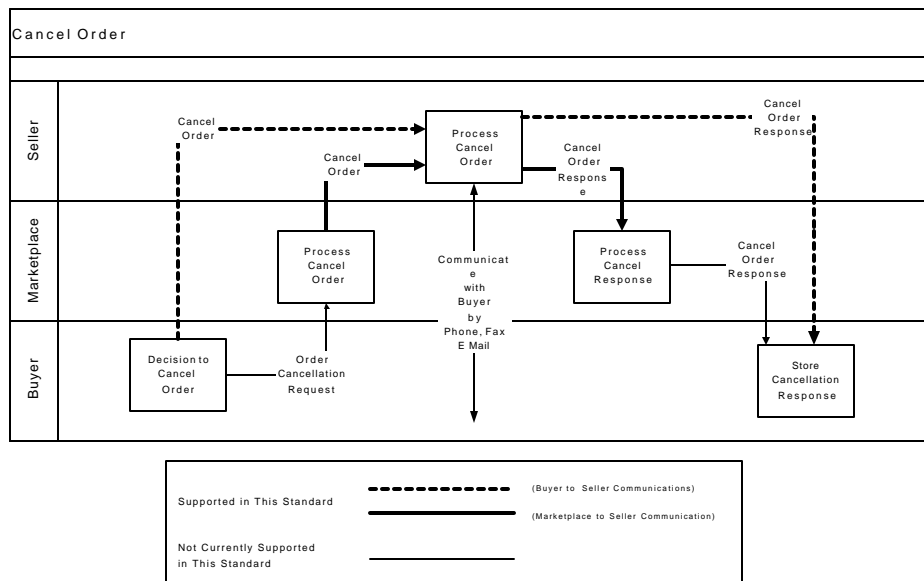

Figure 4 depicts the Cancel Order/Order Cancellation transactions

The Order Cancellation process is triggered when the Buyer determines that cancellation of an entire order is desired. The Order change process handles individual purchase order line item cancellations.

Cancel Order/Cancel Order Response (continued)

There are two possible flows to enable the cancellation process:

Business-to-Business Model

A Buyer cancels a purchase order and sends the Cancel Order message directly to a Seller. The Seller acknowledges acceptance of the cancellation by returning a Cancel Order Response message to the Buyer.

Marketplace Model

A Buyer initially cancels a purchase order and sends the request to cancel the order to a Marketplace. The Marketplace processes the request, creates a Cancel Order message and sends the message to the Seller. The Seller acknowledges acceptance of the cancellation by returning a Cancel Order Response message to the Marketplace. The Marketplace returns the cancel order response to the Buyer.

Create Order

The Create Order Transaction takes place between the Marketplace or Buyer and the Seller(s). It enables new purchase order information to be communicated to the Seller.

Create Order Data Model

Key:

Icon	Description
~	Data element has attribute(s)
?	Data element occurs 0-1 times
*	Data element occurs 0-many times
+	Data element occurs 1-many times
< connecting data elements	Contains one of the child data elements
[connecting data elements	Contains all of the child data elements
Square box with lines	Data

Figure 1: CreateOrder structure

Create Order Data Model (continued)
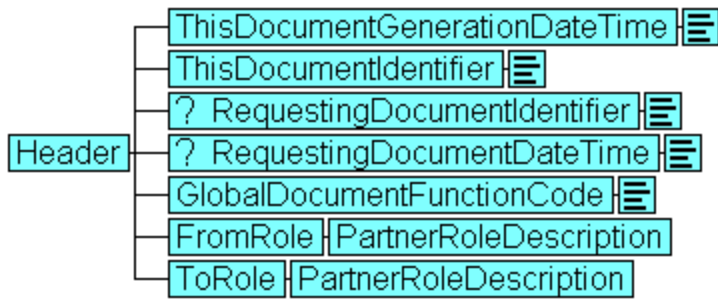
Figure 2: Header structure
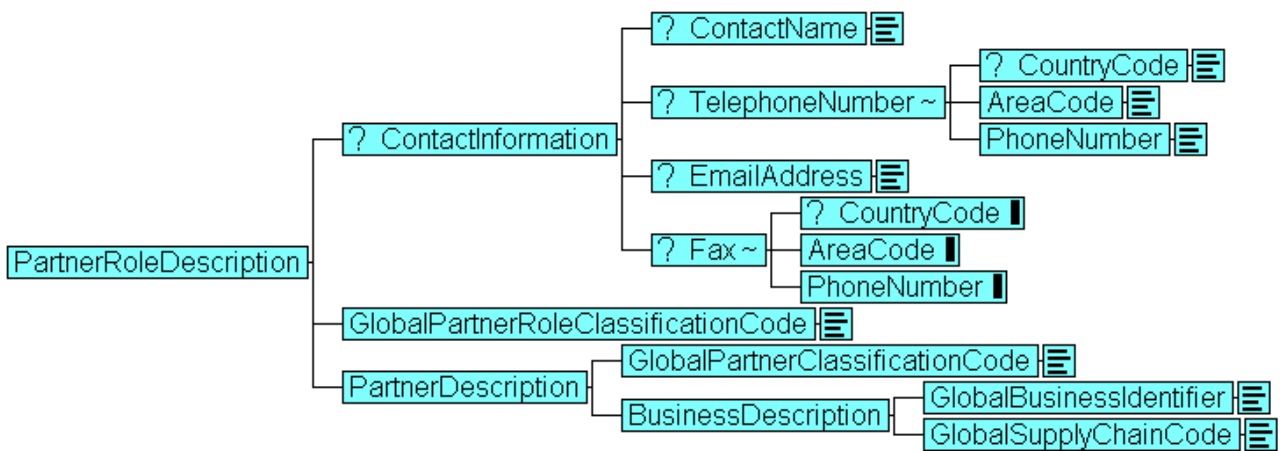
Figure 3: PartnerRoleDescription structure

Create Order Data Model (continued)

Properties
- PurchaseOrderNumber
- GlobalPurchaseOrderTypeCode
- PurchaseOrderIssuedDate
- Language
- Currency
- Purpose
- ? ReleaseNumber
- ? InvoicePreference
- ? SpecialInstructions
- RevisionNumber
- ? GlobalShipmentTermsCode
- ? Routing
- ? AccountDescription
  - ? GlobalAccountClassificationCode
  - ? AccountNumber
  - ? AccountName
  - ? ProprietaryCIDIdentifier
  - ? ExpiryDate
- ? GlobalFinanceTermsCode
- ? AcknowledgementType

Figure 4: Properties structure

Partners
- Supplier — PartnerData
- SoldTo — PartnerData
- DeliverTo — DeliverToPartnerData
- ? SecondaryBuyer — PartnerData
- BillTo — PartnerData
- ? Carrier — PartnerData

Figure 5: Partners structure

Create Order Data Model (continued)

Figure 6: PartnerData structure

Figure 7: DeliverToPartnerData structure

Create Order Data Model (continued)
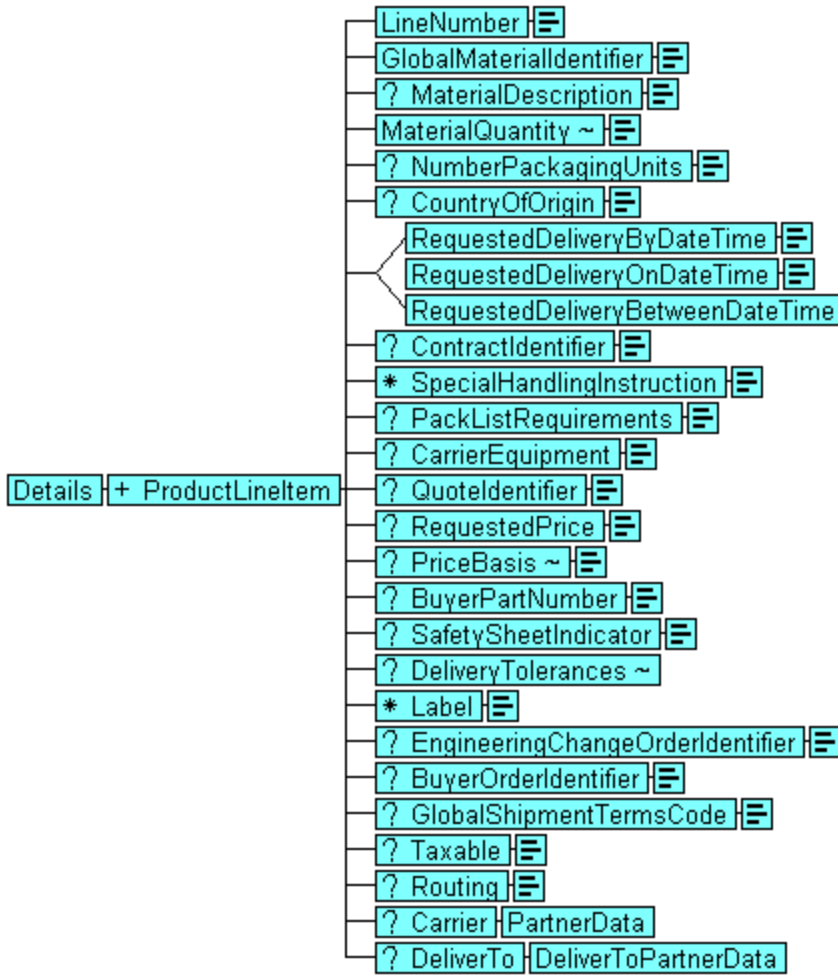
Figure 8: Details structure
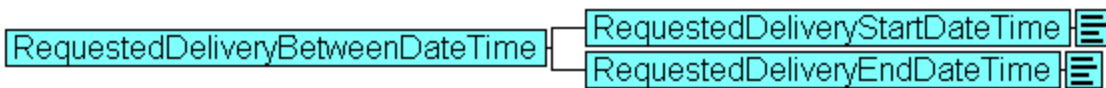
Figure 9: RequestedDeliveryBetweenDateTime
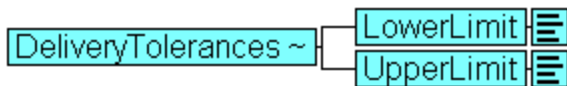
Figure 10: DeliveryTolerances structure

Create Order Document Type Definition

```
<!--CreateOrder-->

<!ELEMENT CreateOrder (Header, Body)>
<!ATTLIST CreateOrder Version CDATA #IMPLIED>

<!ELEMENT Header (ThisDocumentGenerationDateTime, ThisDocumentIdentifier,
RequestingDocumentIdentifier?, RequestingDocumentDateTime?,
GlobalDocumentFunctionCode, FromRole, ToRole)>

<!ELEMENT ThisDocumentGenerationDateTime (#PCDATA)>

<!ELEMENT ThisDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentDateTime (#PCDATA)>

<!ELEMENT GlobalDocumentFunctionCode (#PCDATA)>

<!ELEMENT FromRole (PartnerRoleDescription)>

<!ELEMENT PartnerRoleDescription (ContactInformation?,
GlobalPartnerRoleClassificationCode, PartnerDescription)>

<!ELEMENT ContactInformation (ContactName?, TelephoneNumber?, EmailAddress?, Fax?)>

<!ELEMENT ContactName (#PCDATA)>

<!ELEMENT TelephoneNumber (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST TelephoneNumber Type CDATA #IMPLIED>

<!ELEMENT CountryCode (#PCDATA)>

<!ELEMENT AreaCode (#PCDATA)>

<!ELEMENT PhoneNumber (#PCDATA)>

<!ELEMENT EmailAddress (#PCDATA)>

<!ELEMENT Fax (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST Fax Type CDATA #IMPLIED>

<!ELEMENT GlobalPartnerRoleClassificationCode (#PCDATA)>

<!ELEMENT PartnerDescription (GlobalPartnerClassificationCode,
BusinessDescription)>

<!ELEMENT GlobalPartnerClassificationCode (#PCDATA)>

<!ELEMENT BusinessDescription (GlobalBusinessIdentifier, GlobalSupplyChainCode)>

<!ELEMENT GlobalBusinessIdentifier (#PCDATA)>
```

Create Order Document Type Definition (continued)

```
<!ELEMENT GlobalSupplyChainCode (#PCDATA)>

<!ELEMENT ToRole (PartnerRoleDescription)>

<!ELEMENT Body (Properties, Partners, Details)>

<!ELEMENT Properties (PurchaseOrderNumber, GlobalPurchaseOrderTypeCode,
PurchaseOrderIssuedDate, Language, Currency, Purpose, ReleaseNumber?,
InvoicePreference?, SpecialInstructions?, RevisionNumber, GlobalShipmentTermsCode?,
Routing?, AccountDescription?, GlobalFinanceTermsCode?, AcknowledgementType?)>

<!ELEMENT PurchaseOrderNumber (#PCDATA)>

<!ELEMENT GlobalPurchaseOrderTypeCode (#PCDATA)>

<!ELEMENT PurchaseOrderIssuedDate (#PCDATA)>

<!ELEMENT Language (#PCDATA)>

<!ELEMENT Currency (#PCDATA)>

<!ELEMENT Purpose (#PCDATA)>

<!ELEMENT ReleaseNumber (#PCDATA)>

<!ELEMENT InvoicePreference (#PCDATA)>

<!ELEMENT SpecialInstructions (#PCDATA)>

<!ELEMENT RevisionNumber (#PCDATA)>

<!ELEMENT GlobalShipmentTermsCode (#PCDATA)>

<!ELEMENT Routing (#PCDATA)>

<!ELEMENT AccountDescription (GlobalAccountClassificationCode?, AccountNumber?,
AccountName?, ProprietaryCIDIdentifier?, ExpiryDate?)>

<!ELEMENT GlobalAccountClassificationCode (#PCDATA)>

<!ELEMENT AccountNumber (#PCDATA)>

<!ELEMENT AccountName (#PCDATA)>

<!ELEMENT ProprietaryCIDIdentifier (#PCDATA)>

<!ELEMENT ExpiryDate (#PCDATA)>

<!ELEMENT GlobalFinanceTermsCode (#PCDATA)>

<!ELEMENT AcknowledgementType (#PCDATA)>
```

Create Order Document Type Definition (continued)

```
<!ELEMENT Partners (Supplier, SoldTo, DeliverTo, SecondaryBuyer?, BillTo,
Carrier?)>

<!ELEMENT Supplier (PartnerData)>

<!ELEMENT PartnerData (GlobalLocationIdentifier, PartnerName*, ContactInformation*,
AddressLine*, CityName?, GlobalCountryCode?, NationalPostalCode?, RegionName?,
PostOfficeBoxIdentifier?)>

<!ELEMENT GlobalLocationIdentifier (#PCDATA)>

<!ELEMENT PartnerName (#PCDATA)>

<!ELEMENT AddressLine (#PCDATA)>

<!ELEMENT CityName (#PCDATA)>

<!ELEMENT GlobalCountryCode (#PCDATA)>

<!ELEMENT NationalPostalCode (#PCDATA)>

<!ELEMENT RegionName (#PCDATA)>

<!ELEMENT PostOfficeBoxIdentifier (#PCDATA)>

<!ELEMENT SoldTo (PartnerData)>

<!ELEMENT DeliverTo (DeliverToPartnerData)>

<!ELEMENT DeliverToPartnerData (GlobalLocationIdentifier?, PartnerName*,
ContactInformation*, AddressLine*, CityName?, GlobalCountryCode?,
NationalPostalCode?, RegionName?)>

<!ELEMENT SecondaryBuyer (PartnerData)>

<!ELEMENT BillTo (PartnerData)>

<!ELEMENT Carrier (PartnerData)>

<!ELEMENT Details (ProductLineItem+)>

<!ELEMENT ProductLineItem (LineNumber, GlobalMaterialIdentifier,
MaterialDescription?, MaterialQuantity, NumberPackagingUnits?, CountryOfOrigin?,
(RequestedDeliveryByDateTime | RequestedDeliveryOnDateTime |
RequestedDeliveryBetweenDateTime), ContractIdentifier?,
SpecialHandlingInstruction*, PackListRequirements?, CarrierEquipment?,
QuoteIdentifier?, RequestedPrice?, PriceBasis?, BuyerPartNumber?,
SafetySheetIndicator?, DeliveryTolerances?, Label*,
EngineeringChangeOrderIdentifier?, BuyerOrderIdentifier?, GlobalShipmentTermsCode?,
Taxable?, Routing?, Carrier?, DeliverTo?)>

<!ELEMENT LineNumber (#PCDATA)>
```

```
<!ELEMENT GlobalMaterialIdentifier (#PCDATA)>

<!ELEMENT MaterialDescription (#PCDATA)>

<!ELEMENT MaterialQuantity (#PCDATA)>
<!ATTLIST MaterialQuantity GlobalMaterialUnitOfMeasureCode CDATA #IMPLIED>

<!ELEMENT NumberPackagingUnits (#PCDATA)>

<!ELEMENT CountryOfOrigin (#PCDATA)>

<!ELEMENT RequestedDeliveryByDateTime (#PCDATA)>

<!ELEMENT RequestedDeliveryOnDateTime (#PCDATA)>

<!ELEMENT RequestedDeliveryBetweenDateTime (RequestedDeliveryStartDateTime,
RequestedDeliveryEndDateTime)>

<!ELEMENT RequestedDeliveryStartDateTime (#PCDATA)>

<!ELEMENT RequestedDeliveryEndDateTime (#PCDATA)>

<!ELEMENT ContractIdentifier (#PCDATA)>

<!ELEMENT SpecialHandlingInstruction (#PCDATA)>

<!ELEMENT PackListRequirements (#PCDATA)>

<!ELEMENT CarrierEquipment (#PCDATA)>

<!ELEMENT QuoteIdentifier (#PCDATA)>

<!ELEMENT RequestedPrice (#PCDATA)>

<!ELEMENT PriceBasis (#PCDATA)>
<!ATTLIST PriceBasis GlobalMaterialUnitOfMeasureCode CDATA #IMPLIED>

<!ELEMENT BuyerPartNumber (#PCDATA)>

<!ELEMENT SafetySheetIndicator (#PCDATA)>

<!ELEMENT DeliveryTolerances (LowerLimit, UpperLimit)>
<!ATTLIST DeliveryTolerances GlobalMaterialUnitOfMeasureCode CDATA #IMPLIED>

<!ELEMENT LowerLimit (#PCDATA)>

<!ELEMENT UpperLimit (#PCDATA)>

<!ELEMENT Label (#PCDATA)>

<!ELEMENT EngineeringChangeOrderIdentifier (#PCDATA)>
```

Create Order Document Type Definition (continued)

```
<!ELEMENT BuyerOrderIdentifier (#PCDATA)>

<!ELEMENT Taxable (#PCDATA)>
```

Change Order

The Change Order Transaction is initiated by a Buyer (either directly or through a Marketplace) to request that an existing order be changed in specific ways.

