

Implementation Guide

***Implementation Guide for Messaging Interface between
ITDS Trade Partners and CBP Document Image System (DIS)***

Document Number:

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April 1, 2013



**U.S. Customs and
Border Protection**

Revision History

Document Number	Description of Revision	Author/ Person Responsible	Government Approval Authority	Date Approved
ITDS-DIS-Implementati on Guide-V2.1.docx	<p>Changed the DIS destination IP to 173.255.63.75 for sFTP and Web Services IP. (sections 6.1 and 7)</p> <p>Removed 'T&E (7512) Number' data element from the 'APHIS Transit Permit' document. (section 9.3.2)</p> <p>Added four new forms: (sections 8.1, and 9.3.2)</p> <ul style="list-style-type: none"> - CDC Importation Permission Letter - CDC Form 0728 - CDC Import Permit Exemption Letter - TTB Champagne Certificate of Origin 	Shailesh Sardesai, Sheila Chan	Dave Neuhart, Jim McLaughlin	4/1/2013
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ITDS-DIS-Implementati on Guide-1 2 6.docx	<p>Updated the following sections to include the FSIS documents:</p> <ul style="list-style-type: none"> • Section 8.1, Documents Supported in DIS • Section 9.2, High level document specific validation • Section 9.3, Detailed document specific validations <p>Added the following note at the beginning of Section 3: <u>NOTE:</u> ONLY DOCUMENTS THAT ARE EXPLICITLY LISTED IN THE FEDERAL REGISTER NOTICE (FRN) FOR TRANSMISSION BY TRADE SHOULD BE SUBMITTED TO CBP VIA DIS. THE DOCUMENT LABEL LIST IN THE DIS XSD IS ONLY A REFERENCE TO THE TECHNICAL ABILITY TO SUPPORT EACH DOCUMENT TYPE TO FACILITATE TESTING. THE FRN IS THE SOLE, FORMAL AUTHORITY WHICH DICTATES THE SPECIFIED ALLOWABLE FORMS TO BE TRANSMITTED TO CBP IN THE OPERATIONAL PRODUCTION ENVIRONMENT.</p>	Shailesh Sardesai, Sheila Chan	Dave Neuhart, Jim McLaughlin	02/23/2012

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DISImplGuide-ICD-1.0.doc	Initial Version	Shailesh Sardesai, Ed Jenkins, Valarie Neuhart, Jai Sipper	Dave Neuhart, Jim McLaughlin	

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Implementation Guide

Project Description:	Implementation Guide for Messaging Interface between ITDS Trade Partners and CBP Document Image System (DIS)
Document Number:	ITDS-DIS-IG-2.1
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1. Introduction

The CBP Office of International Trade (OT) and Office of Information and Technology (OIT) have worked together to design and implement a system that allows participating Trade Partners to submit document Images and associated descriptive data to CBP electronically. XML is used for the message format, and the message payload is transmitted using secure web services, FTP or MQ. The submitted documents are then automatically processed, securely stored by CBP and are made available for review and audit by authorized CBP and Participating Government Agency (PGA) officials via a web based application. It is expected that this project will eventually facilitate the creation of a single automated gateway that will accept all necessary documents submitted by trade partners to CBP and PGAs that may be needed during the cargo importation and release process.

The initial goal of the system is to accept images of documents that are currently submitted by trade in hard-copy format to CBP and other government agencies as part of the cargo import process. The system shall be implemented in incremental phases.

The initial phase will provide basic document image submission and management capabilities. Specifically:

- Allow Trade Partners to submit document images and associated descriptive meta data to CBP and PGAs in an automated manner using EDI communication
- Store all submitted documents in a secure centralized CBP data store and maintain associations with related data such as Entry and Bill numbers
- Allow authorized users to retrieve, view, and annotate documents via a web based user interface
- Provide basic security, authorization and auditing
- Offer back-end services that facilitate search and reporting capabilities to trade partners to verify the receipt of documents
- Provide capabilities for CBP Client Representatives to view raw received messages

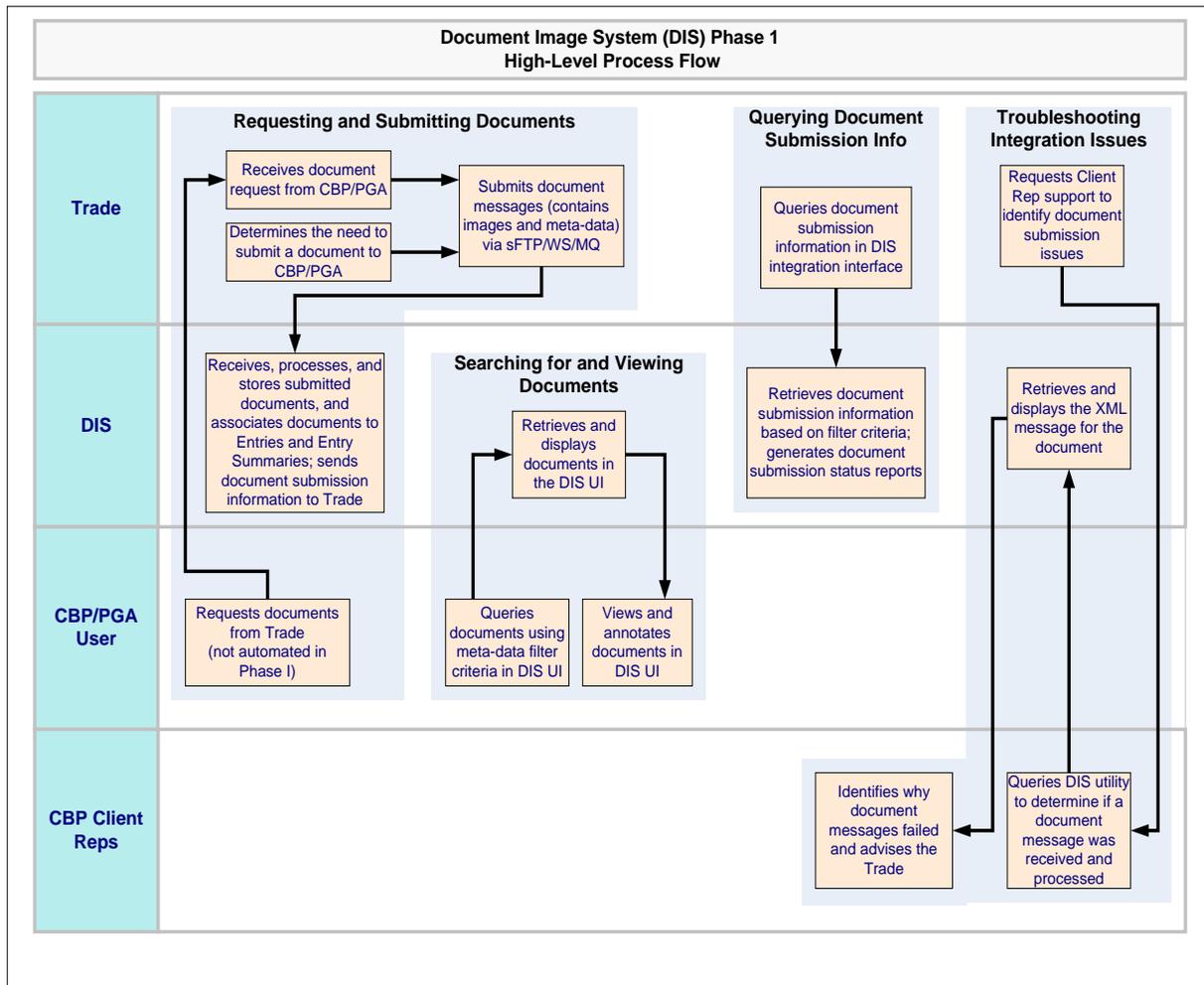
Subsequent phases will provide new interfaces that allow integration of DIS image management capabilities with other systems in CBP and PGAs. These incremental phases will introduce service integration with other CBP systems and usage of DIS application capabilities by additional CBP and PGA user groups to meet business process requirements during the cargo review and release process.