Change Order Data Model

Key:

Icon	Description
~	Data element has attribute(s)
?	Data element occurs 0-1 times
*	Data element occurs 0-many times
+	Data element occurs 1-many times
< connecting data elements	Contains one of the child data elements
[connecting data elements	Contains all of the child data elements
Square box with lines	Data

Figure 1: ChangeOrder structure
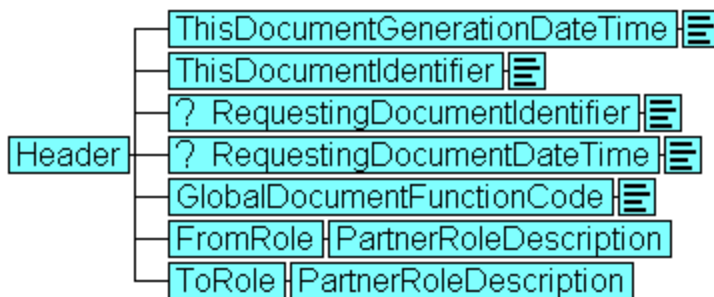
Figure 2: Header structure

Change Order Data Model (continued)
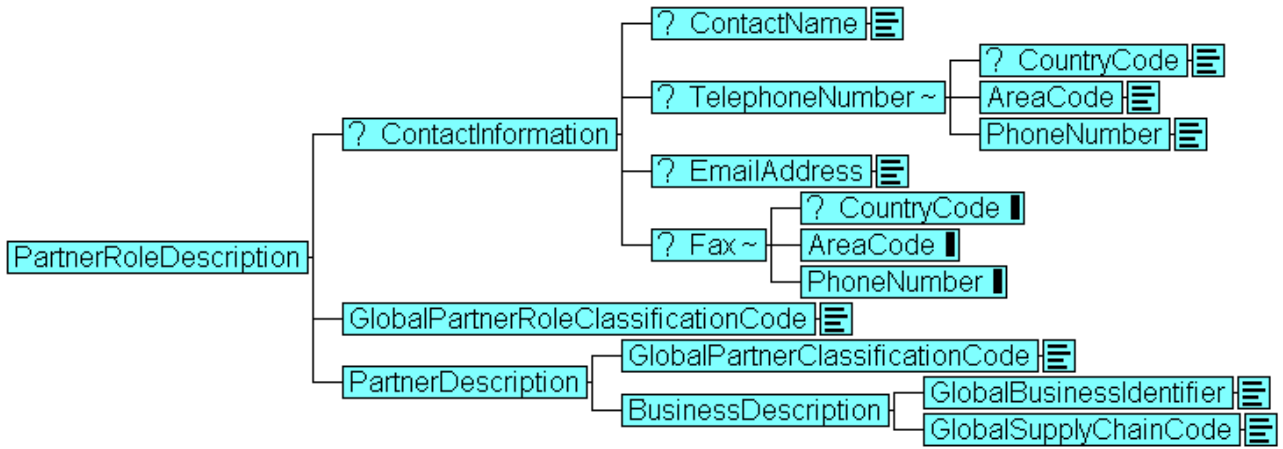
Figure 3: PartnerRoleDescription structure
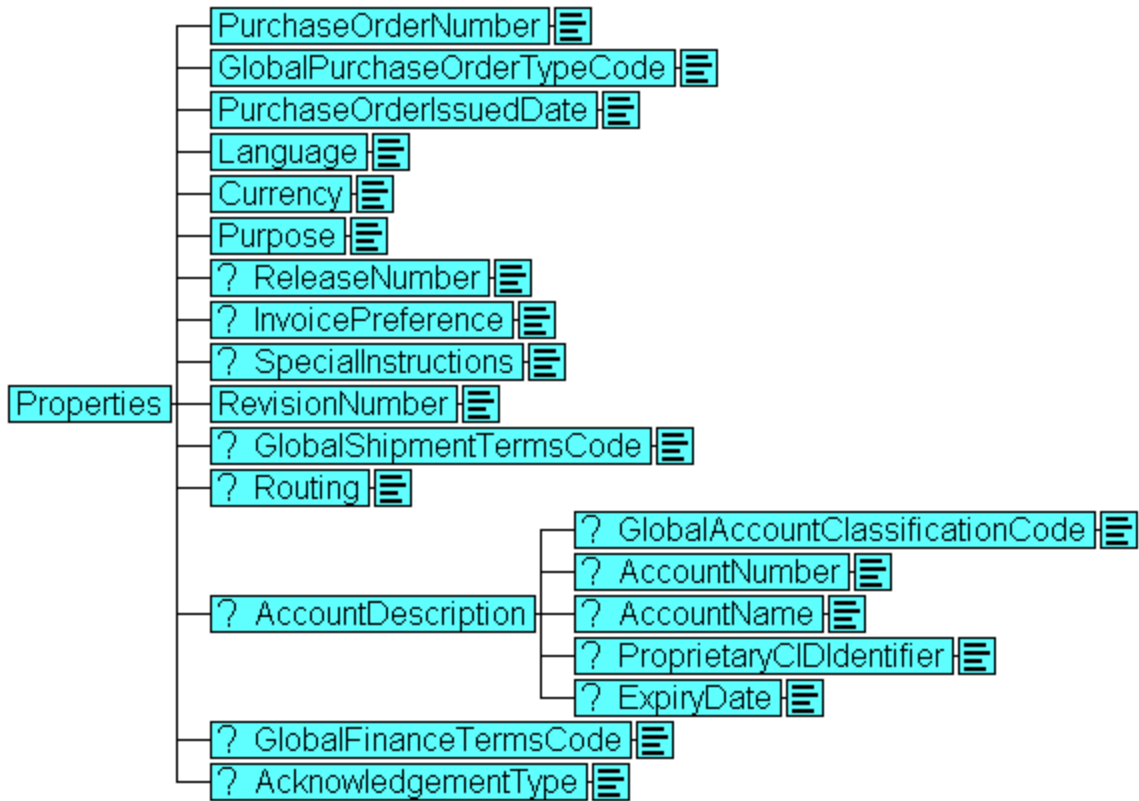
Figure 4: Properties structure

Change Order Data Model (continued)
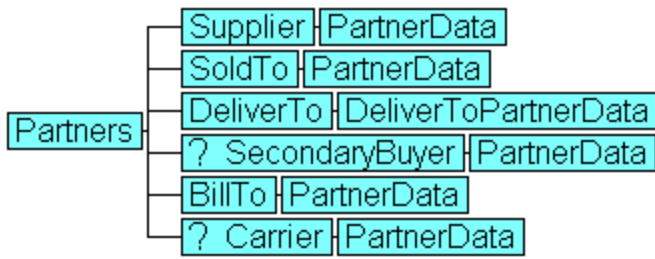
Figure 5: Partners structure
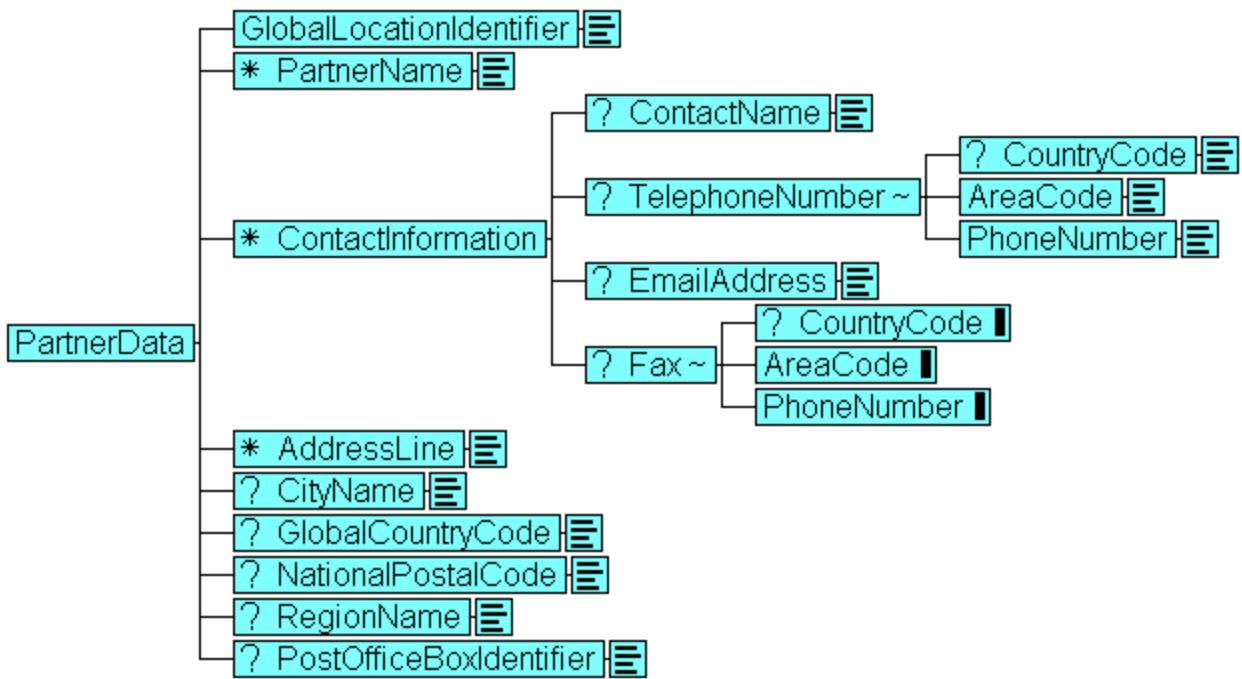
Figure 6: PartnerData structure

Change Order Data Model (continued)
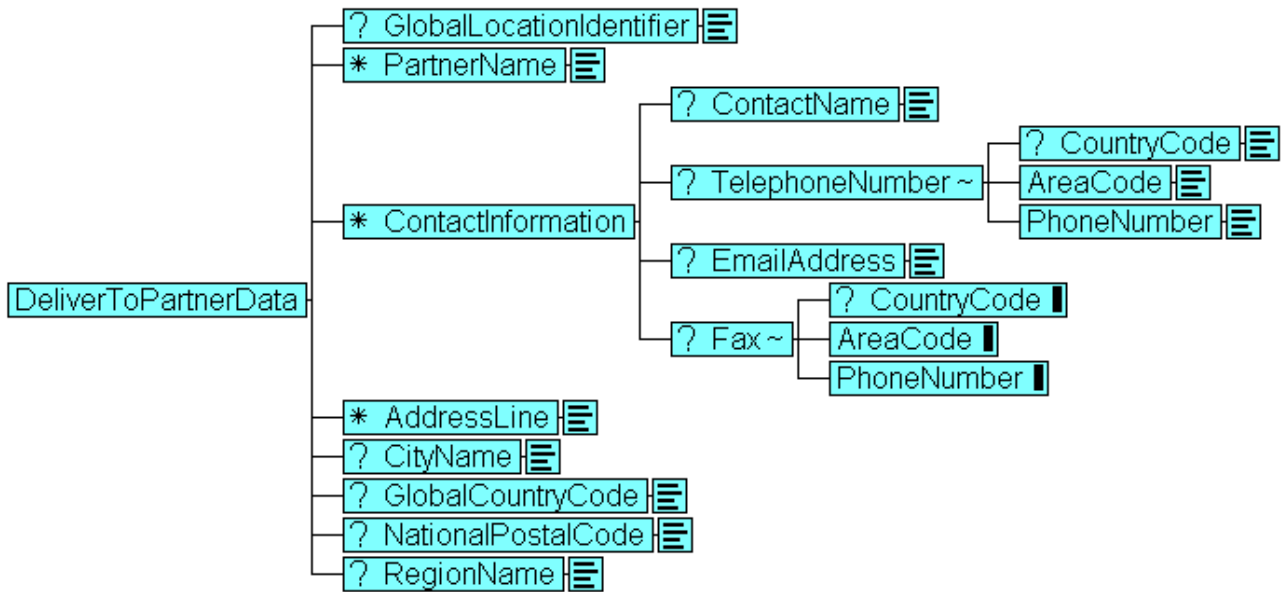
Figure 7: DeliverToPartnerData structure
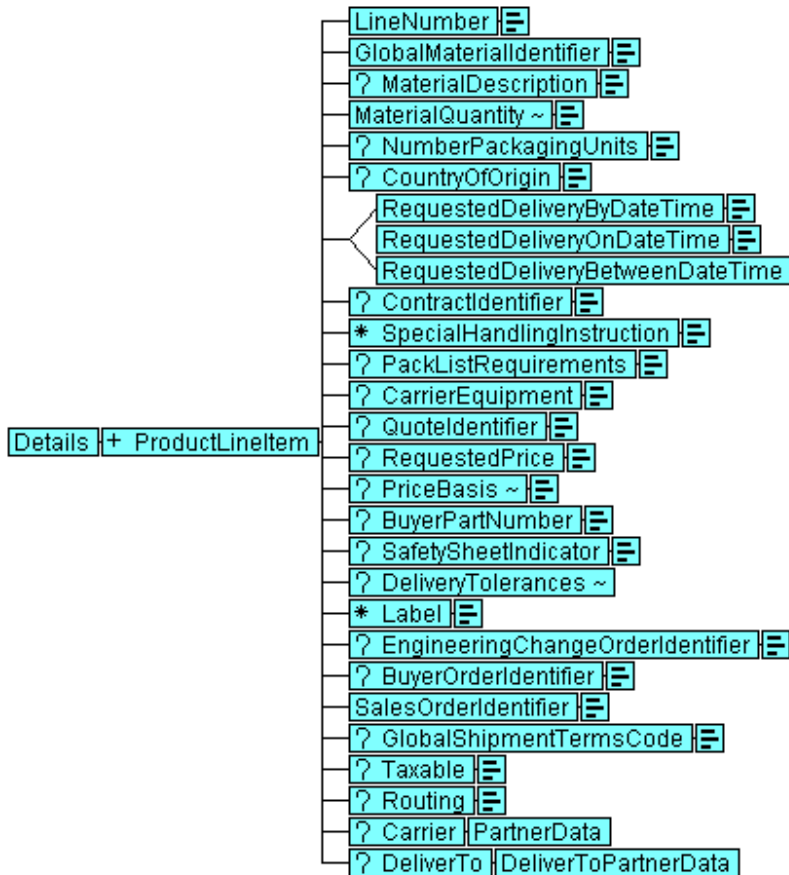
Figure 8: Details structure

Change Order Data Model (continued)

Figure 9: RequestedDeliveryBetweenDateTime structure
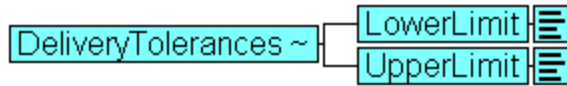
Figure 10: DeliveryTolerances structure

Change Order Document Type Definition

```
<!--ChangeOrder-->

<!ELEMENT ChangeOrder (Header, Body)>
<!ATTLIST ChangeOrder Version CDATA #IMPLIED>

<!ELEMENT Header (ThisDocumentGenerationDateTime, ThisDocumentIdentifier,
RequestingDocumentIdentifier?, RequestingDocumentDateTime?,
GlobalDocumentFunctionCode, FromRole, ToRole)>

<!ELEMENT ThisDocumentGenerationDateTime (#PCDATA)>

<!ELEMENT ThisDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentDateTime (#PCDATA)>

<!ELEMENT GlobalDocumentFunctionCode (#PCDATA)>

<!ELEMENT FromRole (PartnerRoleDescription)>

<!ELEMENT PartnerRoleDescription (ContactInformation?,
GlobalPartnerRoleClassificationCode, PartnerDescription)>

<!ELEMENT ContactInformation (ContactName?, TelephoneNumber?, EmailAddress?, Fax?)>

<!ELEMENT ContactName (#PCDATA)>

<!ELEMENT TelephoneNumber (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST TelephoneNumber Type CDATA #IMPLIED>

<!ELEMENT CountryCode (#PCDATA)>

<!ELEMENT AreaCode (#PCDATA)>

<!ELEMENT PhoneNumber (#PCDATA)>
```

Change Order Document Type Definition (continued)

```
<!ELEMENT EmailAddress (#PCDATA)>

<!ELEMENT Fax (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST Fax Type CDATA #IMPLIED>

<!ELEMENT GlobalPartnerRoleClassificationCode (#PCDATA)>

<!ELEMENT PartnerDescription (GlobalPartnerClassificationCode,
BusinessDescription)>

<!ELEMENT GlobalPartnerClassificationCode (#PCDATA)>

<!ELEMENT BusinessDescription (GlobalBusinessIdentifier, GlobalSupplyChainCode)>

<!ELEMENT GlobalBusinessIdentifier (#PCDATA)>

<!ELEMENT GlobalSupplyChainCode (#PCDATA)>

<!ELEMENT ToRole (PartnerRoleDescription)>

<!ELEMENT Body (Properties, Partners, Details)>

<!ELEMENT Properties (PurchaseOrderNumber, GlobalPurchaseOrderTypeCode,
PurchaseOrderIssuedDate, Language, Currency, Purpose, ReleaseNumber?,
InvoicePreference?, SpecialInstructions?, RevisionNumber, GlobalShipmentTermsCode?,
Routing?, AccountDescription?, GlobalFinanceTermsCode?, AcknowledgementType?)>

<!ELEMENT PurchaseOrderNumber (#PCDATA)>

<!ELEMENT GlobalPurchaseOrderTypeCode (#PCDATA)>

<!ELEMENT PurchaseOrderIssuedDate (#PCDATA)>

<!ELEMENT Language (#PCDATA)>

<!ELEMENT Currency (#PCDATA)>

<!ELEMENT Purpose (#PCDATA)>

<!ELEMENT ReleaseNumber (#PCDATA)>

<!ELEMENT InvoicePreference (#PCDATA)>

<!ELEMENT SpecialInstructions (#PCDATA)>

<!ELEMENT RevisionNumber (#PCDATA)>

<!ELEMENT GlobalShipmentTermsCode (#PCDATA)>

<!ELEMENT Routing (#PCDATA)>
```

Change Order Document Type Definition (continued)

```
<!ELEMENT AccountDescription (GlobalAccountClassificationCode?, AccountNumber?,
AccountName?, ProprietaryCIDIdentifier?, ExpiryDate?)>

<!ELEMENT GlobalAccountClassificationCode (#PCDATA)>

<!ELEMENT AccountNumber (#PCDATA)>

<!ELEMENT AccountName (#PCDATA)>

<!ELEMENT ProprietaryCIDIdentifier (#PCDATA)>

<!ELEMENT ExpiryDate (#PCDATA)>

<!ELEMENT GlobalFinanceTermsCode (#PCDATA)>

<!ELEMENT AcknowledgementType (#PCDATA)>

<!ELEMENT Partners (Supplier, SoldTo, DeliverTo, SecondaryBuyer?, BillTo,
Carrier?)>

<!ELEMENT Supplier (PartnerData)>

<!ELEMENT PartnerData (GlobalLocationIdentifier, PartnerName*, ContactInformation*,
AddressLine*, CityName?, GlobalCountryCode?, NationalPostalCode?, RegionName?,
PostOfficeBoxIdentifier?)>

<!ELEMENT GlobalLocationIdentifier (#PCDATA)>

<!ELEMENT PartnerName (#PCDATA)>

<!ELEMENT AddressLine (#PCDATA)>

<!ELEMENT CityName (#PCDATA)>

<!ELEMENT GlobalCountryCode (#PCDATA)>

<!ELEMENT NationalPostalCode (#PCDATA)>

<!ELEMENT RegionName (#PCDATA)>

<!ELEMENT PostOfficeBoxIdentifier (#PCDATA)>

<!ELEMENT SoldTo (PartnerData)>

<!ELEMENT DeliverTo (DeliverToPartnerData)>

<!ELEMENT DeliverToPartnerData (GlobalLocationIdentifier?, PartnerName*,
ContactInformation*, AddressLine*, CityName?, GlobalCountryCode?,
NationalPostalCode?, RegionName?)>

<!ELEMENT SecondaryBuyer (PartnerData)>
```

Change Order Document Type Definition (continued)

```
<!ELEMENT BillTo (PartnerData)>

<!ELEMENT Carrier (PartnerData)>

<!ELEMENT Details (ProductLineItem+)>

<!ELEMENT ProductLineItem (LineNumber, GlobalMaterialIdentifier,
MaterialDescription?, MaterialQuantity, NumberPackagingUnits?, CountryOfOrigin?,
(RequestedDeliveryByDateTime | RequestedDeliveryOnDateTime |
RequestedDeliveryBetweenDateTime), ContractIdentifier?,
SpecialHandlingInstruction*, PackListRequirements?, CarrierEquipment?,
QuoteIdentifier?, RequestedPrice?, PriceBasis?, BuyerPartNumber?,
SafetySheetIndicator?, DeliveryTolerances?, Label*,
EngineeringChangeOrderIdentifier?, BuyerOrderIdentifier?, SalesOrderIdentifier,
GlobalShipmentTermsCode?, Taxable?, Routing?, Carrier?, DeliverTo?)>

<!ELEMENT LineNumber (#PCDATA)>

<!ELEMENT GlobalMaterialIdentifier (#PCDATA)>

<!ELEMENT MaterialDescription (#PCDATA)>

<!ELEMENT MaterialQuantity (#PCDATA)>
<!ATTLIST MaterialQuantity GlobalMaterialUnitOfMeasureCode CDATA #IMPLIED>

<!ELEMENT NumberPackagingUnits (#PCDATA)>

<!ELEMENT CountryOfOrigin (#PCDATA)>

<!ELEMENT RequestedDeliveryByDateTime (#PCDATA)>

<!ELEMENT RequestedDeliveryOnDateTime (#PCDATA)>

<!ELEMENT RequestedDeliveryBetweenDateTime (RequestedDeliveryStartDateTime,
RequestedDeliveryEndDateTime)>

<!ELEMENT RequestedDeliveryStartDateTime (#PCDATA)>

<!ELEMENT RequestedDeliveryEndDateTime (#PCDATA)>

<!ELEMENT ContractIdentifier (#PCDATA)>

<!ELEMENT SpecialHandlingInstruction (#PCDATA)>

<!ELEMENT PackListRequirements (#PCDATA)>

<!ELEMENT CarrierEquipment (#PCDATA)>

<!ELEMENT QuoteIdentifier (#PCDATA)>

<!ELEMENT RequestedPrice (#PCDATA)>
```

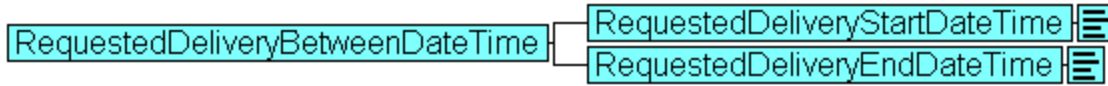**Change Order Document Type Definition** (continued)

```
<!ELEMENT PriceBasis (#PCDATA)>
<!ATTLIST PriceBasis GlobalMaterialUnitOfMeasureCode CDATA #IMPLIED>

<!ELEMENT BuyerPartNumber (#PCDATA)>

<!ELEMENT SafetySheetIndicator (#PCDATA)>

<!ELEMENT DeliveryTolerances (LowerLimit, UpperLimit)>
<!ATTLIST DeliveryTolerances GlobalMaterialUnitOfMeasureCode CDATA #IMPLIED>

<!ELEMENT LowerLimit (#PCDATA)>

<!ELEMENT UpperLimit (#PCDATA)>

<!ELEMENT Label (#PCDATA)>

<!ELEMENT EngineeringChangeOrderIdentifier (#PCDATA)>

<!ELEMENT BuyerOrderIdentifier (#PCDATA)>

<!ELEMENT SalesOrderIdentifier (#PCDATA)>

<!ELEMENT Taxable (#PCDATA)>
```

Order Response

The Order Response Transaction is initiated by the Seller to communicate to the Buyer (either directly or through a Marketplace) the Seller's agreement to supply a specific amount of product, at a specific price, according to set pricing terms, on an agreed-upon date, using agreed-upon transportation arrangements.