1.1. PGA Benefits

- Reduce the reliance on paper based processing by providing services that allow PGA systems to receive documents electronically

- Allow PGA users to electronically request documents from Trade Partners
- Provide automated document storage, retrieval and versioning capabilities
- Allow for review, rejection and acceptance of imaged documents
- Facilitate automated collaboration with other agencies including CBP during the document review and adjudication process
- Allow potential streamlining of infrastructure and processing costs by leveraging a single shared pathway for automated submission and processing of electronic documents from trade

The following depicts the high-level process flow for the DIS Phase I solution.



2. Purpose and Scope of this Document

The purpose of this document is to provide a description of the message formats, communication mechanisms, validations, and business scenarios that would assist trade partners in building their interface with the CBP DIS system. This document will specify exactly *what* data is to be transmitted by each party, *when* the data is to be transmitted, and *how* the data is to be transmitted.

3. Interface Description

NOTE: ONLY DOCUMENTS THAT ARE EXPLICITLY LISTED IN THE FEDERAL REGISTER NOTICE (FRN) FOR TRANSMISSION BY TRADE SHOULD BE SUBMITTED TO CBP VIA DIS. THE LIST OF DOCUMENT LABELS IN THE DIS XSD IS ONLY A REFERENCE TO THE TECHNICAL ABILITY OF THE SYSTEM TO SUPPORT EACH DOCUMENT TYPE TO FACILITATE TESTING. THE FRN IS THE SOLE, FORMAL AUTHORITY THAT IDENTIFIES THE VARIOUS DOCUMENT TYPES THAT MAY BE TRANSMITTED TO CBP IN THE OPERATIONAL PRODUCTION ENVIRONMENT VIA DIS.

The DIS interface between CBP and Trade Partners described in this document is intended to allow CBP to electronically gather relevant information and documents required during the cargo importation and release process and to update trade partners regarding the review status of such documents.

The key goal of the interface is to replace the manual paper based transactions that occur today between trade partners and CBP/PGAs with an efficient, reliable, and cost-effective electronic mechanism. Documents that are submitted via this interface are electronic copies, i.e. images, of the paper documents submitted today. Multiple document and image formats are supported, and the images are embedded in the submitted XML message along-with distinct, usable, metadata fields that describes the document and its associations. All such image and metadata fields are described in detail in the XML schema that accompanies this implementation guide.

The XML message that constitutes the payload containing document images, and all associated metadata, remains the same irrespective of the message 'transmission' mechanism chosen by a trade partner.

CBP supports three different transmission mechanisms by which the XML message payload can be submitted to the DIS Gateway. These are:

- Secure FTP
- Secure Web Services
- Existing EDI MQ interfaces

All responses back to Trade are also sent in the form of XML messages that contain the status of submissions or any requested information. In phase 1, all such asynchronous responses are sent only via existing **EDI response queues** back to trade partners irrespective of the interface used to submit documents to CBP.

Subsequent phases will support the ability to transmit data to trade partners via trade-side web services rather than just MQ once trade systems begin hosting web services. Likewise, subsequent phases will support DIS-side synchronous Web Services that return specific, requested information immediately to Trade as a response message in the same synchronous web service call.

4. Use Cases for Typical Message Transmissions from a Trade Partner to CBP using MQ, SFTP or Web Services

4.1. UC_DIS_002: CBP DIS receives XML message with document images and associated metadata from Trade Partners

Use Case Description

This use case describes system behavior when the DIS system receives a document submission message from a Trade Partner via SFTP or Web Services

Pre-conditions

The Trade partner system is configured to send CBP appropriate trade documents

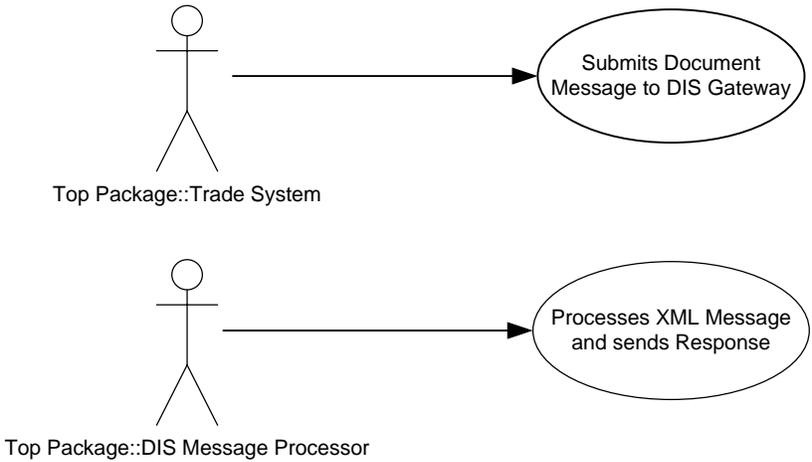
Basic Flow

1. During the course of Trade Transaction review, CBP or PGAs may send Trade Partners requests for additional documentation such as Invoices, Permits, and Licenses etc.
2. In response to such requests for documentation or voluntarily even without such requests, trade partners may submit additional supporting documentation to facilitate the cargo importation and release process
3. Trade partners may submit supporting documents to CBP and PGAs in electronic format via the DIS gateway or their existing EDI MQ Queues. The images are embedded in an XML message along-with any metadata that describes the document and its associations.
4. The XML message can be submitted to the DIS Gateway via three supported three interfaces:
 - a. Secure FTP
 - b. Secure Web Services
 - c. Existing EDI ABI MQ interfaces
5. All responses back to Trade are also sent in the form of XML messages that contain the status of submissions or any requested information.
6. All asynchronous responses are sent via existing EDI ABI response queues
7. Web Service requests will also support specific requests that return information synchronously.
8. All DIS gateway interfaces accept the incoming XML message and inserts it into the TASPO DIS MQ Queues

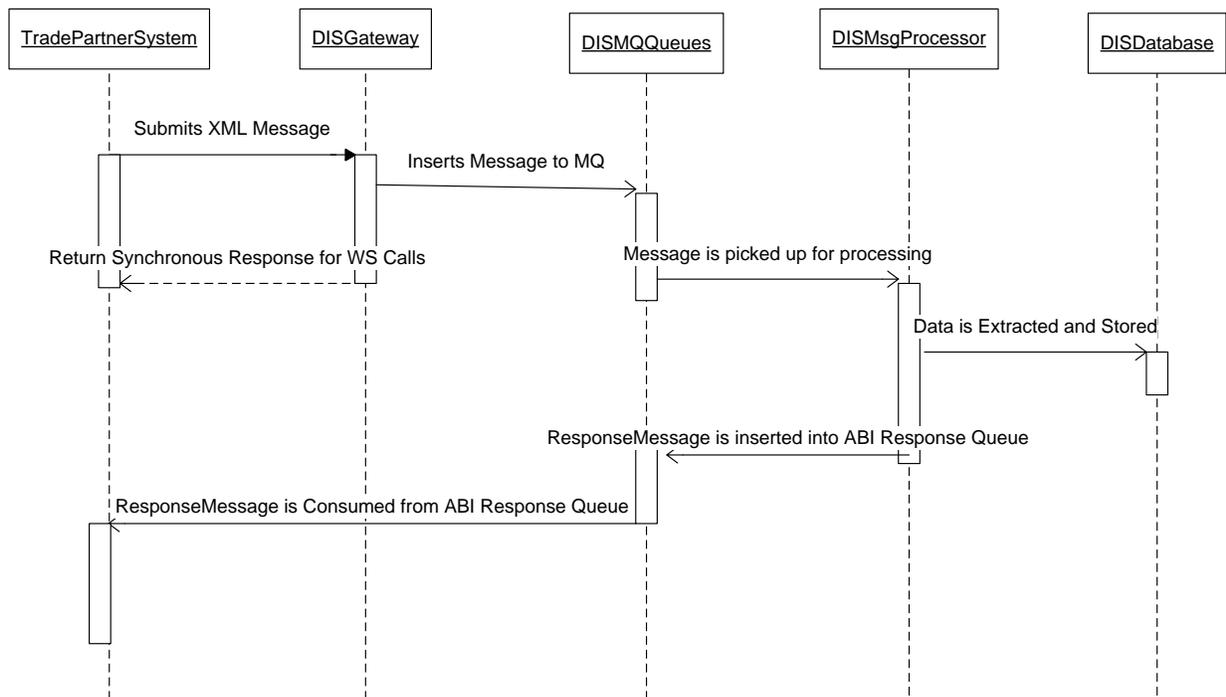
Post-conditions:

- The submitted document image messages are stored in TASPO DIS MQ Queues
- The XML messages are then processed by the DIS system and response messages indicating the processing status of each message are placed on the ABI MQ response queues for that client.

Use Case Diagram



Interaction Diagram



4.2. UC_DIS_008: Trade Partner requests document submission status and review status information from CBP DIS Web Services using pre-agreed search criteria

Use Case Description

This Use Case describes the various steps involved when CBP receives requests for Document submission status, metadata and review status from trade partners.

Pre-conditions

Document submission status, metadata and review status information for the document have been stored in the DIS database.

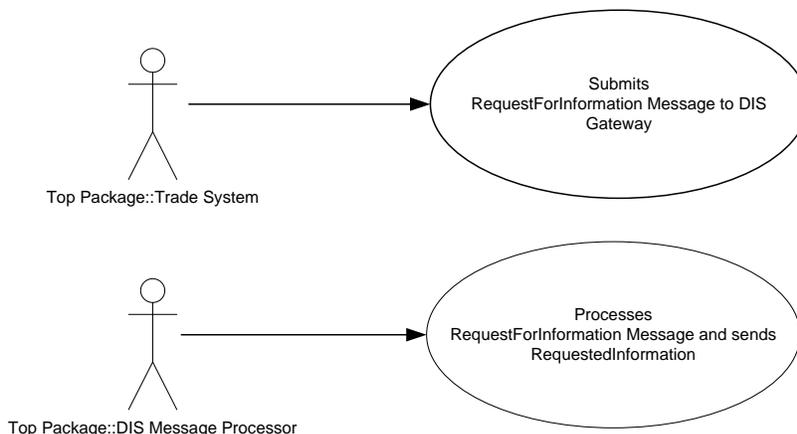
Basic Flow

- a) Trade system sends a request for document/review statuses to CBP using one of the interfaces defined in Section 3, Interface Description. Trade system specifies the criteria to be used to identify the documents
- b) The CBP DIS interface to which the message was sent saves the request message into the appropriate MQ queue
- c) The DIS MessageProcessor processes the messages and creates a response message with the requested data
- d) DIS MessageProcessor saves the response message in the appropriate EDI ABI response MQ queue for that trade partner
- e) The trade partner consumes the EDI ABI MQ response Queue to receive the requested data

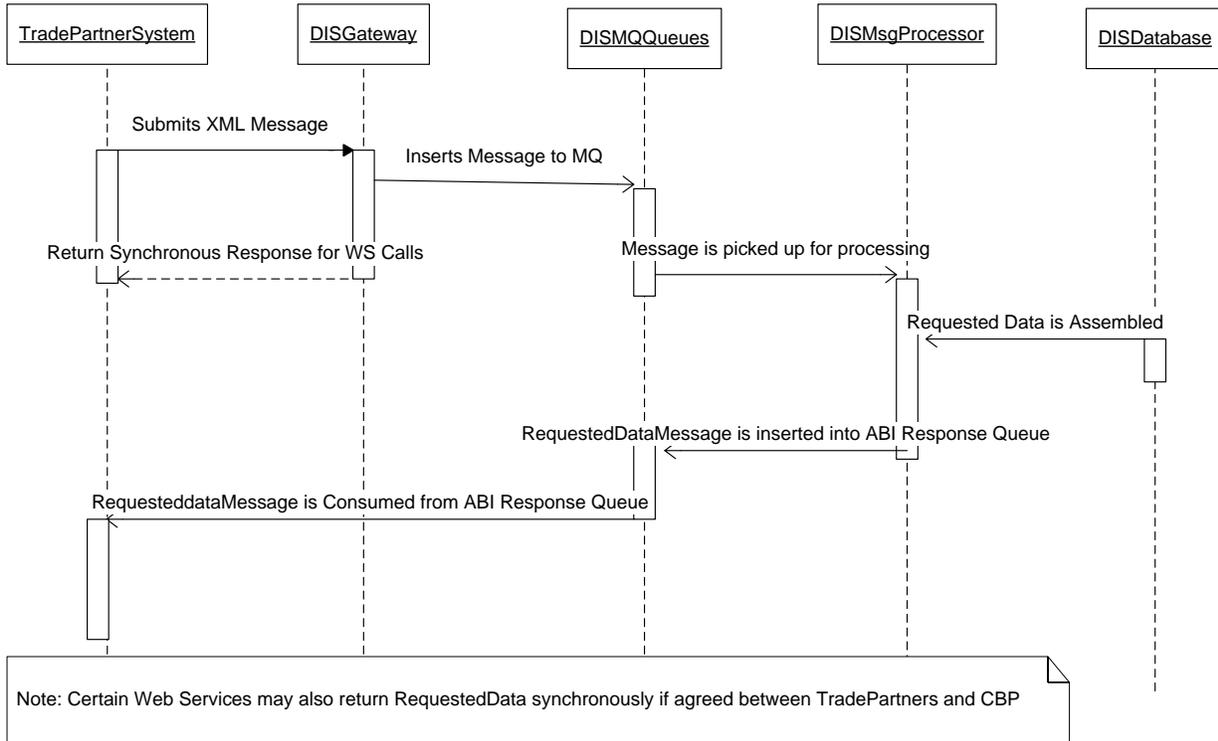
Post-conditions:

Document request is accepted by the Trade.

Use Case Diagram



Interaction Diagram



5. Message Submission via existing EDI MQ Queues

Trade Partners may submit XML messages containing document images and associated metadata via existing EDI MQ Interface. Likewise trade partners will receive all response messages from CBP via their EDI MQ response queues.

5.1. Queue and Payload Description

The payload submitted during the SFTP transaction shall be the same XML message as defined in the other interfaces. Refer to the DIS Message Schema for detailed XML messages.

- Please contact the CBP DIS POC to setup DIS specific inbound and outbound queues for your company **in your existing ABI MQ environment**. CBP recommends that separate DIS queues be setup under your existing ABI Queue Manager.
- To submit messages to CBP including 'Document Submission' and later for 'RequestsForInformation', **use the unique DIS Document submission Queue(s)** agreed upon with CBP for your specific company.
- To receive response, **use the unique DIS Response Queue assigned to your specific company**. The name of this queue is negotiated with each corporation.

6. Message Submission via SFTP

Trade Partners may submit XML messages containing document images and associated metadata via a secure file transfer protocol service (SFTP) site hosted by CBP on the internet. Trade partners will receive a synchronous response indicating the status of the SFTP call, but detailed processing status of the submitted message will be sent via the same EDI response queue as described earlier.

6.1. Server and Payload Description

The payload submitted during the SFTP transaction shall be the same XML message as defined in the other interfaces. The available XML messages are described in the 'XML Messaging schema' section later in this document.

- The server IP and port of the SFTP service shall be provided to each trade partner if updated
 - Current SFTP Service = **173.255.63.75 Port 2023**
- A Unique UserID and Password shall be provided to each partner for the SFTP service

7. Message Submission via DIS Secure Web Services

Trade Partners may submit XML messages containing document images and associated metadata via secure web services (HTTPS) hosted by CBP on the internet. Trade partners will receive a synchronous response indicating the status of the web service call, but detailed response messages back to the trade partner regarding the processing status of the submitted message will be sent via the same EDI response queue as described earlier.

- **Current Web Service = 173.255.63.75 Port = 2033 (Requires Login/Password)**

- Authorized Trade Partner POCs can contact the CBP technical team to get implementation details of DIS web services and the current URL end point for such services

7.1. Key Guidelines for usage of DIS Web Services

Refer to the Web Services WSDL documentation for complete details. The DIS Web Service WSDL is for Trade Partners that choose to use the 'Web Services' option as the transmission mechanism to submit documents to DIS. **Trade partners that submit documents to DIS via MQ or SFTP do not need to use Web Services.**

- DIS Web Services implement SSL, Client IP authentication, login credentials and SecurityTokens as layers of security checks
- DIS Web Services implement the SOAP protocol
- The DIS XML Message payload shall be embedded in the SOAP body of the submitted SOAP envelope (Sample message is included in this document).
- Certain SOAP headers may be defined to facilitate routing and security
- Please refer to the DIS XML message specification for details on the various payloads that may be submitted via any of the three transmission mechanisms.
- The DIS XML Message payload **within the SOAP envelope** should not have the XML instruction `<?xml version="1.0" encoding="utf-8" ?>` since the SOAP envelope is itself an XML construct, and the message payload is not the first line of the SOAP XML document. Instead, the xml command line should be the first line of *the SOAP message*.
- The DIS XML Message payload **can** have the XML instruction `<?xml version="1.0" encoding="utf-8" ?>` when the XML message is submitted via MQ or SFTP

7.2. Web Services Security Implementation in DIS

- DIS web services implement the security features described below.
 - Web Services are implemented using HTTPS protocol.
 - Web Services Implement Login and Password authentication. A unique UserID and Password shall be provided to each client.
 - The login credentials are used to obtain a valid SecurityToken string by calling the getSecurityToken() operation.
 - A valid SecurityToken string is then used to make subsequent calls to other operations in the web service. The security token expires after a certain amount of time and must be re-obtained dynamically from the web service if invalid.