Order Response Data Model

Key:

Icon	Description
~	Data element has attribute(s)
?	Data element occurs 0-1 times
*	Data element occurs 0-many times
+	Data element occurs 1-many times
< connecting data elements	Contains one of the child data elements
[connecting data elements	Contains all of the child data elements
Square box with lines	Data

Order Response Data Model (continued)
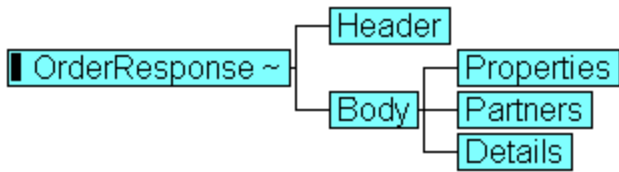
Figure 1: OrderResponse structure
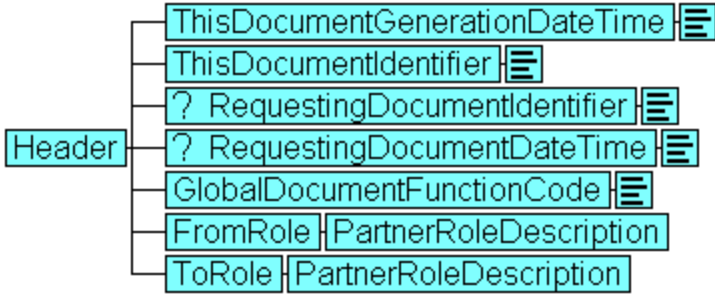
Figure 2: Header structure
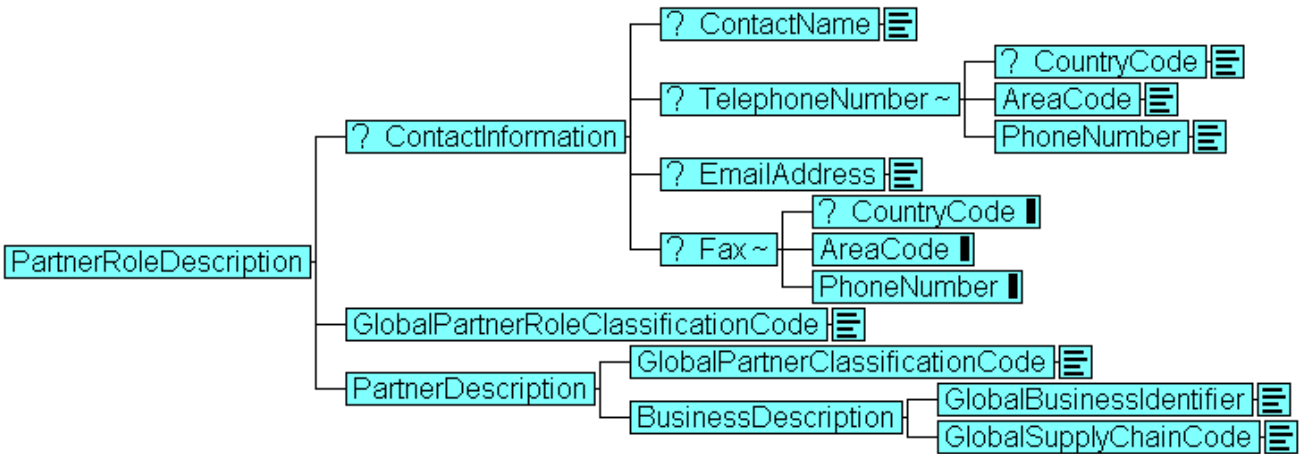
Figure 3: PartnerRoleDescription structure

Order Response Data Model (continued)
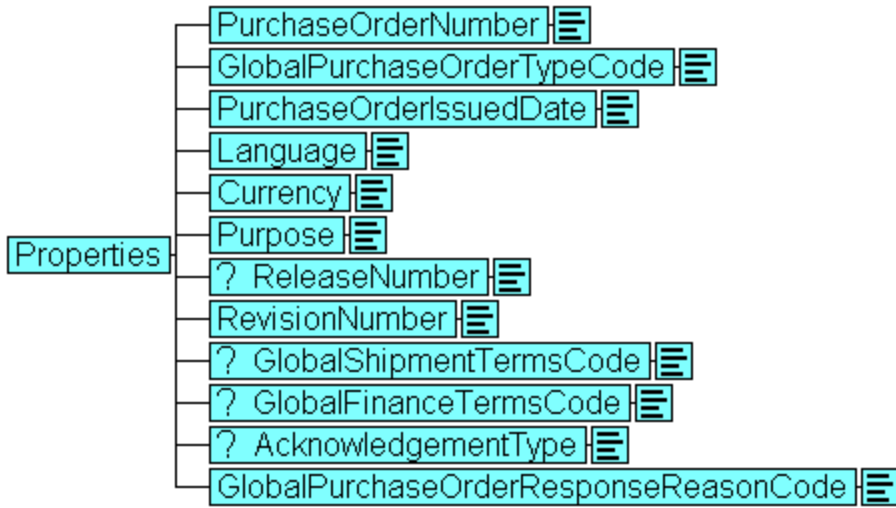
Figure 4: Properties structure

Figure 5: Partners structure
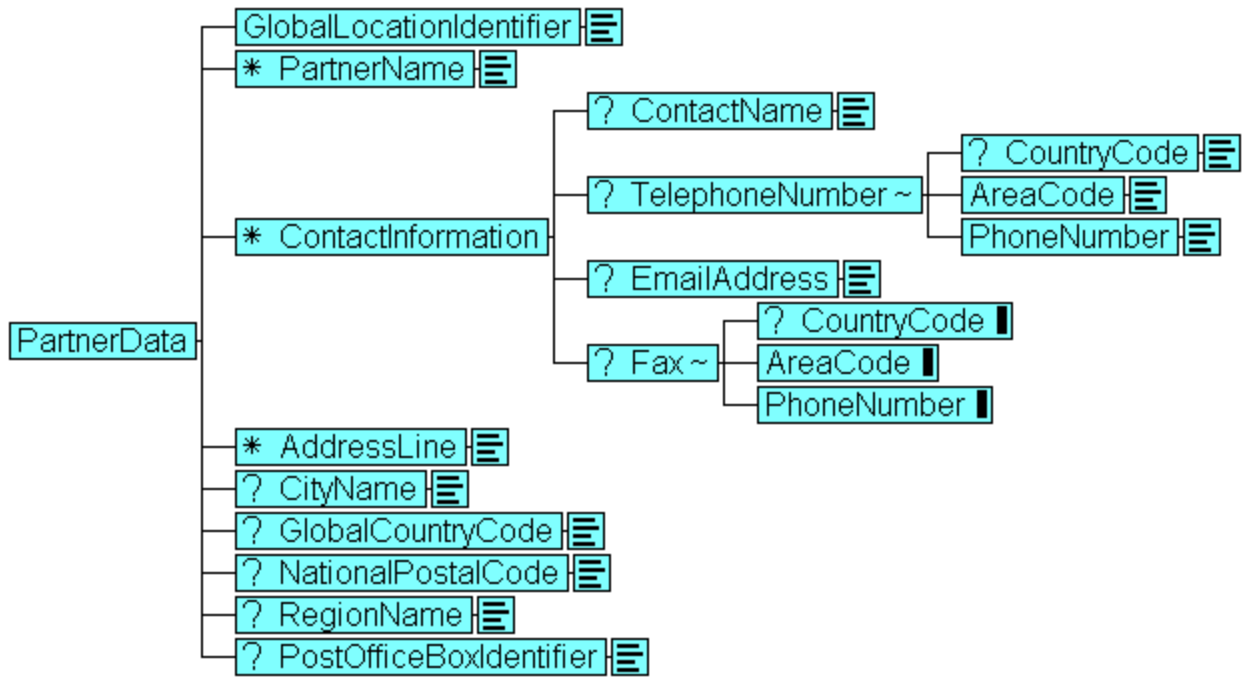
Figure 6: PartnerData structure

Order Response Data Model (continued)

Figure 7: DeliverToPartnerData structure
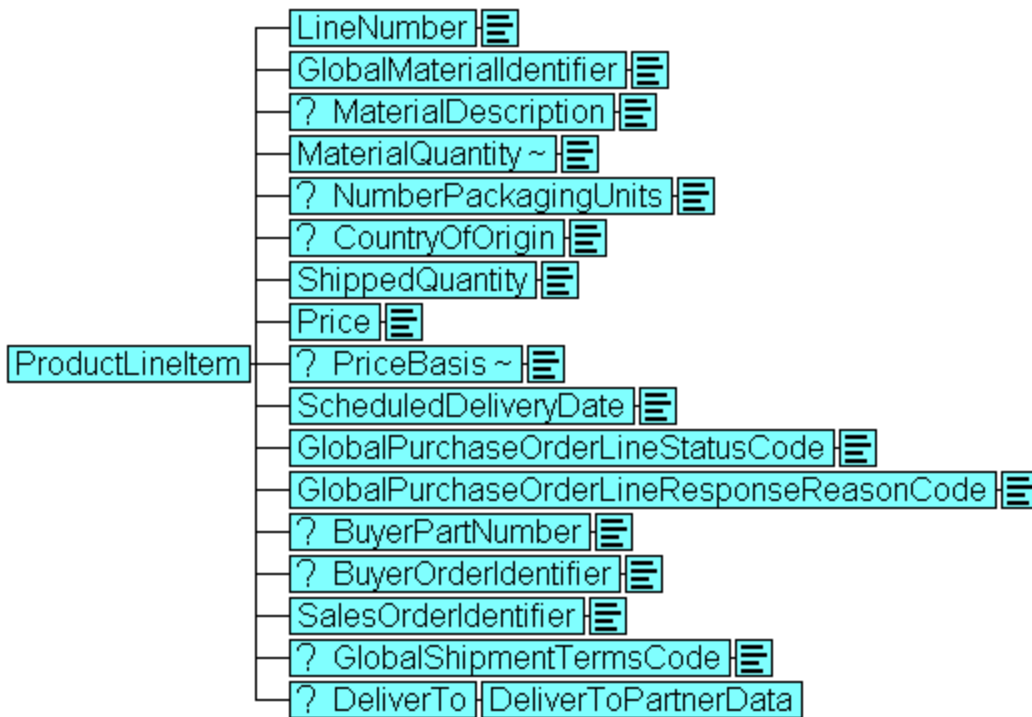
Figure 8: Details structure

Order Response Document Type Definition

```
<!--OrderResponse-->

<!ELEMENT OrderResponse (Header, Body)>
<!ATTLIST OrderResponse Version CDATA #IMPLIED>

<!ELEMENT Header (ThisDocumentGenerationDateTime, ThisDocumentIdentifier,
RequestingDocumentIdentifier?, RequestingDocumentDateTime?,
GlobalDocumentFunctionCode, FromRole, ToRole)>

<!ELEMENT ThisDocumentGenerationDateTime (#PCDATA)>

<!ELEMENT ThisDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentDateTime (#PCDATA)>

<!ELEMENT GlobalDocumentFunctionCode (#PCDATA)>

<!ELEMENT FromRole (PartnerRoleDescription)>

<!ELEMENT PartnerRoleDescription (ContactInformation?,
GlobalPartnerRoleClassificationCode, PartnerDescription)>

<!ELEMENT ContactInformation (ContactName?, TelephoneNumber?, EmailAddress?, Fax?)>

<!ELEMENT ContactName (#PCDATA)>

<!ELEMENT TelephoneNumber (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST TelephoneNumber Type CDATA #IMPLIED>

<!ELEMENT CountryCode (#PCDATA)>

<!ELEMENT AreaCode (#PCDATA)>

<!ELEMENT PhoneNumber (#PCDATA)>

<!ELEMENT EmailAddress (#PCDATA)>

<!ELEMENT Fax (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST Fax Type CDATA #IMPLIED>

<!ELEMENT GlobalPartnerRoleClassificationCode (#PCDATA)>

<!ELEMENT PartnerDescription (GlobalPartnerClassificationCode,
BusinessDescription)>

<!ELEMENT GlobalPartnerClassificationCode (#PCDATA)>

<!ELEMENT BusinessDescription (GlobalBusinessIdentifier, GlobalSupplyChainCode)>

<!ELEMENT GlobalBusinessIdentifier (#PCDATA)>
```

Order Response Document Type Definition (continued)

```
<!ELEMENT GlobalSupplyChainCode (#PCDATA)>

<!ELEMENT ToRole (PartnerRoleDescription)>

<!ELEMENT Body (Properties, Partners, Details)>

<!ELEMENT Properties (PurchaseOrderNumber, GlobalPurchaseOrderTypeCode ,
PurchaseOrderIssuedDate, Language, Currency, Purpose, ReleaseNumber?,
RevisionNumber, GlobalShipmentTermsCode?, GlobalFinanceTermsCode?,
AcknowledgementType?, GlobalPurchaseOrderResponseReasonCode)>

<!ELEMENT PurchaseOrderNumber (#PCDATA)>

<!ELEMENT GlobalPurchaseOrderTypeCode (#PCDATA)>

<!ELEMENT PurchaseOrderIssuedDate (#PCDATA)>

<!ELEMENT Language (#PCDATA)>

<!ELEMENT Currency (#PCDATA)>

<!ELEMENT Purpose (#PCDATA)>

<!ELEMENT ReleaseNumber (#PCDATA)>

<!ELEMENT RevisionNumber (#PCDATA)>

<!ELEMENT GlobalShipmentTermsCode (#PCDATA)>

<!ELEMENT GlobalFinanceTermsCode (#PCDATA)>

<!ELEMENT AcknowledgementType (#PCDATA)>

<!ELEMENT GlobalPurchaseOrderResponseReasonCode (#PCDATA)>

<!ELEMENT Partners (Supplier, DeliverTo)>

<!ELEMENT Supplier (PartnerData)>

<!ELEMENT PartnerData (GlobalLocationIdentifier, PartnerName*, ContactInformation*,
AddressLine*, CityName?, GlobalCountryCode?, NationalPostalCode?, RegionName?,
PostOfficeBoxIdentifier?)>

<!ELEMENT GlobalLocationIdentifier (#PCDATA)>

<!ELEMENT PartnerName (#PCDATA)>

<!ELEMENT AddressLine (#PCDATA)>

<!ELEMENT CityName (#PCDATA)>

<!ELEMENT GlobalCountryCode (#PCDATA)>
```

```
<!ELEMENT NationalPostalCode (#PCDATA)>

<!ELEMENT RegionName (#PCDATA)>

<!ELEMENT PostOfficeBoxIdentifier (#PCDATA)>

<!ELEMENT DeliverTo (DeliverToPartnerData)>

<!ELEMENT DeliverToPartnerData (GlobalLocationIdentifier?, PartnerName*,
ContactInformation*, AddressLine*, CityName?, GlobalCountryCode?,
NationalPostalCode?, RegionName?)>

<!ELEMENT Details (ProductLineItem+)>

<!ELEMENT ProductLineItem (LineNumber, GlobalMaterialIdentifier,
MaterialDescription?, MaterialQuantity, NumberPackagingUnits?, CountryOfOrigin?,
ShippedQuantity, Price, PriceBasis?, ScheduledDeliveryDate,
GlobalPurchaseOrderLineStatusCode, GlobalPurchaseOrderLineResponseReasonCode,
BuyerPartNumber?, BuyerOrderIdentifier?, SalesOrderIdentifier,
GlobalShipmentTermsCode?, DeliverTo?)>

<!ELEMENT LineNumber (#PCDATA)>

<!ELEMENT GlobalMaterialIdentifier (#PCDATA)>

<!ELEMENT MaterialDescription (#PCDATA)>

<!ELEMENT MaterialQuantity (#PCDATA)>

<!ATTLIST MaterialQuantity
      GlobalMaterialUnitOfMeasureCode CDATA #IMPLIED
>

<!ELEMENT NumberPackagingUnits (#PCDATA)>

<!ELEMENT CountryOfOrigin (#PCDATA)>

<!ELEMENT ShippedQuantity (#PCDATA)>

<!ELEMENT Price (#PCDATA)>

<!ELEMENT PriceBasis (#PCDATA)>
<!ATTLIST PriceBasis GlobalMaterialUnitOfMeasureCode CDATA #IMPLIED>

<!ELEMENT ScheduledDeliveryDate (#PCDATA)>

<!ELEMENT GlobalPurchaseOrderLineStatusCode (#PCDATA)>

<!ELEMENT GlobalPurchaseOrderLineResponseReasonCode (#PCDATA)>

<!ELEMENT BuyerPartNumber (#PCDATA)>
```

Order Response Document Type Definition (continued)

```
<!ELEMENT BuyerOrderIdentifier (#PCDATA)>

<!ELEMENT SalesOrderIdentifier (#PCDATA)>
```

Order Status

The Order Status Transaction is initiated by the Seller to communicate to the Buyer (either directly or through a Marketplace) to identify the current status of orders that have been previously placed.