7.3. DIS WSDL for Web Services

Refer to the Web Services WSDL documentation for complete details. The Web Service WSDL is for Trade Partners that choose to use the 'Web Services' option as the transmission mechanism to

submit documents to DIS. Trade partners that submit documents to DIS via MQ or SFTP do not need to use Web Services.

8. DIS XML Messaging Schema Summary

This section provides a general overview of the DIS XML Message Schema; describes message usage, answers frequently asked questions (FAQs) and serves as a visual aid in tracing key data structures contained within the schema. It is not meant to provide specific details or identify any latest changes in any given XML schema version. Please refer to the latest XML schema package provided to trade POCs for such details.

Important:

- Per agreement between Trade Partners and CBP, a number of data elements specific to certain document types have now been made optional. The changes made in this XML schema version reflect that agreement. **The next section identifies such mandatory, conditional and optional data elements.**
- Note that DIS is expected to complement the functionality and intent of the PGA message set. Any detailed data elements required by PGAs should be submitted via the PGA message set if such elements are supported by the PGA Message set and when the set is operational in the production environment.
- The DIS XML message that is used by trade partners to submit documents and associated metadata to DIS remains exactly the same regardless of whether MQ or sFTP or Web Services is used as the technical transmission mechanism.
- The submitted XML message must conform to the latest agreed upon DIS XML message specification (XSD set) that was sent to Trade representatives by CBP.
- Review of the XSD package should start with **MessageEnvelope.xsd** that defines the construct of the main message envelope and the various payloads that can be contained within it.
- Only one payload type is allowed in a given submission.
- Element <DocumentSubmissionPackage> is one such payload that is used to submit all documents to DIS. Other payloads such as <RequestForInformation> shall be supported in future releases.
- **CommonData.xsd** contains element definitions that may be used across multiple payloads.
- If an element is optional, and you choose not to provide that data element in the XML submission, then please do not include that element at all. I.e. do not supply that element as an empty element.

8.1. Documents Supported in DIS

At the time of writing this implementation guide, the following documents are supported in DIS:

Agency ("OTHER" indicates that the document is not specific to any agency.)	Document Type ("OTHER" is to be used when a document label does not fit under the category of the listed document types.)	Use this Document Label Value to Submit the document to DIS "enumDocumentLabel" enumeration value (CommonData.xsd)	Description
APHIS	PERMIT	APHIS Import Permit	APHIS Import Permit
APHIS	NOTICE	APHIS Notice Of Arrival	APHIS Notice of Arrival
APHIS	CERTIFICATE	APHIS Pre-Clearance 203	APHIS Pre-Clearance 203
APHIS	PERMIT	APHIS Transit Permit	APHIS Transit Permit
APHIS	CERTIFICATE	Veterinary Health Certificate	Veterinary Health Certificate
CBP	CERTIFICATE	CBP-CF3229	Certificate of Origin
CBP	OTHER	CBP-CF3299	Declaration for Free Entry of Unaccompanied Articles
CBP	CERTIFICATE	CBP-CF4455	Certificate of Registration
CBP	CERTIFICATE	CBP-CF4457	Certificate of Registration for Personal Effects Taken Abroad
CBP	INVOICE	Commercial Invoice	Commercial Invoice
CBP	INVOICE	Invoice Worksheet	Invoice Worksheet
CBP	BOND	ISF Bond (Type 16)	Importer Security Filing (ISF) Bond (Activity Type 16)
CBP	Manifest	N/A. Export Manifest documents are submitted to DIS via Email Only.	Export Manifest (MOT: Ocean)
CBP	OTHER	Packing List	Packing List
CBP	BOND	STB (Type 1)	Single Transaction Bond (Activity Type 1)
CDC	PERMIT	CDC Importation Permission Letter	CDC Importation Permission Letter
CDC	PERMIT	CDC Form 0728	CDC Form 0728
CDC	EXEMPTION	CDC Import Permit Exemption Letter	CDC Import Permit Exemption Letter
DCMA	CERTIFICATE	DCMA Certification of Duty-Free Entry	DCMA Certification of Duty-Free Entry
EPA	OTHER	EPA Form 3520-1	EPA Form 3520-1 (Importation of Motor Vehicles and Motor Vehicle Engines Subject to Federal Air Pollution Regulations (on the road))
EPA	OTHER	EPA Form 3520-21	EPA Form 3520-21 (Importation of Motor Vehicles and Motor Vehicle Engines Subject to Federal Air Pollution Regulations (off the road or heavy duty highway))

Agency ("OTHER" indicates that the document is not specific to any agency.)	Document Type ("OTHER" is to be used when a document label does not fit under the category of the listed document types.)	Use this Document Label Value to Submit the document to DIS "enumDocumentLabel" enumeration value (CommonData.xsd)	Description
EPA	NOTICE	EPA Form 3540-1	EPA Form 3540-1 (Notice of Arrival of Pesticides and Devices)
EPA	OTHER	EPA Pesticide Label	EPA Pesticide Label
EPA	CERTIFICATE	EPA TSCA Certification	EPA Toxic Substance Control Act (TSCA) Import Certification Form
EPA	EXEMPTION	EPA Vehicle/Engine Exemption	EPA Pre-approved Vehicle/Engine Exemption Letter
FSIS	PERMIT	FSIS 9010-1 Return of Exported Products	FSIS 9010-1 (Application for the Return of Exported Products to the United States)
FSIS	CERTIFICATE	FSIS 9060-5 U.S. Export Certificate	FSIS 9060-5 (US Export Certificate)
FSIS	NOTICE	FSIS 9540-4 Shipper Notification	FSIS 9540-4 (Shipper Notification - Importation of Undenatured Inedible Meat Product)
FSIS	NOTICE	FSIS 9540-5 Sample Notification	FSIS 9540-5 (Sample Notification)
NOAA	CERTIFICATE	NOAA Form 370	Fisheries Certificate of Origin (NOAA Form 370)
NOAA	PRE-APPROVAL	Toothfish Pre-approval	Toothfish Pre-approval Form
OTHER	CERTIFICATE	Certificate Of Origin	Certificate of Origin
OTHER	CERTIFICATE	CITES Certificate	CITES Certificate
OTHER	CERTIFICATE	Foreign Certificate	Foreign Certificate
OTHER	OTHER	Generic Document	Generic Document
OTHER	OTHER	Ingredients List	Ingredients List
OTHER	CERTIFICATE	Meat Certificate	Meat Certificate
OTHER	OTHER	Passport, D/L, Govt Issued ID	Passport, D/L, Govt Issued ID
OTHER	PERMIT	Permit	Permit
OTHER	OTHER	Photo or Image	Photo or Image
OTHER	CERTIFICATE	Phytosanitary Certificate	Phytosanitary Certificate
OTHER	OTHER	Vehicle title, SE Other	Vehicle title, SE Other
TTB	CERTIFICATE	TTB Champagne Certificate of Origin	TTB Champagne Certificate of Origin

8.2. XML Schema Pictorial Depiction

Note: The XML schema and example files provided in this document are for illustrative purposes only. They are not kept up to date with the latest DIS specification. Please use the actual DIS XML specification for guidance, detailed analysis and technical implementation.

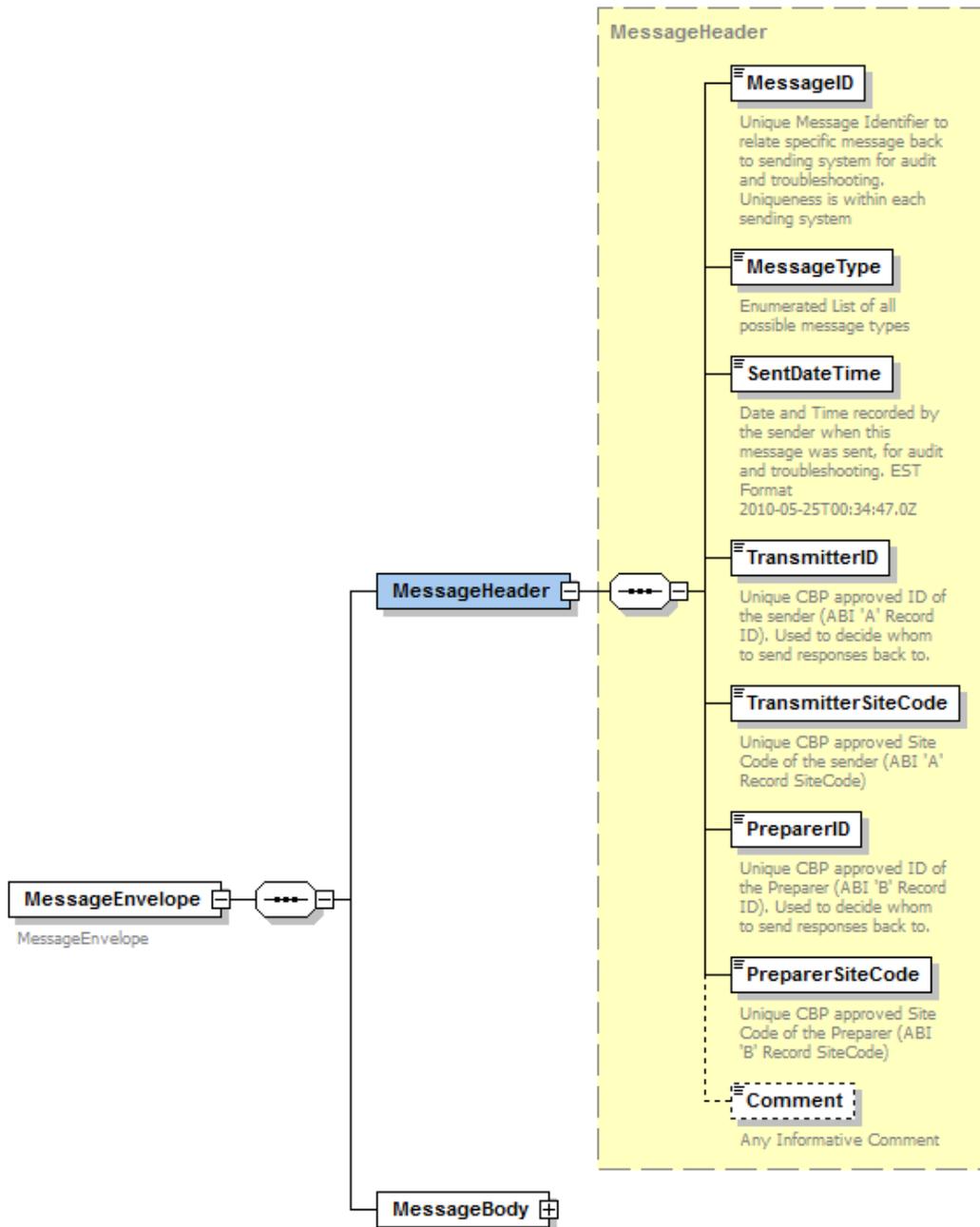


Figure 4.2.2.2a: High level Structure of the DIS MessageEnvelope

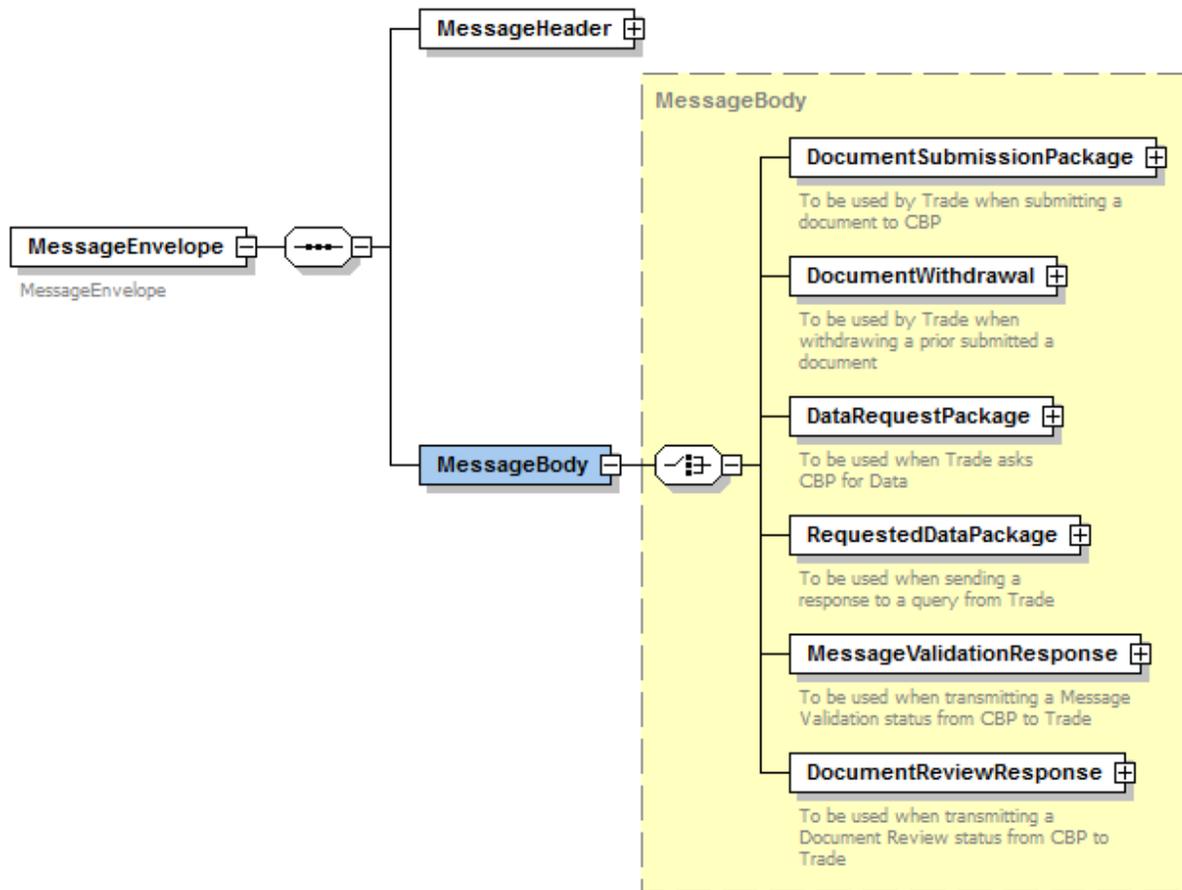


Figure 4.2.2.2b: High level Structure of MessageBody

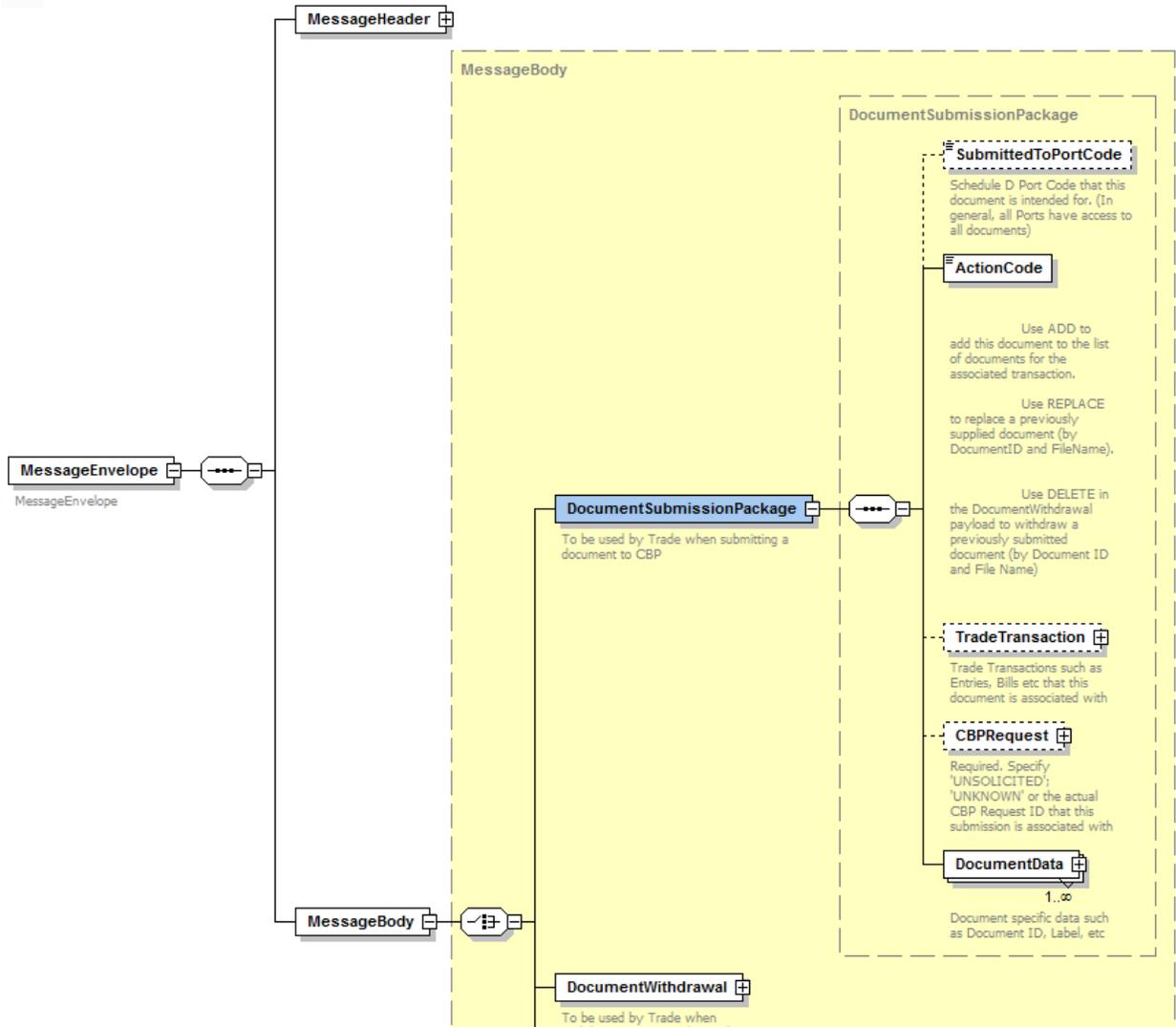