Order Status Data Model

Key:

Icon	Description
~	Data element has attribute(s)
?	Data element occurs 0-1 times
*	Data element occurs 0-many times
+	Data element occurs 1-many times
< connecting data elements	Contains one of the child data elements
[connecting data elements	Contains all of the child data elements
Square box with lines	Data
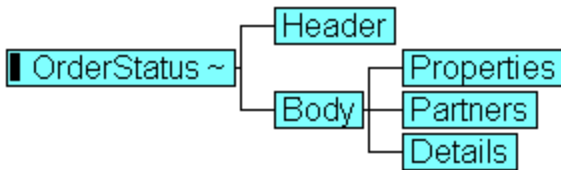
Figure 1: OrderStatus structure
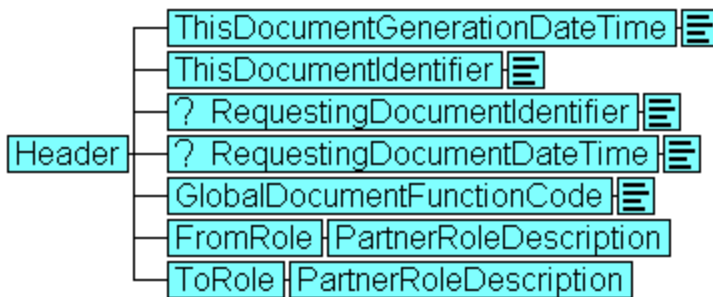
Figure 2: Header structure

Order Status Data Model (continued)
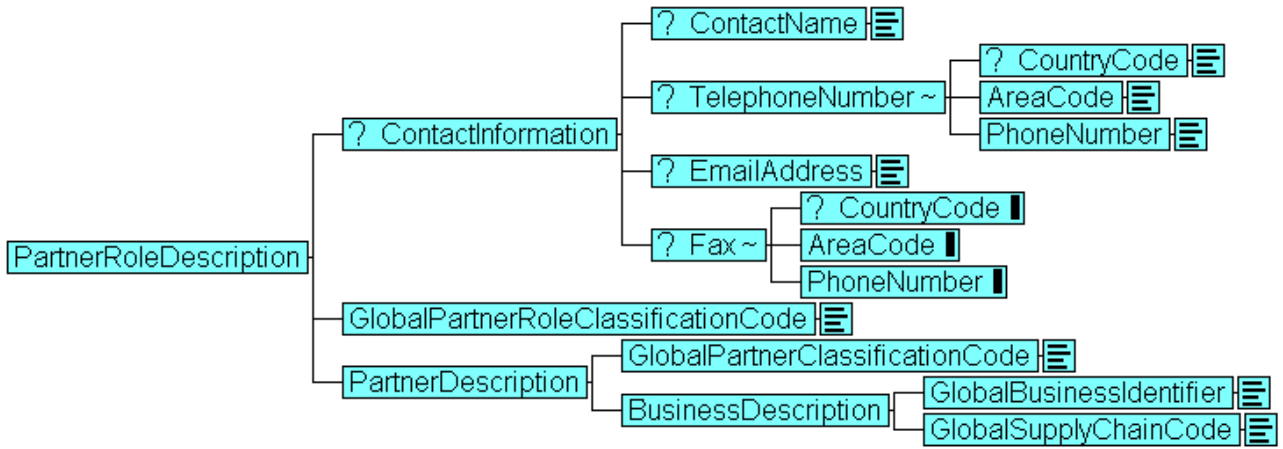
Figure 3: PartnerRoleDescription structure
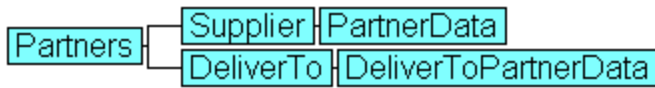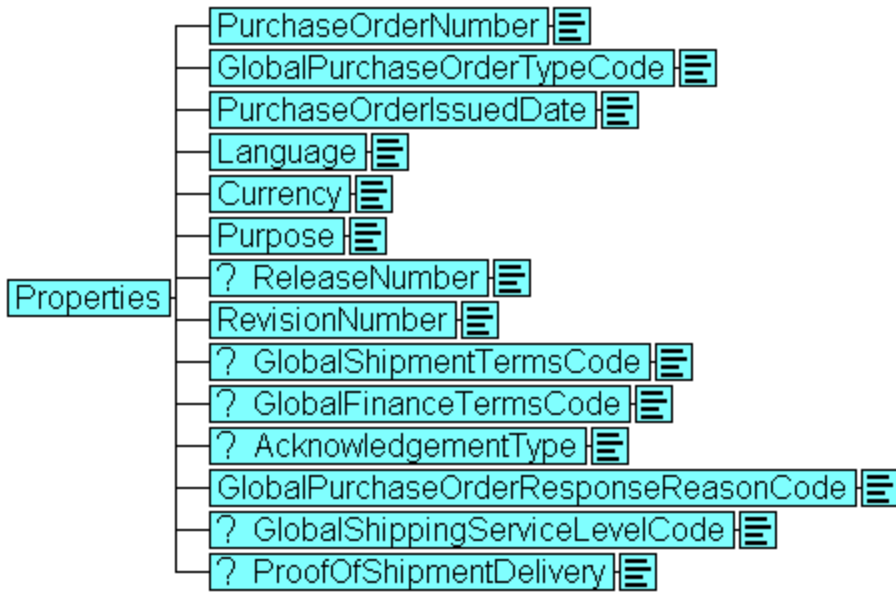

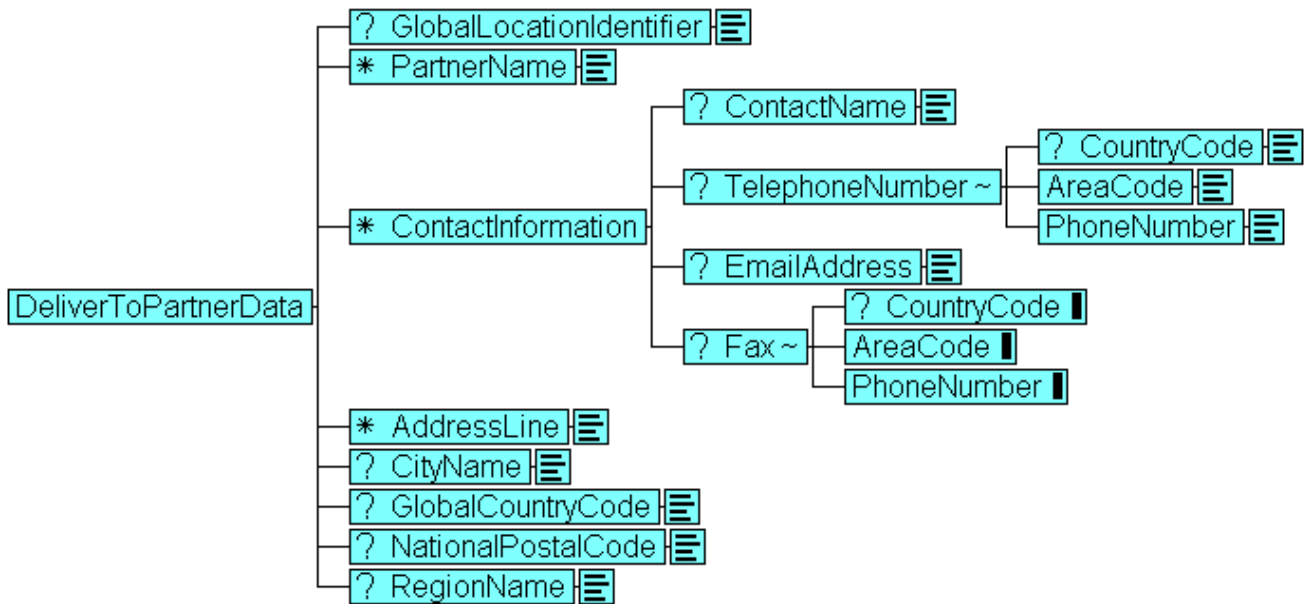Figure 4: Properties structure
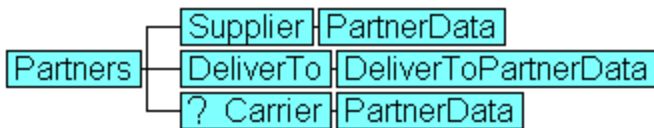
Figure 5: Partners structure

Order Status Data Model (continued)
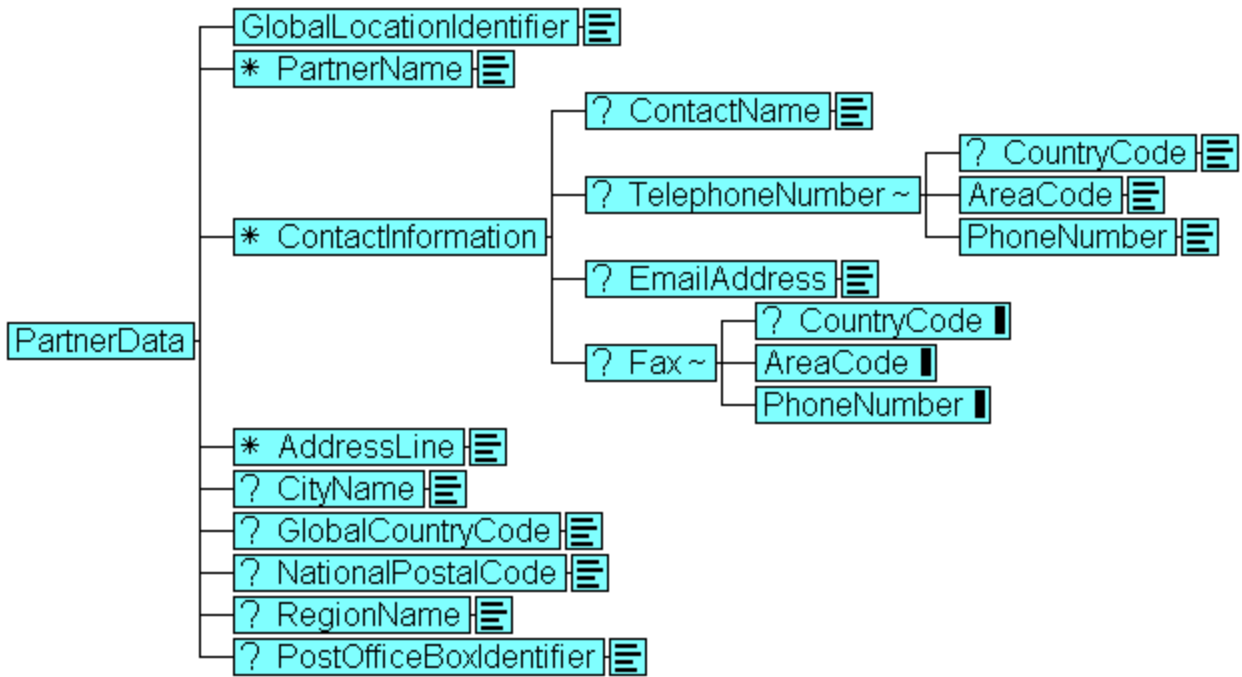
Figure 6: PartnerData structure

Figure 7: DeliverToPartnerData structure

Figure 8: Details structure

Order Status Document Type Definition

```
<!--OrderStatus-->

<!ELEMENT OrderStatus (Header, Body)>
<!ATTLIST OrderStatus Version CDATA #IMPLIED>

<!ELEMENT Header (ThisDocumentGenerationDateTime, ThisDocumentIdentifier,
RequestingDocumentIdentifier?, RequestingDocumentDateTime?,
GlobalDocumentFunctionCode, FromRole, ToRole)>

<!ELEMENT ThisDocumentGenerationDateTime (#PCDATA)>

<!ELEMENT ThisDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentDateTime (#PCDATA)>

<!ELEMENT GlobalDocumentFunctionCode (#PCDATA)>
```

Order Status Document Type Definition (continued)

```
<!ELEMENT FromRole (PartnerRoleDescription)>

<!ELEMENT PartnerRoleDescription (ContactInformation?,
GlobalPartnerRoleClassificationCode, PartnerDescription)>

<!ELEMENT ContactInformation (ContactName?, TelephoneNumber?, EmailAddress?, Fax?)>

<!ELEMENT ContactName (#PCDATA)>

<!ELEMENT TelephoneNumber (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST TelephoneNumber Type CDATA #IMPLIED>

<!ELEMENT CountryCode (#PCDATA)>

<!ELEMENT AreaCode (#PCDATA)>

<!ELEMENT PhoneNumber (#PCDATA)>

<!ELEMENT EmailAddress (#PCDATA)>

<!ELEMENT Fax (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST Fax Type CDATA #IMPLIED>

<!ELEMENT GlobalPartnerRoleClassificationCode (#PCDATA)>

<!ELEMENT PartnerDescription (GlobalPartnerClassificationCode,
BusinessDescription)>

<!ELEMENT GlobalPartnerClassificationCode (#PCDATA)>

<!ELEMENT BusinessDescription (GlobalBusinessIdentifier, GlobalSupplyChainCode)>

<!ELEMENT GlobalBusinessIdentifier (#PCDATA)>

<!ELEMENT GlobalSupplyChainCode (#PCDATA)>

<!ELEMENT ToRole (PartnerRoleDescription)>

<!ELEMENT Body (Properties, Partners, Details)>

<!ELEMENT Properties (PurchaseOrderNumber, GlobalPurchaseOrderTypeCode,
PurchaseOrderIssuedDate, Language, Currency, Purpose, ReleaseNumber?,
RevisionNumber, GlobalShipmentTermsCode?, GlobalFinanceTermsCode?,
AcknowledgementType?, GlobalPurchaseOrderResponseReasonCode,
GlobalShippingServiceLevelCode?, ProofOfShipmentDelivery?)>

<!ELEMENT PurchaseOrderNumber (#PCDATA)>

<!ELEMENT GlobalPurchaseOrderTypeCode (#PCDATA)>

<!ELEMENT PurchaseOrderIssuedDate (#PCDATA)>
```

```
<!ELEMENT Language (#PCDATA)>

<!ELEMENT Currency (#PCDATA)>

<!ELEMENT Purpose (#PCDATA)>

<!ELEMENT ReleaseNumber (#PCDATA)>

<!ELEMENT RevisionNumber (#PCDATA)>

<!ELEMENT GlobalShipmentTermsCode (#PCDATA)>

<!ELEMENT GlobalFinanceTermsCode (#PCDATA)>

<!ELEMENT AcknowledgementType (#PCDATA)>

<!ELEMENT GlobalPurchaseOrderResponseReasonCode (#PCDATA)>

<!ELEMENT GlobalShippingServiceLevelCode (#PCDATA)>

<!ELEMENT ProofOfShipmentDelivery (#PCDATA)>

<!ELEMENT Partners (Supplier, DeliverTo, Carrier?)>

<!ELEMENT Supplier (PartnerData)>

<!ELEMENT PartnerData (GlobalLocationIdentifier, PartnerName*, ContactInformation*,
AddressLine*, CityName?, GlobalCountryCode?, NationalPostalCode?, RegionName?,
PostOfficeBoxIdentifier?)>

<!ELEMENT GlobalLocationIdentifier (#PCDATA)>

<!ELEMENT PartnerName (#PCDATA)>

<!ELEMENT AddressLine (#PCDATA)>

<!ELEMENT CityName (#PCDATA)>

<!ELEMENT GlobalCountryCode (#PCDATA)>

<!ELEMENT NationalPostalCode (#PCDATA)>

<!ELEMENT RegionName (#PCDATA)>

<!ELEMENT PostOfficeBoxIdentifier (#PCDATA)>

<!ELEMENT DeliverTo (DeliverToPartnerData)>

<!ELEMENT DeliverToPartnerData (GlobalLocationIdentifier?, PartnerName*,
ContactInformation*, AddressLine*, CityName?, GlobalCountryCode?,
NationalPostalCode?, RegionName?)>
```

Order Status Document Type Definition (continued)

```
<!ELEMENT Carrier (PartnerData)>

<!ELEMENT Details (ProductLineItem+)>

<!ELEMENT ProductLineItem (LineNumber, GlobalMaterialIdentifier,
MaterialDescription?, MaterialQuantity, NumberPackagingUnits?, CountryOfOrigin?,
Price, PriceBasis?, ScheduledDeliveryDate, GlobalPurchaseOrderLineStatusCode,
BuyerPartNumber?, ShipFrom?, ShipDate?, ShippedQuantity?, CarrierEquipment?,
ProprietaryShipmentTrackingIdentifier*, BuyerOrderIdentifier?,
SalesOrderIdentifier, GlobalShipmentTermsCode?, DeliverTo?, Carrier?)>

<!ELEMENT LineNumber (#PCDATA)>

<!ELEMENT GlobalMaterialIdentifier (#PCDATA)>

<!ELEMENT MaterialDescription (#PCDATA)>

<!ELEMENT MaterialQuantity (#PCDATA)>

<!ATTLIST MaterialQuantity GlobalMaterialUnitOfMeasureCode CDATA #IMPLIED>

<!ELEMENT NumberPackagingUnits (#PCDATA)>

<!ELEMENT CountryOfOrigin (#PCDATA)>

<!ELEMENT Price (#PCDATA)>

<!ELEMENT PriceBasis (#PCDATA)>
<!ATTLIST PriceBasis GlobalMaterialUnitOfMeasureCode CDATA #IMPLIED>

<!ELEMENT ScheduledDeliveryDate (#PCDATA)>

<!ELEMENT GlobalPurchaseOrderLineStatusCode (#PCDATA)>

<!ELEMENT BuyerPartNumber (#PCDATA)>

<!ELEMENT ShipFrom (#PCDATA)>

<!ELEMENT ShipDate (#PCDATA)>

<!ELEMENT ShippedQuantity (#PCDATA)>

<!ELEMENT CarrierEquipment (#PCDATA)>

<!ELEMENT ProprietaryShipmentTrackingIdentifier (#PCDATA)>

<!ELEMENT BuyerOrderIdentifier (#PCDATA)>

<!ELEMENT SalesOrderIdentifier (#PCDATA)>
```

Order Status Inquiry

The Order Status Inquiry Transaction is initiated by a Buyer (either directly or through a Marketplace) to inquire about the status of an order.