Figure 4.2.2.c: High Level View of DocumentSubmissionPackage

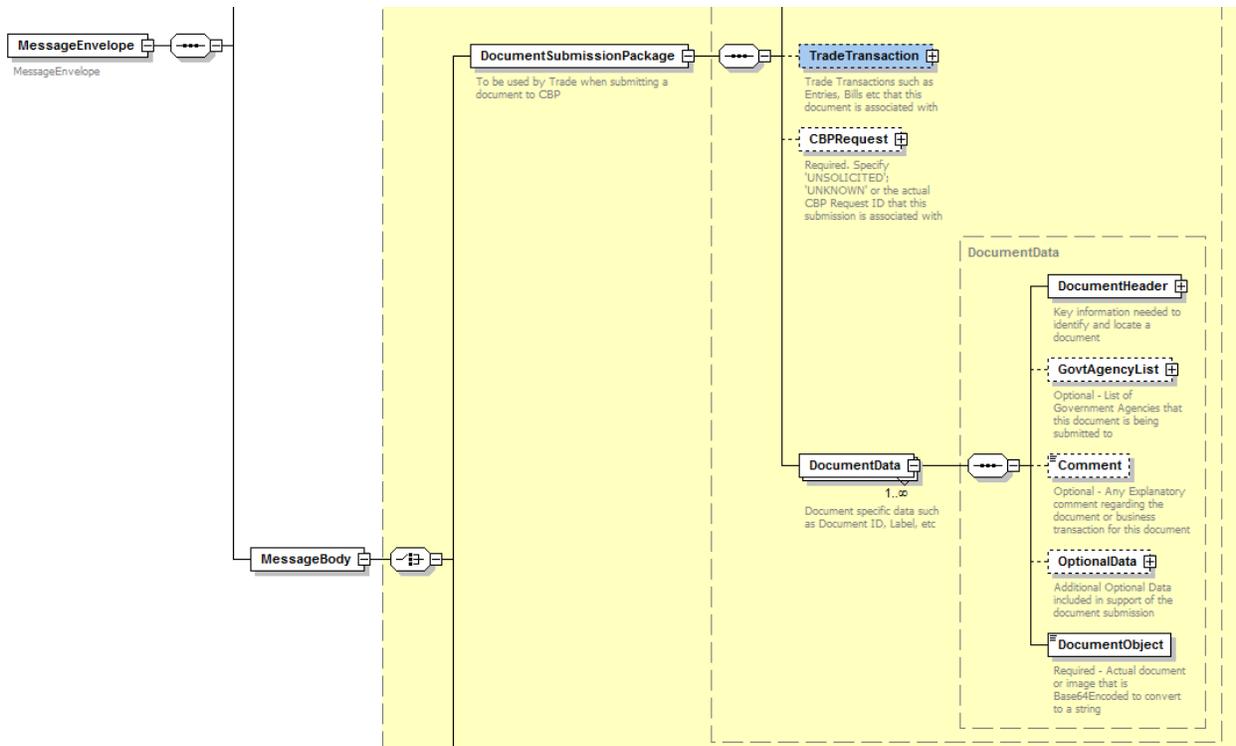


Figure 4.2.2.d: High Level View of DocumentData Element

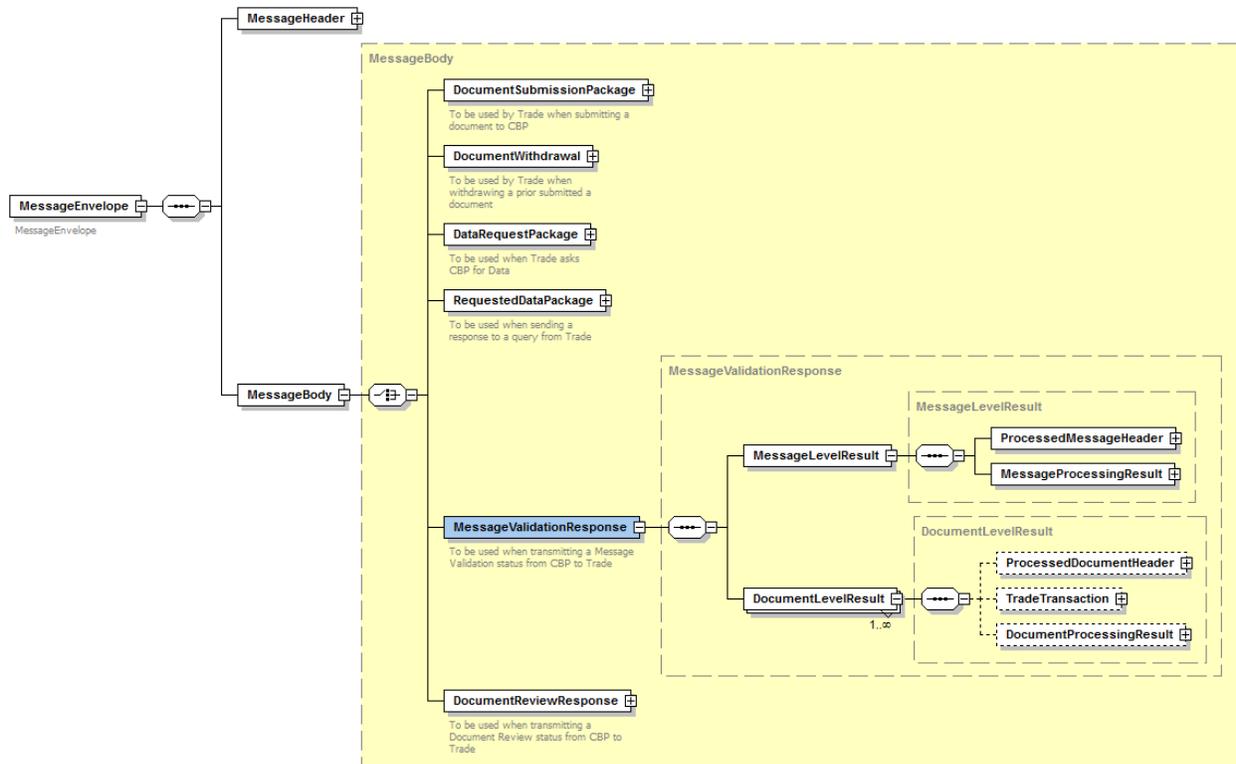


Figure 4.2.2.e: High Level View of MessageValidationResponse sent back to Trade Partners

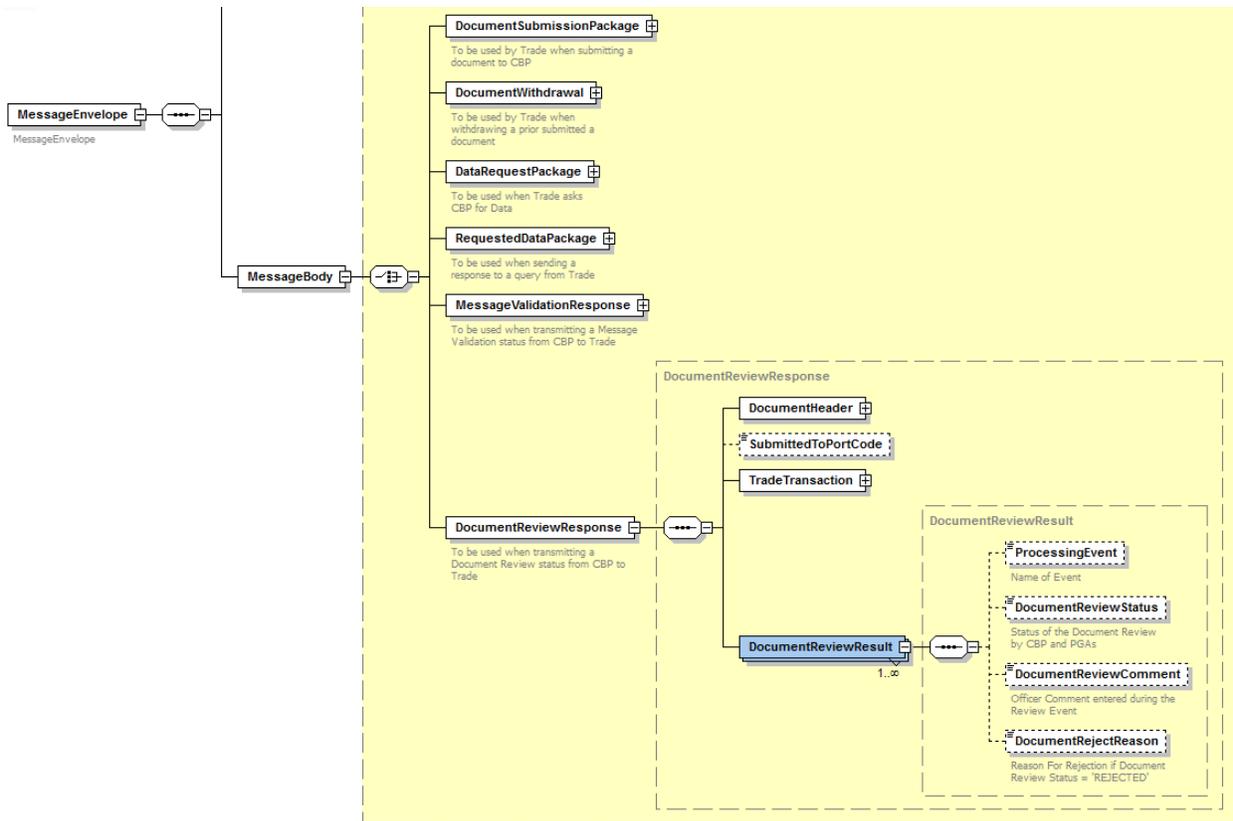


Figure 4.2.2.2f: High Level View of DocumentReviewResponse Message sent to Trade Partners