Order Status Inquiry Data Model
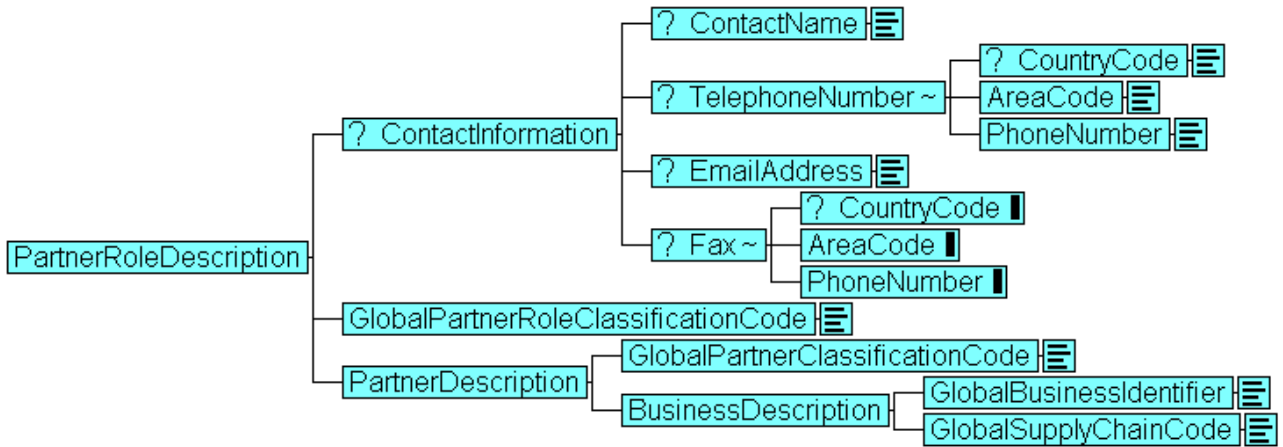
Key:

Icon	Description
~	Data element has attribute(s)
?	Data element occurs 0-1 times
*	Data element occurs 0-many times
+	Data element occurs 1-many times
< connecting data elements	Contains one of the child data elements
[connecting data elements	Contains all of the child data elements
Square box with lines	Data

Figure 1: OrderStatuInquiry structure

Figure 2: Header structure

Figure 3: PartnerRoleDescription structure
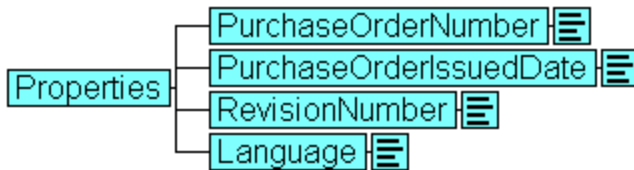
Figure 4: Properties structure
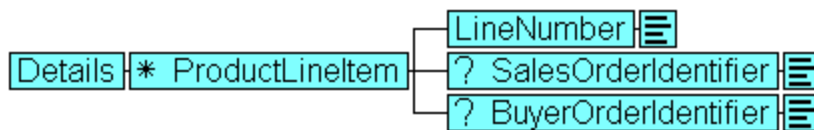
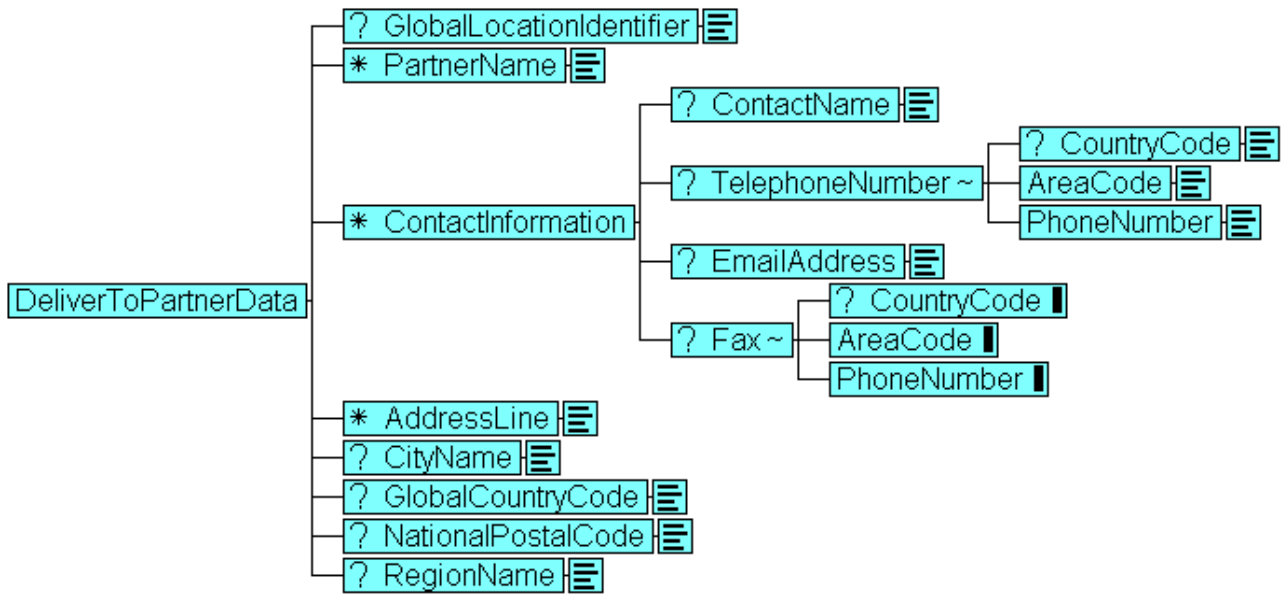

Figure 5: Details structure

Order Status Inquiry Document Type Definition
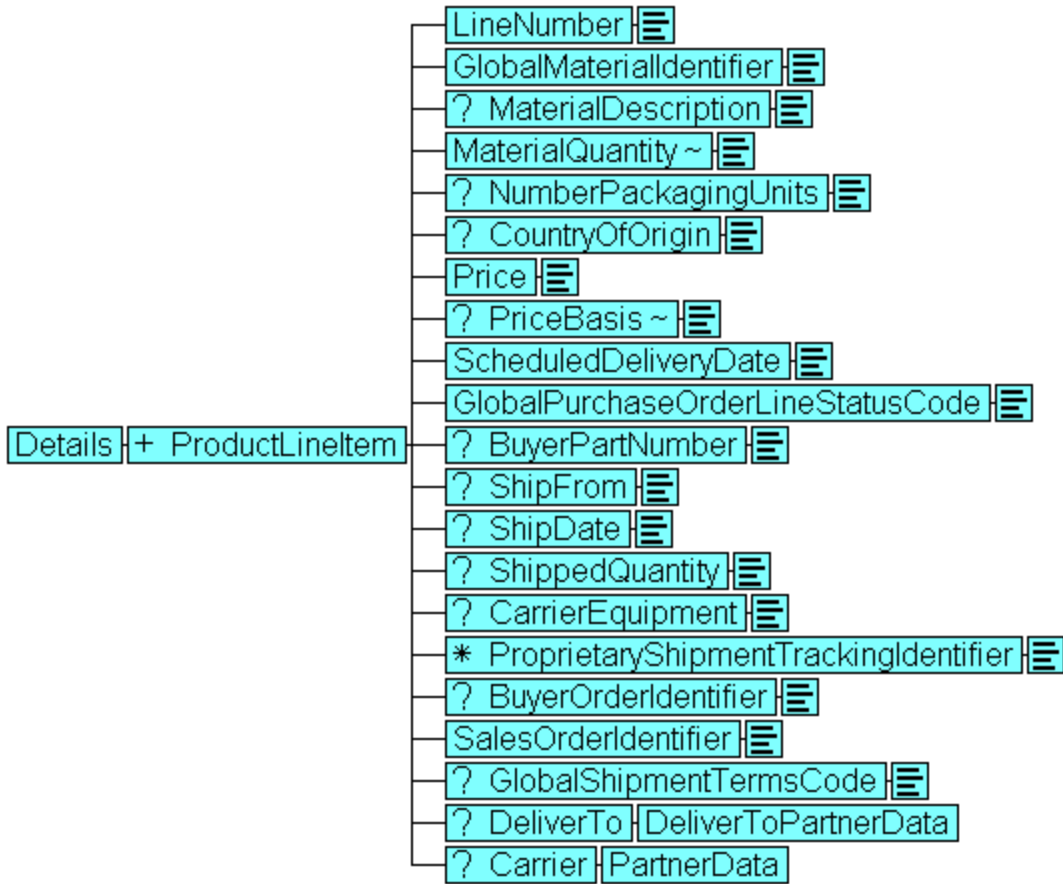
```
<!--OrderStatus Inquiry-->

<!ELEMENT OrderStatusInquiry (Header, Body)>
<!ATTLIST OrderStatusInquiry Version CDATA #IMPLIED>

<!ELEMENT Header (ThisDocumentGenerationDateTime, ThisDocumentIdentifier,
RequestingDocumentIdentifier?, RequestingDocumentDateTime?,
GlobalDocumentFunctionCode, FromRole, ToRole)>

<!ELEMENT ThisDocumentGenerationDateTime (#PCDATA)>

<!ELEMENT ThisDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentIdentifier (#PCDATA)>
```

```
<!ELEMENT RequestingDocumentDateTime (#PCDATA)>

<!ELEMENT GlobalDocumentFunctionCode (#PCDATA)>

<!ELEMENT FromRole (PartnerRoleDescription)>

<!ELEMENT PartnerRoleDescription (ContactInformation?,
GlobalPartnerRoleClassificationCode, PartnerDescription)>

<!ELEMENT ContactInformation (ContactName?, TelephoneNumber?, EmailAddress?, Fax?)>

<!ELEMENT ContactName (#PCDATA)>

<!ELEMENT TelephoneNumber (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST TelephoneNumber Type CDATA #IMPLIED>

<!ELEMENT CountryCode (#PCDATA)>

<!ELEMENT AreaCode (#PCDATA)>

<!ELEMENT PhoneNumber (#PCDATA)>

<!ELEMENT EmailAddress (#PCDATA)>

<!ELEMENT Fax (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST Fax Type CDATA #IMPLIED>

<!ELEMENT GlobalPartnerRoleClassificationCode (#PCDATA)>

<!ELEMENT PartnerDescription (GlobalPartnerClassificationCode,
BusinessDescription)>

<!ELEMENT GlobalPartnerClassificationCode (#PCDATA)>

<!ELEMENT BusinessDescription (GlobalBusinessIdentifier, GlobalSupplyChainCode)>

<!ELEMENT GlobalBusinessIdentifier (#PCDATA)>

<!ELEMENT GlobalSupplyChainCode (#PCDATA)>

<!ELEMENT ToRole (PartnerRoleDescription)>

<!ELEMENT Body (Properties, Details)>

<!ELEMENT Properties (PurchaseOrderNumber, PurchaseOrderIssuedDate, RevisionNumber,
Language)>

<!ELEMENT PurchaseOrderNumber (#PCDATA)>

<!ELEMENT PurchaseOrderIssuedDate (#PCDATA)>

<!ELEMENT RevisionNumber (#PCDATA)>
```

```
<!ELEMENT Language (#PCDATA)>

<!ELEMENT Details (ProductLineItem*)>

<!ELEMENT ProductLineItem (LineNumber, SalesOrderIdentifier?,
BuyerOrderIdentifier?)>

<!ELEMENT LineNumber (#PCDATA)>

<!ELEMENT SalesOrderIdentifier (#PCDATA)>

<!ELEMENT BuyerOrderIdentifier (#PCDATA)>
```

Cancel Order

The Cancel Order Transaction is initiated by a Buyer (either directly or through a Marketplace) to request that an existing order be cancelled.

Cancel Order Data Model

Key:

Icon	Description
~	Data element has attribute(s)
?	Data element occurs 0-1 times
*	Data element occurs 0-many times
+	Data element occurs 1-many times
< connecting data elements	Contains one of the child data elements
[connecting data elements	Contains all of the child data elements
Square box with lines	Data

Figure 1: CancelOrder structure

Figure 2: Header structure

Cancel Order Data Model (continued)
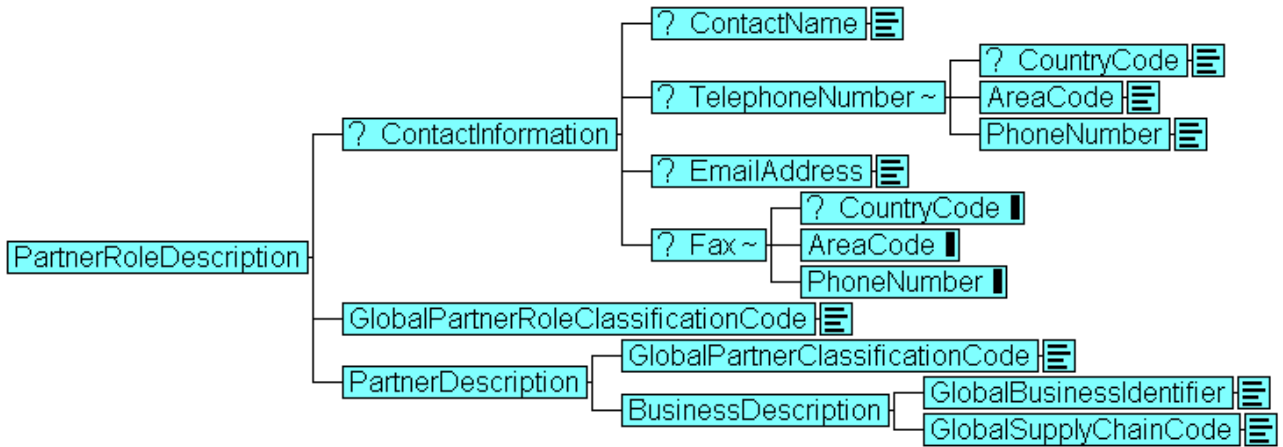
Figure 3: PartnerRoleDescription structure
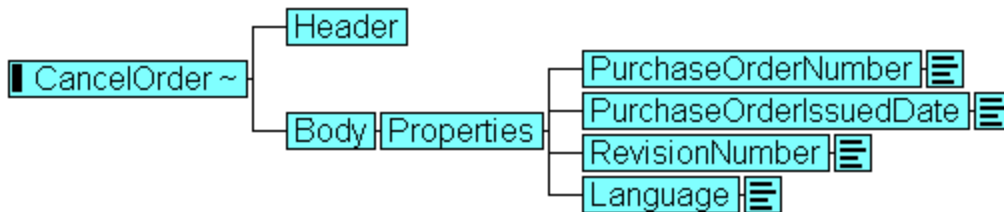
Figure 4: CancelOrder structure

Cancel Order Document Type Definition

```
<!-- CancelOrder -->

<!ELEMENT CancelOrder (Header, Body)>
<!ATTLIST CancelOrder Version CDATA #IMPLIED>

<!ELEMENT Header (ThisDocumentGenerationDateTime, ThisDocumentIdentifier,
RequestingDocumentIdentifier?, RequestingDocumentDateTime?,
GlobalDocumentFunctionCode, FromRole, ToRole)>

<!ELEMENT ThisDocumentGenerationDateTime (#PCDATA)>

<!ELEMENT ThisDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentDateTime (#PCDATA)>

<!ELEMENT GlobalDocumentFunctionCode (#PCDATA)>

<!ELEMENT FromRole (PartnerRoleDescription)>
```

```
<!ELEMENT PartnerRoleDescription (ContactInformation?,
GlobalPartnerRoleClassificationCode, PartnerDescription)>

<!ELEMENT ContactInformation (ContactName?, TelephoneNumber?, EmailAddress?, Fax?)>

<!ELEMENT ContactName (#PCDATA)>

<!ELEMENT TelephoneNumber (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST TelephoneNumber Type CDATA #IMPLIED>

<!ELEMENT CountryCode (#PCDATA)>

<!ELEMENT AreaCode (#PCDATA)>

<!ELEMENT PhoneNumber (#PCDATA)>

<!ELEMENT EmailAddress (#PCDATA)>

<!ELEMENT Fax (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST Fax Type CDATA #IMPLIED>

<!ELEMENT GlobalPartnerRoleClassificationCode (#PCDATA)>

<!ELEMENT PartnerDescription (GlobalPartnerClassificationCode,
BusinessDescription)>

<!ELEMENT GlobalPartnerClassificationCode (#PCDATA)>

<!ELEMENT BusinessDescription (GlobalBusinessIdentifier, GlobalSupplyChainCode)>

<!ELEMENT GlobalBusinessIdentifier (#PCDATA)>

<!ELEMENT GlobalSupplyChainCode (#PCDATA)>

<!ELEMENT ToRole (PartnerRoleDescription)>

<!ELEMENT Body (Properties)>

<!ELEMENT Properties (PurchaseOrderNumber, PurchaseOrderIssuedDate, RevisionNumber,
Language)>

<!ELEMENT PurchaseOrderNumber (#PCDATA)>

<!ELEMENT PurchaseOrderIssuedDate (#PCDATA)>

<!ELEMENT RevisionNumber (#PCDATA)>

<!ELEMENT Language (#PCDATA)>
```

Cancel Order Response

The Cancel Order Response Transaction is initiated by a Seller to communicate to a Buyer (either directly or through a Marketplace) that an "Order Cancel" transaction has been received and has been accepted or rejected by the Seller's order processing system.

Cancel Order Response Data Model

Key:

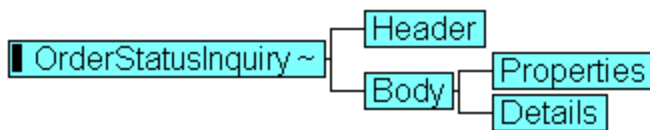| Icon	Description
~	Data element has attribute(s)
?	Data element occurs 0-1 times
*	Data element occurs 0-many times
+	Data element occurs 1-many times
< connecting data elements	Contains one of the child data elements
[connecting data elements	Contains all of the child data elements
Square box with lines	Data

Figure 1: CancelOrderResponse structure
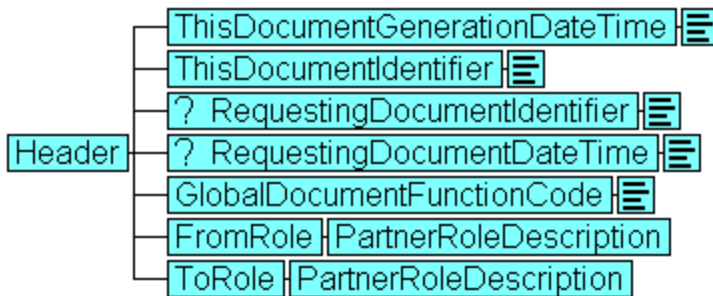

Figure 2: Header structure

Cancel Order Response Data Model (continued)

Figure 3: PartnerRoleDescription structure

Figure 4: CancelOrderResponse structure

Cancel Order Response Document Type Definition

```
<!--CancelOrderResponse-->

<!ELEMENT CancelOrderResponse (Header, Body)>
<!ATTLIST CancelOrderResponse Version CDATA #IMPLIED>

<!ELEMENT Header (ThisDocumentGenerationDateTime, ThisDocumentIdentifier,
RequestingDocumentIdentifier?, RequestingDocumentDateTime?,
GlobalDocumentFunctionCode, FromRole, ToRole)>

<!ELEMENT ThisDocumentGenerationDateTime (#PCDATA)>

<!ELEMENT ThisDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentIdentifier (#PCDATA)>

<!ELEMENT RequestingDocumentDateTime (#PCDATA)>

<!ELEMENT GlobalDocumentFunctionCode (#PCDATA)>

<!ELEMENT FromRole (PartnerRoleDescription)>
```

Cancel Order Response Document Type Definition (continued)

```
<!ELEMENT PartnerRoleDescription (ContactInformation?,
GlobalPartnerRoleClassificationCode, PartnerDescription)>

<!ELEMENT ContactInformation (ContactName?, TelephoneNumber?, EmailAddress?, Fax?)>

<!ELEMENT ContactName (#PCDATA)>

<!ELEMENT TelephoneNumber (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST TelephoneNumber Type CDATA #IMPLIED>

<!ELEMENT CountryCode (#PCDATA)>

<!ELEMENT AreaCode (#PCDATA)>

<!ELEMENT PhoneNumber (#PCDATA)>

<!ELEMENT EmailAddress (#PCDATA)>

<!ELEMENT Fax (CountryCode?, AreaCode, PhoneNumber)>
<!ATTLIST Fax Type CDATA #IMPLIED>

<!ELEMENT GlobalPartnerRoleClassificationCode (#PCDATA)>

<!ELEMENT PartnerDescription (GlobalPartnerClassificationCode,
BusinessDescription)>

<!ELEMENT GlobalPartnerClassificationCode (#PCDATA)>

<!ELEMENT BusinessDescription (GlobalBusinessIdentifier, GlobalSupplyChainCode)>

<!ELEMENT GlobalBusinessIdentifier (#PCDATA)>

<!ELEMENT GlobalSupplyChainCode (#PCDATA)>

<!ELEMENT ToRole (PartnerRoleDescription)>

<!ELEMENT Body (Properties)>

<!ELEMENT Properties (PurchaseOrderNumber, PurchaseOrderIssuedDate, RevisionNumber,
GlobalPurchaseOrderResponseReasonCode, GlobalPurchaseOrderStatusCode, Language)>

<!ELEMENT PurchaseOrderNumber (#PCDATA)>

<!ELEMENT PurchaseOrderIssuedDate (#PCDATA)>

<!ELEMENT RevisionNumber (#PCDATA)>

<!ELEMENT GlobalPurchaseOrderResponseReasonCode (#PCDATA)>

<!ELEMENT GlobalPurchaseOrderStatusCode (#PCDATA)>

<!ELEMENT Language (#PCDATA)>
```

ENVELOPE AND SECURITY

Envelope and Security Table of Contents

Introduction

The primary objective of the eStandard is to meet Chemical Industry needs via XML-based standards, while at the same time, providing a path forward for potential cross-industry convergence as XML-based standards become more robust. The eStandard developers decided that the best way to accomplish this was to leverage the work of a well-established organization developing XML-based specifications, one that has specifications in active use and is in a very good position to influence the evolution of the XML standards. The organization selected was RosettaNet.

The RosettaNet components that were considered for use were the RosettaNet Implementation Framework (RNIF), Partner Interface Process (PIP™) and Dictionary. The eStandard leverages the transport, envelope and security aspects of RNIF, version 1.1, as documented in the RosettaNet website: http://www.rosettanet.org. Further clarification of how the eStandard leverages the RNIF is provided in this section.

The eStandard defines Chemical Industry message formats in the form of XML DTDs and process flows. Although the process flows are not based on RosettaNet PIPs, these draw from the PIP process models.

The eStandard does not adopt the entire RosettaNet Dictionary but the project team did use the Dictionary as a source of data element tags to build the eStandard Dictionary. Where a RosettaNet data element tag is used, the eStandard Dictionary refers to the RosettaNet Dictionary as the source.

Disclaimer

While there is agreement in principle for the eStandard to leverage and reference RosettaNet, the two groups have not yet reached a formal legal agreement. Therefore, the references to RosettaNet may change in the final document.

Envelope

The basic transmission envelope structure is very simple in design. The envelope itself is a direct copy from the RosettaNet implementation. The structure holds little else beside the three standard XML documents as well as length fields and optional signature information.

eStandards Version (4 Bytes)
Content Length (eStandards Object) (4 Bytes)
eStandards Object (Variable Length) Preamble Service Header Service Content
Signature Length (4 Bytes)
Digital Signature (Variable Length)
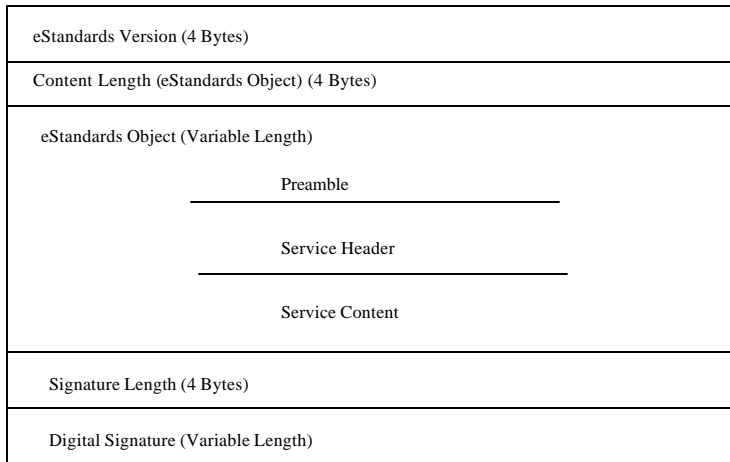
Transaction Format/Process Flow

By design, the eStandards transaction flow is intended to encapsulate an electronic commerce business process (not only a transaction). A good example of this is the "Create Purchase Order" process. The definition of this process specifies not only the transaction codes needed to create/cancel/modify a given purchase order, but also the transaction (document) flows between the business partner entities that are necessary to complete and acknowledge these operations. Each business event in creating a purchase order is captured in the process flow.

The process flow and transaction documents themselves are an integrated part of a given process specification. Each specification document defines an interaction between trading partners that allows both sides to acknowledge the receipt and execution of the sub transactions that comprise a given process. The following is a sample execution trace of the eStandards "Create Purchase Order" transaction.

Example (Create Purchase Order):
An example of a buying and selling entity executing a "Purchase Order Request" (create purchase order) transaction follows:

Step 1:
The buyer creates a "Create Purchase Order" document and sends the document to the selling entity.

Note: The "Create Purchase Order" message is unique to this process.

Transaction Format/Process Flow (continued)

Step 2:
The supplier, or selling entity, has two hours to respond to the buyer with a "Receipt Acknowledgment" message. This message is ***not*** transaction specific and serves only to acknowledge the sender of the original message that the Step 1 transmission was received and was well formed.
Note: This two-hour reply window is specified as a parameter in the service header of the document. See "Service Header" description within the "Transaction Structure" below. Also see the section on Generic and Transaction Specific Acknowledgments below.

Step 3:
The supplier then has 24 hours to respond to the buyer with a "Purchase Order Response" message. This message indicates that the supplier is going to fulfill the buyer's request as indicated in this document (may include quantity changes, price changes etc.).
Note: This 24-hour reply window is specified as a parameter in the service header of the document. See "Purchase Order Response" description within the "Service Header" of the "Transaction Structure" below.

Note: The "Purchase Order Response" message is unique to this transaction.

Step 4:
The buyer has a two-hour window in which to transmit a "Receipt Acknowledgment" message back to the supplying organization. This signifies that the buyer has received the "Purchase Order Response" message from the supplier. If the buying organization does not agree to the terms on the acceptance document, a change purchase order and/or cancel purchace order transaction may be executed.

Note: As in Step 2 the "Receipt Acknowledgment" message is a generic eStandard message.

The diagram below shows the actual document flow:
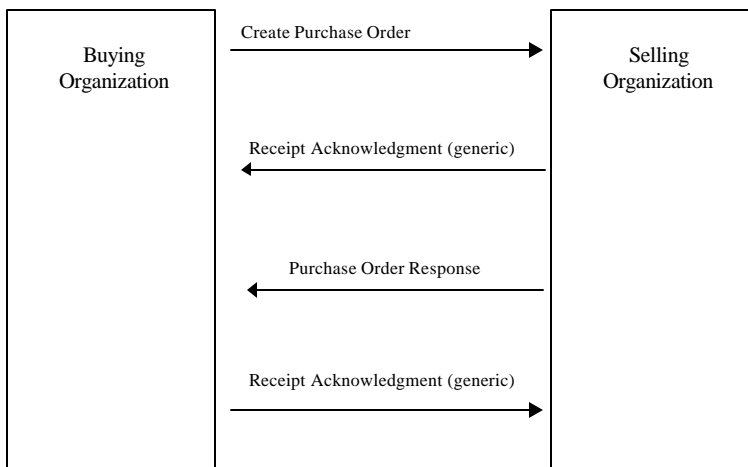
Note: Although the eStandard specification also provides necessary transactions to handle error situations, cancellations, etc., they were omitted from these examples for sake of conciseness.

Transaction Format/Process Flow (continued)

Generic and Transaction Specific Acknowledgments:

Generic Acknowledgments:

As shown in the example above, the eStandard model provides accommodation for two types of acknowledgment. The first type of acknowledgment is very similar to an EDI functional acknowledgment and is called "Receipt Acknowledgment." The purpose of the Receipt Acknowledgment message is to alert the sender of the previous message that their transmission is received and is well formed. If the original message has errors (such as formatting or content) a "Receipt Acknowledgment Exception" message is returned. If the original message were unintelligible, a "General Exception" message is sent. All exception messages contain free form text fields that allow the receiver of the errant message to include descriptive text.

Transaction Specific Acknowledgments:

The second type of acknowledgment ("Purchase Order Response") used in the above example is specific to the initial transaction and provides feedback based on the business process of the original message (i.e. the selling entity may fulfill a given purchase order). Note that not all transactions have a business process specific acknowledgment, however, all transactions use the generic "Receipt Acknowledgment" messages. See the implementation guides for more information regarding specific acknowledgments.

General Failure Messages:

If the receiving site is having technical difficulties and is unable to process any incoming messages, a Notification of Failure message should be broadcast to anyone attempting to contact the problematic site.

Transaction Structure

As shown in the schematic above, the envelope itself encloses the actual "payload" of the transaction. The object is comprised of three XML subsections, each of which is a valid XML document. Each of these subsections: Preamble, Service Header and Service Content are defined by separate DTDs. Each of these subsections is described in more detail below.

Preamble:

The purpose of the preamble is to handle information that is global to the document (i.e. version, datestamp, etc.). Schematically, the preamble may be represented as follows:
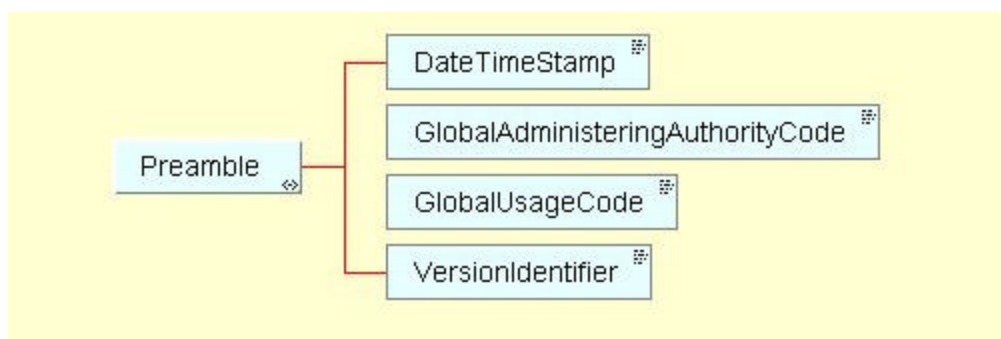
Note: The structure of the preamble document is static across all transactions.

Transaction Format/Process Flow (continued)

Service Header:
The service header contains the necessary routing and processing information for a given transaction. The service header contains three separate data objects. They are shown schematically below:
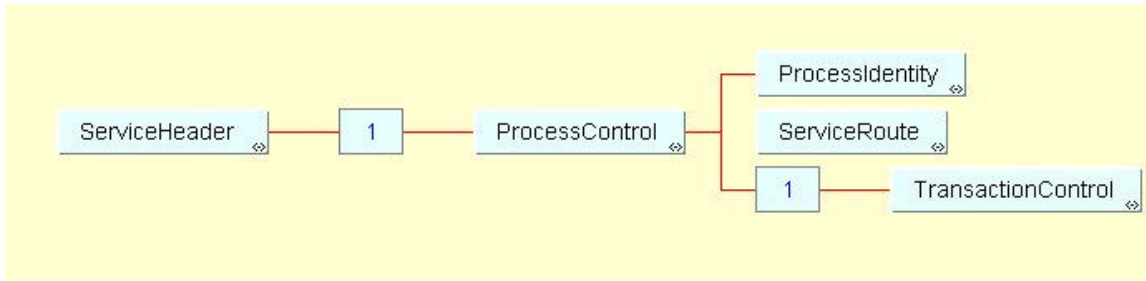
The ProcessIdentity object contains information that describes the process to be carried out by the transaction encapsulated in the service content section of this document. The individual elements in the ProcessIdentity are shown below:
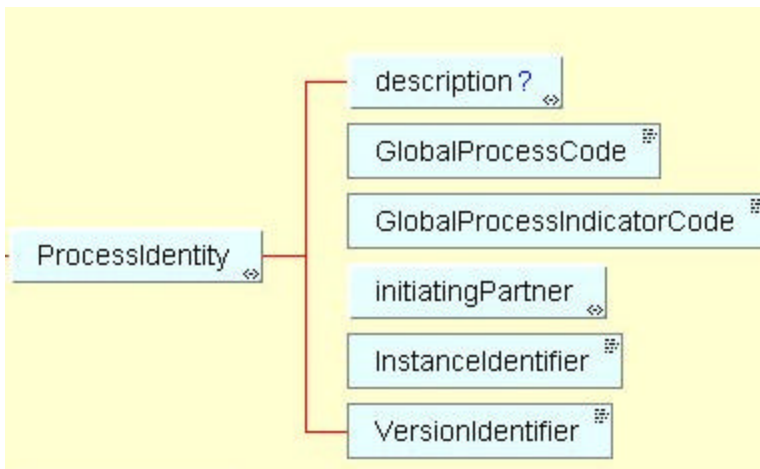
The ServiceRoute object contains the "to" and "from" information for this document. The data elements are shown below:
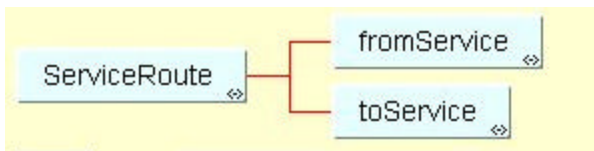
The final object in the service header is the TransactionControl object. This object contains data elements that provide information about how the transaction encapsulated in the service content document is to be processed. It also contains monitoring information such as the number of times this transaction has been attempted, reply time windows, and acknowledgment time windows. Below is a pictorial representation of the transaction control object.

Transaction Format/Process Flow (continued)

Service Header: (continued)

TransactionControl

AttemptCount

PartnerRoleRoute

TransactionIdentity

1

ActionControl

SignalControl
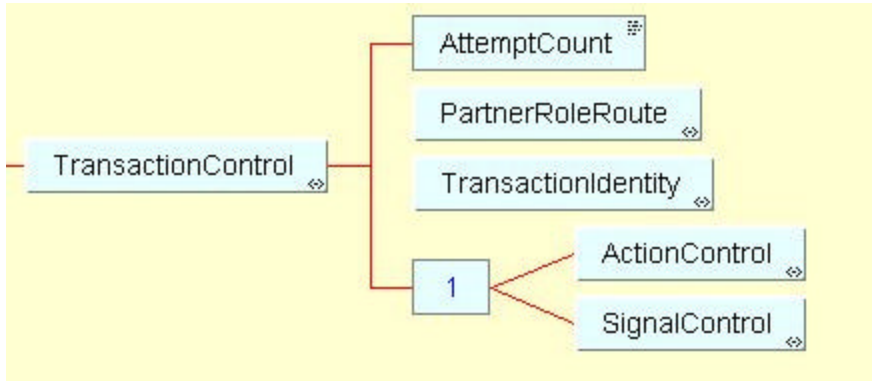
Note: As with the preamble document, the structure of the service header document is static across all transactions. The preamble and service header sections as used by IESC are unchanged from those in RosettaNet version 1.1.

Service Content:
The service content section of the document contains the actual transaction markup. Unlike the preamble and service header, the structure of the service content document is unique to each transaction.

Security

- This eStandard endorses RosettaNet's security standards. The RosettaNet security standards and requirements are documented in RosettaNet Implementation Framework (RNIF) Specification, currently Version 1.1, dated November 8, 1999. RNIF 1.1 should be consulted as the definitieve eStandard for security.

- While RNIF 1.1 specifies only HTTP and HTTPS protocols, this eStandard recognizes that current Marketplaces and Business Partners use other mechanisms such as FTP, SMTP, and asynchronous message queuing. Such mechanisms are not part of this eStandard; however, if they are to be used, they are expected to be subject to the following conditions:

- Marketplaces must support security standards documented in RosettaNet Implementation Framework version 1.1 for those Business Partners who choose to use them.

- Marketplaces that support alternative mechanisms must provide equivalent security functionality; see "Security for Accommodations for Exceptions."

- Security mechanisms for such accommodations should not violate explicit prohibitions in RNIF version 1.1.

Security (continued)

- This accommodation of FTP, SMTP, and asynchronous message queuing should be viewed as an accommodation by this eStandard, and should not be construed as a request for RosettaNet to accommodate these transport mechanisms.

- In the future, we expect to incorporate alterative mechanisms into the Security eStandard as they are recognized by industry standards, for example, if they became part of RNIF version 2.0.

Security for Accommodations

While tactical accommodations may be made for non-RNIF frameworks that use asynchronous message queuing, FTP, or SMTP, such accommodations must meet the following security requirements:

- Authentication between the Marketplace and Business Partners should at least be via user-id and password, and preferably should use digital certificates for authentication.

- Communications between the Marketplace and Business Partners should be encrypted.

- Document integrity should be assured.

- Non-repudiation should be assured.

Use of PKI and digital certificates are recommended to secure any of the accommodations listed above.

Key Implications

- The intent of this document is not to repeat all the RNIF security requirements, however, key implications of RNIF security incorporated in this eStandard follow:

- Secure Sockets Layer (SSL) v3 is to be used for mutual authentication during a session, confidentiality and integrity during a session, and receipt of objects sent during a session.

- Public Key Cryptography Standard (PKCS) #7 detached Digital Signatures on signed objects is to be used not only for transport, but also for persistent proof of non-repudiation. This in turn requires tools for generating and managing Digital Signatures beyond an SSL v3 browser.

- Digital Certificates based on X.509 version 3 standard is to be used. A third party Certificate Authority whose Root Certificate is distributed with standard browsers is recommended.

- What is optional at the overall level may be required for a specific transaction: for example, digital signatures are optional for certain transactions, but are required for specific transactions (Create Order, for example).

- An implementation that uses digital signatures that violate RNIF specifications is prohibited.

- Authorization for access control is typically via the "subject organization name" in digital certificates. If this is not sufficiently granular for access control, trading partners may negotiate other mechanisms such as account number with digital certificates. In general, access control standards are not part of the RosettaNet specification or this document.

Stipulations

- RNIF is a fairly broad framework with several implementation options; however, this eStandard specifies the following choices among the RNIF options be used:

- Transfer of messages are via "Server-to-Server" interaction, rather than "Server-Browser-Server" interaction (refer to RNIF Version 1.1, page 34 and 54).

- Consequently, server certificates rather than end-user and browser digital certificates are required.

- It remains to validate that the then current Certificate Revocation List (CRL) be stored with each signed message (reference item 9 documented on page 55 of RNIF Version 1.1). Since the size of the CRL may greatly exceed the size of the signed object, mechanisms such as storing a CRL sequence number or other methods of delegating CRL storage to the Certificate Authority (CA) should be explored.

- Moreover, the following stipulations are implicit in this eStandard endorsement of the RosettaNet security framework:

- This eStandard focuses on B2B transactions; consequently consumer to business and web browsing are not within the scope of this eStandard. This implies that order status is "pushed" from the Marketplace or seller via a server-to-server exchange, rather than "pulled" by the buyer via a browser session.

- The security portion of this eStandard is largely a technical framework; consequently business practices are not currently in scope, except to the extent they are defined in specific transactions.

Transaction Security Requirements

The following table summarizes security requires by transaction. The "authentication" column indicates whether mutual authentication is required for that particular transaction. A "yes" in the "digital signature" column implies the object is accompanied by a PCKS-7 digital signature of non-zero length that conforms to RNIF requirements. A "yes" in the "non-repudiation" column implies the following:

- The object has been signed

- Both initiator and recipient of the object store that object is digital signature and object message digest

- Both initiator and recipient of the object store supporting information (such as signer certificate, certificate authority and public key, secure time stamp, and unambiguous reference to the then-current CRL).

Transaction Security Requirements (continued)

Team	Transaction	Authentication	Digital Signature	Non-repudiation
Customer	Qualification Request	Yes	Yes	No
Customer	Qualification Request Response	Yes	Yes	Yes
Catalog	Request for Quote	Yes	Yes	No
Catalog	Product Catalog Update	Yes	Yes	Yes
Catalog	Customer Specific Catalog Update	Yes	Yes	Yes
Order	Create Order	Yes	Yes	Yes
Order	Order Response	Yes	Yes	Yes
Order	Order Status	Yes	Yes	No
Order	Order Status Inquiry	Yes	Yes	No
Order	Change Order	Yes	Yes	Yes
Order	Cancel Order	Yes	Yes	Yes
Order	Cancel Order Response	Yes	Yes	Yes

eStandard Transaction Codes

Currently the transaction supported by the eStandard group are defined by the following codes:

GlobalProcessCode	Definition	Name that uniquely identifies each transaction.
	Data Type	String
	Where Used	
	Values	Customer Qualification Request (E11), Customer Qualification Request Response (E12), Create Order (E41), Order Response (E42), Order Status (E43), Order Status Inquiry (E44), Change Order (E45), Cancel Order (E46), Cancel Order Response (E47), Request For Quote (E71), Product Catalog Update (E72), Customer Specific Catalog Update (E73)
GlobalProcessIndicatorCode	Definition	Code that uniquely identifies each transaction.
	Data Type	String
	Where Used	
	Values	E11, E12, E41, E42, E43, E44, E45, E46, E47, E71, E72, E73

Appendix

A

REFERENCES

IMPORTANT: While the information and data contained herein are presented in good faith, it is provided gratis "as is" for your guidance only and neither BASF Corporation, The Dow Chemical Company, nor E.I. duPont de Nemours and Co., Inc. represent or warrant that any use of the materials or standards disclosed herein will not infringe patent, copyright, trademark, trade secret or other intellectual right of any third party.

Appendix A - References

The following lists the various references of source material, web addresses, and acknowledgments that are referenced by this eStandard:

Source Material

RosettaNet™

Web addresses

http://www.rosettanet.org

Acknowledgments

Dun and Bradstreet

CONTACTS

IMPORTANT: While the information and data contained herein are presented in good faith, it is provided gratis "as is" for your guidance only and neither BASF Corporation, The Dow Chemical Company, nor E.I. duPont de Nemours and Co., Inc. represent or warrant that any use of the materials or standards disclosed herein will not infringe patent, copyright, trademark, trade secret or other intellectual right of any third party.

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CHANGE MANAGEMENT/REVISION HISTORY

Appendix C - Change Management/Revision History

Future versions of this eStandard will be a released in its entirety. The versions will be released on a scheduled basis. To quickly identity the changes, see Appendix C – Change Management/Revision History of the new eStandard.

A fundamental principle put in place was to leverage existing standards as required to reduce overall development time and increase acceptance in the industry as well as by tool vendors.

During phase I, the RosettaNet standard was used to help to define naming standards. It was also used a as a baseline for the security and enveloping approach. It was chosen because of its acceptance in industry and feedback from industry analysts stating that they feel the direction and convergence of XML will more than likely be towards RosettaNet.

DATA DICTIONARY

Appendix D - Data Dictionary

This standard has a single, common data dictionary, rather than a data dictionary for each message or one for each section. While individual message has multiple elements, many of these elements are common across messages. This has been done to improve consistency and for ease of use. This is also the approach taken in the established industry standard for EDI, ANSI ASC X12.

All elements in the standard have a data dictionary entry that includes:

- Element Name – The specific, unique name of each element used within the individual messages.

- Element Definition/Description – A short description of a few words or sentences to clarify the purpose and content of data within this element.

- Element Data Type – One of the core data types of this standard identified below.

- Element Data Code Source – A data code source is identified when the values of an element come from a list of references codes, either defined/listed within this standard in the data dictionary or defined by some external standard source.

- Where used (which messages use the element) – The list of message in which an element is used.

- Any attributes that the element may have – The list of attributes for any particular data element. The guideline applied for attributes is defined in the Conventions section of this standard.

All element attributes are defined with the element to which they belong. Attribute definitions include:

- Attribute Name – The specific, unique name of each attribute used within the element.

- Attribute Definition/Description – A short description of a few words or sentences to clarify the purpose and content of the data within the attribute.

- Attribute Data Type – One of the core data types of this standard identified below.

- Attribute Data Code Source – A data code source is identified when the values of an attribute come from a list of references codes, either defined/listed within this standard in the data dictionary or defined by some external standard source.

The Data Type list is a subset of the emerging W3C recommendation for XML Schema data typing. The draft XML Schema recommendation includes data types that are not needed in this standard at this time, and since the XML Schema specification is not yet a recommendation of the W3C, those items have been omitted.

The data types used are:

- Structure – A structure data element does not contain data. It contains only other data elements, which may be other structures or content data elements.

- String – A sequence of character data within the limits of the XML specification. Strings may include length limits. Either max (ex. String 255) or min and max (ex. String 1,3) may be used. The default for a String is String 1,255.

- Boolean – This is a simple true/false field. The acceptable values are 1 (true) or 0 (false).

- Integer – Values whose purpose is numeric and contains only digit characters. For instance LineNumber or EstimatedWeight. This is not intended for Strings that happen to be numeric, such as PostalCode, which do not have numeric intent, but happen to be digits.

- Real – For floating point numbers/values and may include precision (ex. real 3). This should be used where the data item is numeric, but not integer.

- DateTime – For date/time field combination. This uses the ISO 8601 format which is:

- YYYYMMDD or YYYY-MM-DD for the date portion of the string

- HHMMSS or HH:MM:SS for time portion of the string

- These may be used individually or combined in a single entry as either YYYYMMDD HHMMSS or YYYYMMDDTHHMMSS

AccountInformation	Definition	EStandard Account Information Structure
	Data Type	Structure
	Where Used	QualificationRequest
AccountDescription	Definition	The collection of business properties that describe a bank account.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder
AccountName	Definition	The name of a bank account, e.g. credit card.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, QualificationRequest,

AccountNumber	Definition	Identification number of an account.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, QualificationRequest,
AcknowledgmentType	Definition	The type of acknowledgment requested by the buyer.
	Data Type	String 1,255
	Code Table	ANSI ASC X12 587
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus,
AddressLine	Definition	Occurrence of the street address information.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, RequestForQuote, QualificationRequest,
AreaCode	Definition	Numeric prefix for the area within the country.
	Data Type	String 3
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatus Inquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
BeginDate	Definition	Begin Date
	Data Type	DateTime
	Where Used	RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate,
BillTo	Definition	The party that will pay the invoice.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, QualificationRequest,

Appendix D - Data Dictionary (continued)

Body	Definition	eStandard Body Structure. Contains the data of the message.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatus Inquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse,

BusinessDescription	Definition	The collection of business properties that describes a business identity and location.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatus Inquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse

Buyer	Definition	eStandard buyer structure
	Data Type	Structure
	Where Used	CustomerSpecificCatalogUpdate, QualificationRequest,

BuyerIdentifier	Definition	Unique buyer
	Data Type	String 1,15
	Where Used	QualificationRequest, QualificationRequestResponse

BuyerOrderIdentifier	Definition	Unique Identification number from the Buyers (computer) system.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatus Inquiry,

BuyerPartNumber	Definition	Reference product code from the buyer
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus

CancelOrder	Definition	Top-level element of the CancelOrder message
	Data Type	Structure
	Where Used	CancelOrder
	Attribute	Name: Version Definition: Implementation version number Data Type: String

CancelOrderResponse	Definition	Top-level element of the CancelOrderResponse message.
	Data Type	Structure
	Where Used	CancelOrderResponse
	Attribute	Name: Version Definition: Implementation version number Data Type: String

Carrier	Definition	The carrier to be used to fulfill the order
	Data Type	Structure
	Where Used	RequestForQuote, CreateOrder, ChangeOrder, OrderStatus

CarrierEquipment	Definition	Requested transportation equipment by the buyer
	Data Type	String 1,255
	Code Table	ANSI ASC X12 40
	Where Used	CreateOrder, ChangeOrder, OrderStatus,

CASCode	Definition	Chemical Abstract number for this product
	Data Type	String 1,255
	Code Table	NIST
	Where Used	ProductCatalogUpdate,
ChangeOrder	Definition	Top-level element of the ChangeOrder message.
	Data Type	Structure
	Where Used	ChangeOrder
	Attribute	Name: Version Definition: Implementation version number Data Type: String
CityName	Definition	The name of the city
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, RequestForQuote, QualificationRequest
Codes	Definition	Various product codes of items in a product catalog update.
	Data Type	Structure
	Where Used	ProductCatalogUpdate
ContactInformation	Definition	The collection of business properties that provide communication and address information for contacting a person, organization or business.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse

ContactName	Definition	Name of the contact person(s) within the organization.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
ContractIdentifier	Definition	The unique number than identifies a contract.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, RequestForQuote
CountryCode	Definition	Unique numeric prefix for a country
	Data Type	Integer
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
CountryOfOrigin	Definition	Country where product originates.
	Data Type	String 1,255
	Code Table	ISO 3166
	Where Used	CreateOrder, OrderResponse, ProductCatalogUpdate

CreateOrder	Definition	CreateOrder Structure
	Data Type	Structure
	Where Used	Top-level element of the CreateOrder message.
	Attribute	Name: Version Definition: Implementation version number Data Type: String
	Attribute	Name: GlobalPurchaseOrderTypeCode Definition: Code to describe the characteristics of the document Data Type: String
Currency	Definition	Code of the currency in which the monetary amount is defined.
	Data Type	String 1,3
	Code Table	ISO 4217
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest
CustomerSpecificCatalogUpdate	Definition	CustomerSpecificCatalogUpdate Structure
	Data Type	Structure
	Where Used	CustomerSpecificCatalogUpdate
	Attribute	Name: Version Definition: Implementation version number Data Type: String
DangerousGoodsIndicator	Definition	Indicator designating whether item is treated as dangerous goods
	Data Type	Boolean
	Where Used	ProductCatalogUpdate

DeliverTo	Definition	The information to describe the details of the partner and location to which the product must be delivered.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, RequestForQuote, QualificationRequest
DeliverToPartnerData	Definition	The collection of business properties that describes a ship to business partners' role in a partner interface process.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, QualificationRequest
DeliveryRequirementsIndicator	Definition	Specifies a code for "delivery only on" or "deliver on or before" date.
	Data Type	String 1,255
	Where Used	RequestForQuote
DeliveryTerms	Definition	freight prepaid or FOB or similar.
	Data Type	String 1,25
	Code Table	ANSI ASC X12 X12 335
	Where Used	RequestForQuote
DeliveryTolerances	Definition	Limits between which the delivered quantity can vary.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder
	Attribute	Name: GlobalMaterialUnitOfMeasureCode Definition: Identifies the user of measure for the values of the DeliveryTolerances field. Data Type: String Code: ISO 31

Description	Definition	Seller's explanation for the status.
	Data Type	String 1,255
	Where Used	QualificationRequestResponse
Details	Definition	eStandard Details Structure.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
EffectiveDates	Definition	Dates for RequestForQuote Creation and dates within which response is requested
	Data Type	Structure
	Where Used	RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate
EmailAddress	Definition	Email address of the ContactName
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
	Attribute	Name: Type Definition: Data Type: String
EndDate	Definition	End Date
	Data Type	DateTime
	Where Used	RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate

EngineeringChangeOrderIdentifier	Definition	Buyer supplied engineering change number.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder
EstimatedWeight	Definition	Estimated weight of the standard shipping package.
	Data Type	Integer
	Where Used	ProductCatalogUpdate
Expiration Date	Definition	Credit card expiration date.
	Data Type	DateTime
	Where Used	QualificationRequest
ExpiryDate	Definition	The date that a contractual agreement expires.
	Data Type	DateTime
	Where Used	CreateOrder, ChangeOrder
Fax	Definition	Fax number of the ContactName.
	Data Type	String
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
	Attribute	Name: Type Definition: The locale of the FAX number Data Type:String 1,255
FreightIncludedFlag	Definition	Indicates whether freight is included in pricing.
	Data Type	Boolean
	Where Used	CustomerSpecificCatalogUpdate

FromRole	Definition	The role initiating a business document exchange.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
FullDescription	Definition	Seller created general description of the sku (marketing description).
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate
GlobalAccountClassificationCode	Definition	Account classification indicating its functionality, e.g., credit card account, debit card account.
	Data Type	String 1,255
	Code Table	RosettaNet GlobalAccountClassificationCode
	Where Used	CreateOrder, ChangeOrder
GlobalBusinessIdentifier	Definition	A unique businesss identifer. The D-U-N-S Number is specified by RosettaNet.
	Data Type	String 1,255
	Code Table	D-U-N-S Number
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse

Appendix D - Data Dictionary (continued)

GlobalCountryCode	Definition	Code identifying a country.
	Data Type	String 1,255
	Code Table	ISO 3166
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, RequestForQuote, ProductCatalogUpdate, QualificationRequest
GlobalDocumentFunctionCode	Definition	Code identifying the function of a document as either a request or a response.
	Data Type	String 1,255
	Code Table	RosettaNet GlobalDocumentFunctionCode
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
GlobalFinanceTermsCode	Definition	Specification of the terms that govern financing
	Data Type	String 1,255
	Code Table	UN/EDIFACT 4279 ANSI ASC X12 336
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus
GlobalLocationIdentifier	Definition	Code identifying a unique physical location (D-U-N-S Number +4 #), or in the instance of a carrier uses SCAC number
	Data Type	String 1,255
	Code Table	D-U-N-S Number, SCAC
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, QualificationRequestResponse

Appendix D - Data Dictionary (continued)

GlobalMaterialIdentifier	Definition	Unique down to the packaging level. It is a Supplier Assigned Identifier.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus
GlobalMaterialUnitofMeasureCode	Definition	A product unit of measure (i.e. each, pack)
	Data Type	String 2
	Code Table	ISO 31
	Where Used	ProductCatalogUpdate
GlobalPartnerClassificationCode	Definition	Code identifying a party's function in the supply chain.
	Data Type	String 1,255
	Code Table	RosettaNet GlobalPartnerClassificationCode
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest
GlobalPartnerRoleClassificationCode	Definition	Code identifying a party's role in the supply chain.
	Data Type	String 1,255
	Code Table	RosettaNet GlobalPartnerRoleClassificationCode
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest

GlobalPaymentMethodCode	Definition	Method of payment
	Data Type	String 1,25
	Code Table	RosettaNet GlobalPaymentMethodCode
	Where Used	RequestForQuote
GlobalProductClassificationCode	Definition	Classification code (UNSPSC)
	Data Type	String 1,255
	Code Table	UNSPSC
	Where Used	ProductCatalogUpdate
	Attribute	Name: Version Definition: version of the UNSPSC code Data Type: String
GlobalProductIdentificationCode	Definition	comsumer or sales id at SKU level such as UPC/EAN/GTIN
	Data Type	String 1,255
	Code Table	UPC/EAN
	Where Used	ProductCatalogUpdate
GlobalPurchaseOrderLineResponseReasonCode	Definition	Response code to a request to the supplier system for the specific item.
	Data Type	String 1,255
	Code Table	RosettaNet GlobalPurchaseOrderLineResponseReasonCode
	Where Used	OrderResponse
GlobalPurchaseOrderLineStatusCode	Definition	Status of the line item in the supplier system.
	Data Type	String 1,255
	Code Table	RosettaNet GlobalPurchaseOrderLineStatusCode
	Where Used	OrderStatus, OrderResponse

GlobalPurchaseOrderResponseReasonCode	Definition	Response code to a request to the supplier system.
	Data Type	String 1,255
	Code Table	RosettaNet GlobalPurchaseOrderResponseReasonCode
	Where Used	OrderResponse, OrderStatus, OrderCancellationResponse
GlobalPurchaseOrderStatusCode	Definition	Overall order status in the supplier system.
	Data Type	String 1,255
	Code Table	RosettaNet GlobalPurchaseOrderStatusCode
	Where Used	OrderCancellationResponse
GlobalPurchaseOrderTypeCode	Definition	Code to describe the characteristics of the document.
	Data Type	String 1,255
	Code Table	ANSI ASC X12 92
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus
GlobalShipmentTermsCode	Definition	Terms under which a product is shipped.
	Data Type	String 1,25
	Code Table	INCO
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus
GlobalShippingServiceLevelCode	Definition	Code to identify the shipping service level, e.g., overnight, same day.
	Data Type	String 1,255
	Code Table	RosettaNet GlobalShippingServiceLevelCode
	Where Used	OrderStatus

GlobalSupplyChainCode	Definition	Code identifying the supply chain for thepartner's function.
	Data Type	String 1,255
	Code Table	RosettaNet GlobalSupplyChainCode
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
HandlingCertificationRequired	Definition	Type of certification required to handle this product
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate
Header	Definition	eStandard Header Structure. Contains the data of the message.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
ID	Definition	Unique code internal to the manufacturer which identifies the product, such as SKU or Part Number
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate, CustomerSpecificCatalogUpdate

Appendix D - Data Dictionary (continued)

InvoicePreference	Definition	The mode by which a customer wishes to be invoiced.
	Data Type	String
	Where Used	ChangeOrder, CreateOrder

ISOChemicalCode	Definition	ISO code for this item.
	Data Type	String 1
	Code Table	ISO 2580-1-ABS,MN,095-04-09-20
	Where Used	ProductCatalogUpdate

Keywords	Definition	Keyword that can be searched to find product, describing what it is – for example, "Resin".
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate

Label	Definition	Actual label that should be printed for the line item.
	Data Type	String
	Where Used	CreateOrder, ChangeOrder

Language	Definition	Language used in this business document.
	Data Type	String,1,3
	Code Table	ISO 639-2/T
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest

LineNumber	Definition	Number of the line in the document.
	Data Type	Integer
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry

LowerLimit	Definition	The lower limit below which delivery will not be accepted.
	Data Type	Real
	Where Used	CreateOrder, ChangeOrder, OrderResponse
ManualInterventionRequired	Definition	manual intervention required
	Data Type	Boolean
	Where Used	RequestForQuote
Manufacturer	Definition	unique identifier for the manufacturer
	Data Type	String 1,255
	Code Table	D-U-N-S Number
	Where Used	ProductCatalogUpdate
MaterialDescription	Definition	Buyers description of the product ordered
	Data Type	String 1,255
	Where Used	ChangeOrder, CreateOrder, OrderResponse, OrderStatus, RequestForQuote
MaterialQuantity	Definition	Requested quantity in GlobalProductUnitOfMeasureCode
	Data Type	Real
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus
	Attribute	Name: GlobalMaterialUnitOfMeasureCode Definition A product unit of measure (i.e. each, pack) Data Type: String Code: ISO 31
MaximumQuantity	Definition	Largest quantity that can be ordered at one time.
	Data Type	Real
	Where Used	CustomerSpecificCatalogUpdate

MinimumOrderQuantity	Definition	Minimum quantity that can be ordered at one time.
	Data Type	Real
	Where Used	ProductCatalogUpdate
MinimumQuantity	Definition	Smallest quantity that can be purchased.
	Data Type	Real
	Where Used	CustomerSpecificCatalogUpdate
MSDS	Definition	Material Safety Data Sheet
	Data Type	Structure
	Where Used	ProductCatalogUpdate
NAICS Number	Definition	North American Industry Classification System for the company.
	Data Type	String 1,12
	Where Used	QualificationRequest
Name	Definition	Carriers Name
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate
NationalPostalCode	Definition	Geographic location as specified by a nationalpostal code.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, RequestForQuote, QualificationRequest
Number	Definition	Company specific number for a Material Safety Data Sheet.
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate

NumberPackagingUnits	Definition	Number of packaging units required to deliver the requested quantity, whenever the packaging does not have a fixed relationship to the quantity.
	Data Type	Integer
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus
OrderLeadtime	Definition	Time, in days, from order to shipping; not including transport.
	Data Type	Integer
	Where Used	ProductCatalogUpdate
OrderResponse	Definition	Top-level element of the OrderResponse message.
	Data Type	Structure
	Where Used	OrderResponse
	Attribute	Name: Version Definition: Implementation version number Data Type: String
	Attribute	Name: GlobalPurchaseOrderTypeCode Definition: Code to describe the characteristics of the document Data Type: String
OrderStatus	Definition	Top-level element of the OrderStatus message.
	Data Type	Structure
	Where Used	OrderStatus
	Attribute	Name: Version Definition: Implementation version number Data Type: String
	Attribute	Name: GlobalPurchaseOrderTypeCode Definition: Code to describe the characteristics of the document Data Type: String

OrderStatusInquiry	Definition	Top-level element of the OrderStatusInquiry message.
	Data Type	Structure
	Where Used	OrderStatusInquiry
	Attribute	Name: Version Definition: Implementation version number Data Type: String
PackageCode	Definition	ISO code for this package size in which this SKU is sold/shipped
	Data Type	String 1,255
	Code Table	ANSI ASC X12 103
	Where Used	Product Catalog Update
PackListRequirements	Definition	Free form textual description, on the pack list, of requirements relating to the packing of the product.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder
ParametricDataset	Definition	Hash table of attribute and value pairs.
	Data Type	Structure
	Where Used	ProductCatalogUpdate
PartnerData	Definition	The collection of business properties that describes a business partners' role in a partner interface process.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, QualificationRequest

PartnerDescription	Definition	The collection of business properties that describes a business partners' identity and their function in a supply chain.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequestResponse
PartnerName	Definition	The name of the Partner
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, QualificationRequest
PartnerRoleDescription	Definition	The collection of business properties that describes a business partners' identity and their function in a supply chain.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
Partners	Definition	eStandard Partners Structure
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, RequestForQuote, QualificationRequest

PhoneNumber	Definition	Unique number within the area.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
PlannedEndUse	Definition	Buyer application or end use of product requested
	Data Type	String 1,255
	Where Used	RequestForQuote
PostOfficeBoxIdentifier	Definition	The proprietary identity of a physical address, located at a post office, designed solely to accept and receive mail.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, QualificationRequest
PreferredCarrier	Definition	Estandard preferred carrier structure
	Data Type	Structure
	Where Used	RequestForQuote
PreferredCarrierCode	Definition	Standard carrier code
	Data Type	String 1,25
	Code Table	SCAC Code
	Where Used	RequestForQuote
PreferredCarrierName	Definitiion	Carrier's name
	Data Type	String 1,255
	Where Used	RequestForQuote

PreferredContactMethod	Definition	eg. Phone, fax, email
	Data Type	String 1,25
	Where Used	RequestForQuote
Price	Definition	Price requested for the product.
	Data Type	Real
	Where Used	ProductCatalogUpdate, CustomerSpecificCatalogUpdate
	Attribute	Name: Global Currency Code Definition: Specifies the current of the price Data Type: String 1,255
PriceStructure	Definition	Structure containing information used to specify the pricing for a line item.
	Data Type	Structure
	Where Used	CustomerSpecificCatalogUpdate
PriceBasis	Definition	Number or level used to calculate the price of the line item
	Data Type	Real
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus
	Attribute	Name: GlobalMaterialUnitOfMeasureCode Definition: Data Type: String Code: ISO 31
PriceEffectiveDate	Definition	Date that catalog and pricing is effective.
	Data Type	DateTime
	Where Used	ProductCatalogUpdate, CustomerSpecificCatalogUpdate

PriceExpiryDate	Definition	Date that pricing expires
	Data Type	DateTime
	Where Used	ProductCatalogUpdate, CustomerSpecificCatalogUpdate
PriceModifierDown	Definition	hash table of qty & unit price pairs relating to quantity discounts
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate, CustomerSpecificCatalogUpdate
PriceModifierUp	Definition	hash table of qty & unit price pairs relating to charges for packaging and broken packaging
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate, CustomerSpecificCatalogUpdate
ProductAvailableInCountries	Definition	Listing of countries in which a product is available.
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate
ProductCatalogUpdate	Definition	Top-level element of the ProductCatalogUpdate message.
	Data Type	Structure
	Where Used	ProductCatalogUpdate
ProductCode	Definition	Unique code that identifies the product, such as SKU or Part Number (See global material identifier)
	Data Type	String 14
	Where Used	RequestForQuote, ProductCatalogUpdate
ProductFamilyName	Definition	The commodity attribute list name e.g. ABS
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate

ProductInformation	Definition	Estandard product information structure.
	Data Type	Structure
	Where Used	CustomerSpecificCatalogUpdate
ProductLineItem	Definition	The collection of business properties that describe a business document entry for a product.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate
ProjectedVolume	Definition	The amount of product that will be purchased over the agreement period.
	Data Type	Real
	Where Used	RequestForQuote
ProofOfShipmentDelivery	Definition	Indicator that identifies whether proof of delivery exists for the shipment. If proof of delivery exists the Buyer can request proof of delivery external to the Market Place.
	Data Type	String 1,255
	Where Used	OrderStatus
Properties	Definition	eStandard Properties Structure
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse

ProprietaryCIDIdentifier	Definition	Unique identifier for credit card purchase activity utilized by American Express.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder
ProprietaryShipmentTrackingIdentifier	Definition	Unique Shipment id or Bill of lading number from supplier system.
	Data Type	String 1,255
	Where Used	OrderStatus
PurchaseOrderIssuedDate	Definition	The date the purchase order was issued using a format based on the ISO 8601 specification CCYYMMDD where "CC" represents the century, "YY" the year, "MM" the month and "DD" the day.
	Data Type	DateTime
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse
PurchaseOrderNumber	Definition	Unique Identification number from the feeding system. This can be the Market place or the Buyer system.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse
Purpose	Definition	Code identifying purpose of Purchase Order
	Data Type	String 1,255
	Code Table	ANSI ASC X12 353
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus

QualificationRequest	Definition	Top-level element of the QualificationRequest message.
	Data Type	Structure
	Where Used	QualificationRequest
	Attribute	Name: Version Definition: Implementation version number Data Type: String
QualificationRequestResponse	Definition	Top-level element of the QualificationRequestResponse message.
	Data Type	Structure
	Where Used	QualificationRequestResponse
	Attribute	Name: Version Definition: Implementation version number Data Type: String
QuoteIdentifier	Definition	Reference number specifying the quote related to this document
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder
RegionName	Definition	Description of the local area within the country (I.e. State, provence)
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, RequestForQuote, QualificationRequest
Regulations	Definition	Code or text stating regulations dealing with this item. Hash table of pairs of values where the first is the restriction and the second is the regulatory body
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate

ReleaseNumber	Definition	Number associated with the shipment against a forecast.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus
RequestedAgreementPeriod	Definition	Length of time in months.
	Data Type	Integer
	Where Used	RequestForQuote
RequestedDeliveryBetweenDateTime	Definition	The date/time range which the product needs to be the delivered.
	Data Type	DateTime
	Where Used	CreateOrder, ChangeOrder, RequestForQuote
RequestedDeliveryByDateTime	Definition	Date/time by which the product has to be at the deliver to location in the format.
	Data Type	DateTime
	Where Used	CreateOrder, ChangeOrder, RequestForQuote
RequestedDeliveryEndDateTime	Definition	End date/time the product has to be at the deliver to location.
	Data Type	DateTime
	Where Used	CreateOrder, ChangeOrder, RequestForQuote
RequestedDeliveryOnDateTime	Definition	Date/time the product is to be delivered to location.
	Data Type	DateTime
	Where Used	CreateOrder, ChangeOrder, RequestForQuote
RequestedDeliveryStartDateTime	Definition	Start date/time the product has to be at the deliver to location.
	Data Type	DateTime
	Where Used	CreateOrder, ChangeOrder, RequestForQuote

RequestedFirstOrderDate	Definition	The date of the first order that will be placed under this agreement
	Data Type	DateTime
	Where Used	RequestForQuote
RequestedPackaging	Definition	Requested style and size of Packaging.
	Data Type	String 1,255
	Where Used	RequestForQuote
RequestedPrice	Definition	Price requested for the product.
	Data Type	Real
	Where Used	CreateOrder, ChangeOrder, RequestForQuote
RequestedQuoteResponseMethod	Definition	how do we want the quote
	Data Type	String 1,255
	Where Used	RequestForQuote
RequestedShipFrom	Definition	Requested ship from location.
	Data Type	Structure
	Where Used	RequestForQuote
RequestedTransportMode	Definition	What type of transport is requested, e.g. Railcar, LTL.
	Data Type	String 1,25
	Code Table	ANSI ASC X12 X12 91
	Where Used	RequestForQuote
RequestForQuote	Definition	Top-level element of the RequestForQuote message.
	Data Type	Structure
	Where Used	RequestForQuote
	Attribute	Name: Version Definition: Implementation version number Data Type: String

RequestingDocumentDateTime	Definition	ThisDocumentGenerationDateTime from the requesting message.
	Data Type	DateTime
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
RequestingDocumentIdentifier	Definition	ThisDocumentIdentifier from the requesting system.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse, RequestForQuote, ProductCatalogUpdate, CustomerSpecificCatalogUpdate, QualificationRequest, QualificationRequestResponse
RestrictedOrder	Definition	flag stating work process needs to be manually verified
	Data Type	Boolean
	Where Used	ProductCatalogUpdate
Restrictions	Definition	freeform text description of what restrictions are tied to being able to buy this item
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate
RevisionNumber	Definition	Specification of the goods, services or information.
	Data Type	Integer
	Where Used	CreateOrder, ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry, OrderCancellation, OrderCancellationResponse

Routing	Definition	Defines the route the shipment takes to reach it's destination.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder
SafetySheetIndicator	Definition	Indicator for Material Data Safety Sheet creation at shipping time.
	Data Type	String 1,255
	Where Used	CreateOrder, ChangeOrder
SalesOrderIdentifier	Definition	Identification number of the order in the supplier system.
	Data Type	String 1,255
	Where Used	ChangeOrder, OrderResponse, OrderStatus, OrderStatusInquiry
ScheduledDeliveryDate	Definition	Confirmed planned delivery date
	Data Type	DateTime
	Where Used	OrderResponse, OrderStatus
SecondaryBuyer	Definition	The final recipient of the product.
	Data Type	Structure
	Where Used	CreateOrder, ChangeOrder
SellerIdentifier	Definition	Unique seller identifier D-U-N-S Number.
	Data Type	String 1,15
	Where Used	QualificationRequestResponse
ServicesAdministrationNumber	Definition	Refers to pre-existing agreement.
	Data Type	String 1,25
	Where Used	RequestForQuote

ShelfLife	Definition	Period of time that properties will not change – in days.
	Data Type	Integer
	Where Used	ProductCatalogUpdate
ShipDate	Definition	Scheduled or actual Ship date.
	Data Type	DateTime
	Where Used	OrderStatus
ShipFrom	Definition	The D-U-N-S Number + 4 number of the location where the product is to be shipped from.
	Data Type	String 1,255
	Where Used	CustomerSpecificCatalogUpdate, OrderStatus, RequestForQuote
ShippedQuantity	Definition	Scheduled or actual Shipped quantity
	Data Type	Real
	Where Used	OrderResponse, OrderStatus
ShippingLeadtime	Definition	Time, in days, from shipping to receipt
	Data Type	Integer
	Where Used	CustomerSpecificCatalogUpdate
ShippingPackageNumber	Definition	negotiated packaging grouping – such as 4 drums per pallet
	Data Type	Real
	Where Used	CustomerSpecificCatalogUpdate, ProductCatalogUpdate
ShippingServiceLevelCode	Definition	Code for delivery types such as same day, regular, special handling
	Data Type	String 1,25
	Code Table	EDIFACT 4219
	Where Used	OrderStatus, RequestForQuote

Appendix D - Data Dictionary (continued)

ShipToLocation	Definition	Buyer location for which this price is applicable.
	Data Type	String 1,255
	Code Table	D-U-N-S Number
	Where Used	CustomerSpecificCatalogUpdate
ShortDescription	Definition	Short description; noun, attributes
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate
SIC Number	Definition	Standard Industry Code for the company.
	Data Type	string,1,12
	Where Used	QualificationRequest
SoldTo	Definition	Ordering party
	Data Type	Structure
	Where Used	ChangeOrder, CreateOrder, QualificationRequst
SpecialFulfillmentRequestCode	Definition	no backorders, no substitutions, whole lots only
	Data Type	String 1,25
	Code Table	RosettaNet GlobalSpecialFulfillmentRequestCode
	Where Used	RequestForQuote
SpecialInstructions	Definition	Free form textual description of requirements relating to this order.
	Data Type	String 1,255
	Where Used	ChangeOrder, CreateOrder
SpecialMarkingLabel	Definition	special marking or
	Data Type	String 1,255
	Where Used	RequestForQuote

StandardOrderQuantity	Definition	normal order quantity
	Data Type	Real
	Where Used	RequestForQuote
StandardShippingPackageNumber	Definition	Number of units in a standard shipping unit (eg 4 drums per pallet)
	Data Type	Integer
	Where Used	ProductCatalogUpdate
Status	Definition	Buyer's Order Status (Acknowledge,Approved,Approved but no RequestForQuote Submitted,Denied).
	Data Type	String 1,30
	Where Used	CancelOrderResponse, OrderReponse, OrderStatus, OrderStatusInquiry, QualificationRequest, QualificationRequestResponse
StatusInformation	Definition	Buyer Status Information
	Data Type	Structure
	Where Used	QualificationRequestResponse
Supplier	Definition	Supplying party
	Data Type	Structure
	Where Used	ChangeOrder, CreateOrder, CustomerSpecificCatalogUpdate, OrderResponse, OrderStatus, ProductCatalogUpdate
TaxId	Definition	Tax exemption number
	Data Type	String 1,20
	Where Used	QualificationRequest
TaxInformation	Definition	Contains further tax information
	Data Type	Structure
	Where Used	QualificationRequest

TaxStatus	Definition	Code identifying excemption status
	Data Type	String 1,255
	Code Table	ANSI ASC X12 491
	Where Used	QualificationRequest
Taxable	Definition	Indicates whether item is taxable or non-taxable
	Data Type	String 1,255
	Code Table	ANSI ASC X12 491
	Where Used	ChangeOrder, CreateOrder
TechnicalSpecificationsURL	Definition	URL for tech spec/data sheets
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate
TelephoneNumber	Definition	The numerical schema designed to achieve contact via telephone.
	Data Type	Structure
	Where Used	CancelOrderResponse, CancelOrder, ChangeOrder, CreateOrder, CustomerSpecificCatalogUpdate, OrderResponse, OrderStatusInquiry, OrderStatus, ProductCatalogUpdate, QualificationRequestResponse, QualificationRequest, RequestForQuote
	Attribute	Name:Type Definition: The locale of the telephone number Data Type: String 1,255

Appendix D - Data Dictionary (continued)

ThisDocumentGenerationDateTime	Definition	The date-time stamp indicating when this document was generated.
	Data Type	DateTime
	Where Used	CancelOrderResponse, CancelOrder, ChangeOrder, CreateOrder, CustomerSpecificCatalogUpdate, OrderResponse, OrderStatusInquiry, OrderStatus, ProductCatalogUpdate, QualificationRequestResponse, QualificationRequest, RequestForQuote
ThisDocumentIdentifier	Definition	Unique tracking identification number that identifies the business document being sent.
	Data Type	String 1,255
	Where Used	CancelOrderResponse, CancelOrder, ChangeOrder, CreateOrder, CustomerSpecificCatalogUpdate, OrderResponse, OrderStatusInquiry, OrderStatus, ProductCatalogUpdate, QualificationRequestResponse, QualificationRequest, RequestForQuote
ToRole	Definition	The role receiving the document in a business document exchange.
	Data Type	Structure
	Where Used	CancelOrderResponse, CancelOrder, ChangeOrder, CreateOrder, CustomerSpecificCatalogUpdate, OrderResponse, OrderStatusInquiry, OrderStatus, ProductCatalogUpdate, QualificationRequestResponse, QualificationRequest, RequestForQuote
Trade Name	Definition	The manufacturer's grade or trade name for a subcategory of product family.
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate

UpperLimit	Definition	The upper limit above which delivery will not be accepted.
	Data Type	Real
	Where Used	ChangeOrder, CreateOrder
URL	Definition	Seller or supplier URL for this specific SKU in seller website.
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate
Value	Definition	Value information on parametric data
	Data Type	String 1,255
	Where Used	ProductCatalogUpdate
Version	Definition	Version of GlobalProductClassificationCode
	Data Type	Real
	Where Used	ProductCatalogUpdate

IMPLEMENTATION GUIDE

Appendix E – Implementation Guide

Chemical Industry eStandard Implementation Guide

This Chemical Industry eStandard identifies what XML data shall be exchanged for a specific set of business transactions that may be implemented within a marketplace. It does not specify how marketplaces should implement use of this eStandard.

Some implementation guidance is provided in the Frameworks section of this document, which references the RosettaNet Implementation Framework (RNIF). This section provides further implementation requirements and recommendations.

Requirements

- All enveloping information must be passed through by all data delivery mechanisms. The eStandard enveloping information includes amongst other items, tranactional response data needed destination systems. Information in the envelope may be ignored by components of a particular implementation that do not need the information it contains, but the envelope must be delivered intact from source to destination.
- All implementations must honor the data specifications in this eStandard. Information exchanged by systems that implement this standard must be well-formed XML that can be validated against the Document Type Definition (DTD) appropriate for the information being exchanged.
- At several points in this eStandard, elements of the messages used in the business transactions described reference codes. The codes reference sources are the only source that should be used when this is identified. At several points, the code source is referenced as RosettaNet + additional codes as extended by this eStandard. At this point, both RosettaNet and this document must be used as code sources. It is hoped that the codes identified as extending RosettaNet in this eStandard will be incorporated into the RosettaNet standard itself at a future date.

Recommendations

- A thorough understanding of the RosettaNet specifications, its goals, and implementations is strongly recommended for a successful implementation of this eStandard. The RosettaNet Implementation Framework (RNIF) was adopted as the basis of enveloping, and many of this eStandard's data structure because it is a specification that is in use and works. The Envelope and Security section of this eStandard provides guidance on implementation details that extend beyond the current RNIF.

GLOSSARY OF TERMS

Appendix F - Glossary of Terms

A

Action (or Action Flag)	A field in a catalog transaction indicating whether a catalog record is to be added, updated, or deleted.
Attribute	A physical property of a material product, such as boiling point or viscosity.

B

Business to Business (B2B) Model	A market model in which transactions flow directly between Buyers and Sellers, without an intermediary such as a Marketplace.
Business Partner	A Seller, Buyer, Marketplace, Carrier, or Manufacturer
Business Process Diagram	A flow diagram depicting work processes and data flows between Business Partners.
Business Transaction	A transfer of information from one Business Partner to another
Buyer	A Business Partner seeking to purchase a product from a Seller

C

Carrier	Business Partner that delivers products between a Seller and a Buyer.
Catalog	A searchable data store of product and/or pricing information intended to facilitate eCommerce transactions. Also, see Product Catalog and Customer Specific Catalog
Catalog Item (see also "SKU;Stock Keeping Unit")	A SKU in a catalog
Conditions of Sale	The non-financial arrangements of a sale. For example, delivery-between dates
Country	A geographical schema designed to structure inhabitants' spatial coordinates along historical lines
Customer (see also Buyer)	
Customer Contract Number (see also Buyer Contract Number)	An identifier for a contract between a Buyer and a Seller, in the Buyer's system
Customer Identification Number	An identifier which uniquely identifies a Buyer

C (continued)

Customer Location Code	A code which uniquely defines the geographic attributes of a customer
Customer Specific Catalog	A companion catalog to the Product Catalog, which can optionally contain Buyer-specific pricing and conditions of sale for products in the Product Catalog.

D

D-U-N-S Number	The Dun and Bradstreet identifier for a Business Partner at a location level

E

ERP	Enterprise Resource Planning

L

List Price	Standard MSRP which may be contained in the Product Catalog, available for viewing by all registered Marketplace participants

M

Manufacturer Identification Number	An identifier which uniquely identifies a Manufacturer
Manufacturer Product Code	A unique identifier for a product in the Manufacturer's system (also, see SKU)
Marketplace	An on-line facility for trading chemical products
Marketplace Model	The business model whereby there is a Marketplace serving as an intermediary between Buyers and Sellers
Message	The data contained in a transaction

P

Parametric Data	A hash list of Physical Properties that reside in a catalog record. Used primarily to enable parametric searches through a catalog.
Parametric Search	A type of search in which one narrows down a field of choices by entering parameters to be matched.

Appendix F - Glossary of Terms (continued)

P (continued)

Participants	The users of a Marketplace: Sellers who sells through the Marketplace and Registered Buyers.
Physical Property (see also Attribute, Parametric Data)	Describes a material product. Tensile strength and boiling point are examples of Physical Properties. Also known as Attributes. These are entered as Parametric Data, which can be searched upon.
Populate	To fill a catalog database with data
Product	A material offered for sale.
Product Catalog	A catalog which contains descriptions, attributes, and other information for products offered by Sellers
Public Key Cryptography Standard (PKCS)	A cryptographic standard in which a non-secret, publicly-available cryptographic key can be used to encrypt a message which can only be deciphered by the holder of the matching secret, or "private" key.

Q

Qualified Buyer	A Buyer which has received approval from a Seller to do business with that Seller over a Marketplace

R

Registration	The process by which a Buyer becomes eligible to participate in a Marketplace
Request for Product Information (RFPI)	An open-ended request initiated by a Buyer seeking to find a new product to match a specified need.
Request for Quote (RFQ)	A transaction used to request price or conditions of sale different from a standard offer.
Resident	"Physically exists." A catalog physically exists where it is "resident."

S

Stock Keeping Unit (SKU)	A code that identifies a unique product/package configuration that is available for sale. SKUs are unique to a given Seller.
Supplier (see also Seller)	A Business Partner which provides a product for sale
Supplier Contract Number	An identifier for a contract between a Buyer and a Seller, in the Seller's system
Supplier Identification Number	An identifier which uniquely identifies a customer
Supplier Product Code (Buyer Part Number)	A unique identifier for a product in the Seller's system (also, see Stock Keeping Unit (SKU))

T

Technical Data Sheet (TDS)	A document containing information regarding the technical specifications of a chemical product
Transaction	An exchange of information between Business Partners which takes place during a business process

X

XML	eXtensible Markup Language