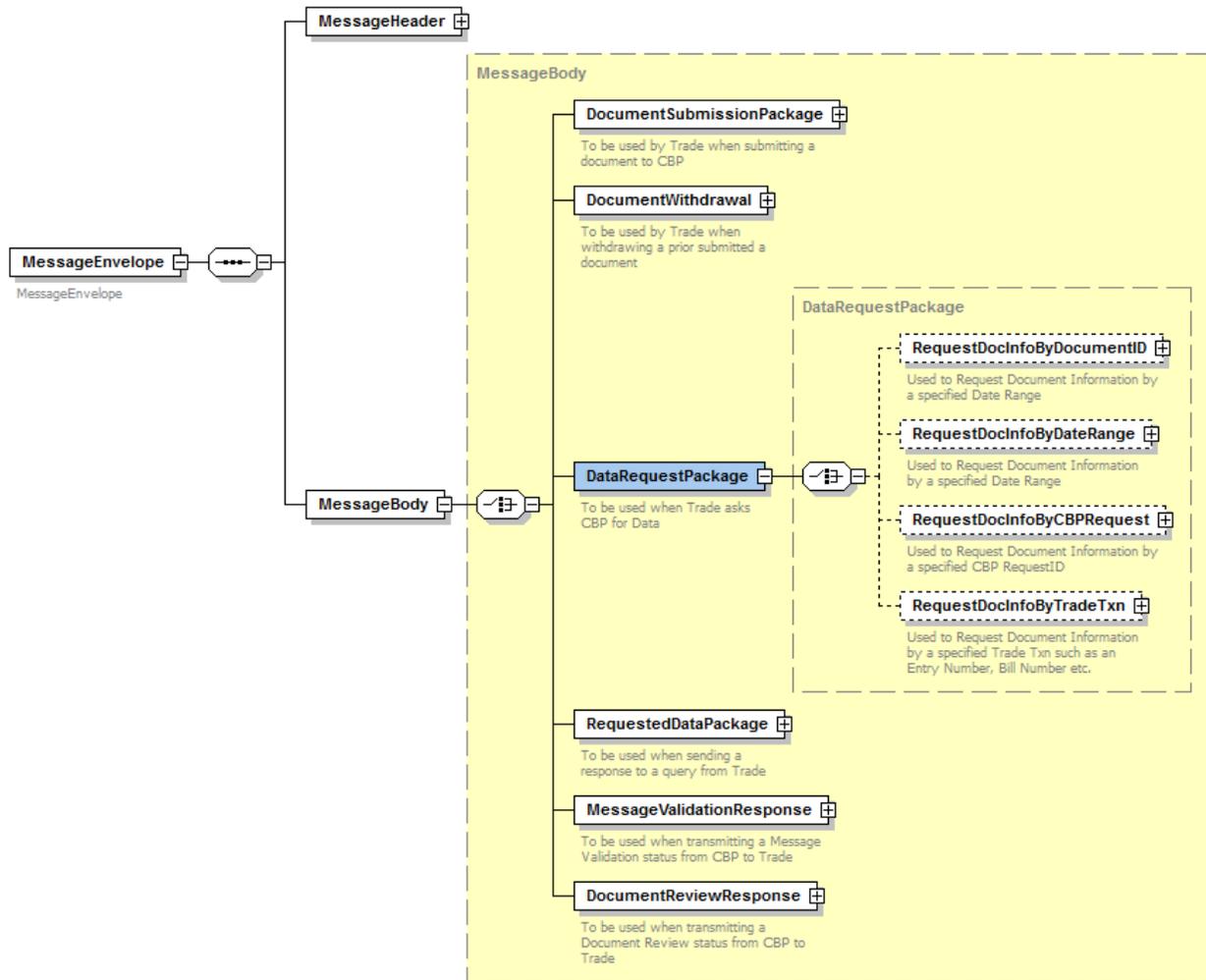


Figure 4.2.2.2g: High level view of DataRequestPackage submitted by Trade

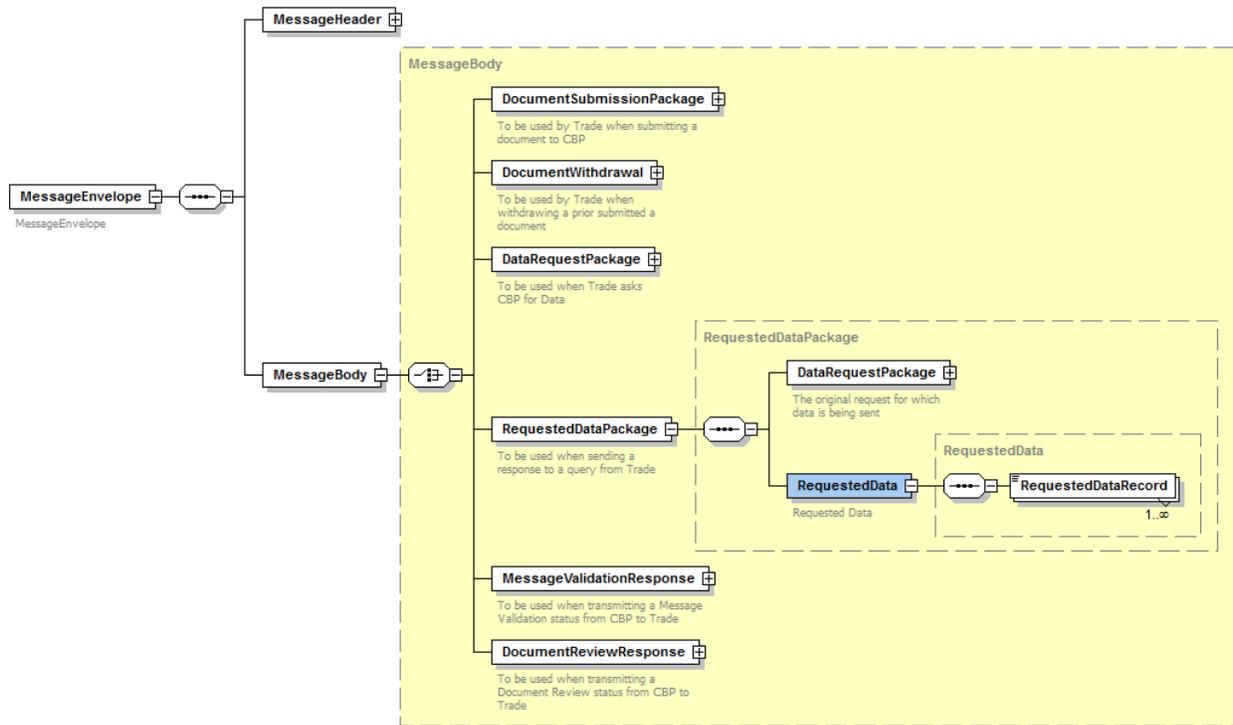


Figure 4.2.2.2h: High level view of RequestedDataPackage in response to Trade requests

9. Business Rules and Validations

9.1. DIS Document Submission Payload

Please start with the <MessageEnvelope> element and drill down for further details about each message payload type. Sample XMLs are provided in the SAMPLE_XML folder. Double-click to open them in Internet Explorer, or save the whole folder structure in this XSD package in order to open/validate the xml in tools such as Xmlspy.

At a high level, the following elements are required under the conditions indicated below:

- Message Envelope logistics: i.e. What kind of Message, Who Sent it (A + B identifiers) and When. (Condition: Required always)
- The Port Code that the document is intended for if applicable. This element is optional.
- The intended ActionCode (ADD or REPLACE, etc.) indicated during submission. ADD will be used as default value.)
- The specific Transaction that the document submission should be associated with (Entry/Bill etc. or the word 'CONTINUOUS' in TransactionCategory to indicate yearly permits, licenses etc. that may not be associated with a particular Entry/Bill).
- The CBP Request that the document submission should be associated with (or the word 'UNSOLICITED' or 'UNKNOWN').
- The List of PGA Codes that the document is intended for.
- The <Document Header> which is a set of simple elements that describe the submitted document. i.e., the document-label (from documentLabel enum), file type (.pdf or .jpg etc), the actual file name (abcInvoice.pdf) etc.
- The document itself (i.e. the actual pdf file etc. encoded as a base64 string)
- An optional <Comment> to facilitate any clarification of special instructions.
- An element called <OptionalData> that contains a reduced set of the more 'common' document specific elements. Trade can provide these if they want to provide more context of the submitted document. This element is optional.

NOTE: ONLY DOCUMENTS THAT ARE EXPLICITLY LISTED IN THE FEDERAL REGISTER NOTICE (FRN) FOR TRANSMISSION BY TRADE SHOULD BE SUBMITTED TO CBP VIA DIS. THE LIST OF DOCUMENT LABELS IN THE DIS XSD IS ONLY A REFERENCE TO THE TECHNICAL ABILITY OF THE SYSTEM TO SUPPORT EACH DOCUMENT TYPE TO FACILITATE TESTING. THE FRN IS THE SOLE, FORMAL AUTHORITY THAT IDENTIFIES THE VARIOUS DOCUMENT TYPES THAT MAY BE TRANSMITTED TO CBP IN THE OPERATIONAL PRODUCTION ENVIRONMENT VIA DIS.

9.2. Document Submission XML Structure

Refer to the DIS Message Schema for the complete data structure. At a high level, a document submission to CBP is consisted of the following data information:

- The MESSAGE HEADER must be specified per the XML specification.

- The MESSAGE BODY contains the DOCUMENT SUBMISSION PACKAGE which is composed of the following groups of elements:
 - SUBMITTED TO PORT CODE: Optional
 - ACTION CODE: Mandatory
 - TRADE TRANSACTION: Mandatory
 - CBP REQUEST: Mandatory
 - DOCUMENT DATA contains the following groups of elements:
 - DOCUMENT HEADER: Must be specified per the XML specification
 - GOVT AGENCY LIST: Must be specified per the XML specification
 - COMMENT: Optional
 - OPTIONAL DATA: Optional

9.3. Detailed Document Submission XML Structure Validations

This section describes the DIS document metadata and the validation of the data elements (mandatory, optional, or conditionally-mandatory) for a document submission.

9.3.1. High-Level Document XML Structure Validations

This section provides descriptions for certain key XML elements and whether or not the element is mandatory or conditional. For a complete, detailed XML data structure, please refer to the message schema. Every trade submission must specify the MESSAGE HEADER and MESSAGE BODY per the DIS XML Message Schema specification to facilitate traceability and auditing of each submission.

High-Level Document XML Metadata Information

**** Refer to the DIS Message Schema for the complete XML data structure.**

Note: If an element is optional, and you choose not to provide that data element in the XML submission, then please do not include that element at all. I.e. do not supply that element as an empty element.

MESSAGE HEADER:

Message Header must be specified per the XML specification.

MessageID	Mandatory
MessageType	Mandatory
TransmitterID (corresponding to ABI 'A' record)	<p>Mandatory. Must be specified. This is the unique CBP approved ID of the transmitter/sender (ABI 'A' Record ID), i.e., the trade party that is submitting the document. For example, this can be a Broker which submits documents on behalf of an Importer. The Transmitter ID must be exactly the same as the ABI 'A' record identifier for the transmitter in ACE.</p> <p>The system will send the DIS output responses back to the transmitter per the TransmitterID and TransmitterSiteCode combination.</p>
TransmitterSiteCode (corresponding to	Mandatory. Must be specified. This is the Transmitter's port code.

High-Level Document XML Metadata Information

**** Refer to the DIS Message Schema for the complete XML data structure.**

Note: If an element is optional, and you choose not to provide that data element in the XML submission, then please do not include that element at all. I.e. do not supply that element as an empty element.

ABI 'A' record)	It is the unique CBP approved Site Code of the transmitter/sender (ABI 'A' Record SiteCode). The system will send the DIS output responses back to the transmitter per the TransmitterID and TransmitterSiteCode combination.
PreparerID (corresponding to ABI 'B' record)	Mandatory. Must be specified. This is the unique CBP approved ID of the Preparer (ABI 'B' Record ID). This is the business owner of the document. (In most cases, this will be the Importer.) The Preparer ID must be exactly the same as the ABI 'B' record identifier for the transmitter in ACE.
PreparerSiteCode (corresponding to ABI 'B' record)	Mandatory. Must be specified. This is the port code of the preparer. It is the unique CBP approved Site Code of the Preparer (ABI 'B' Record SiteCode).
MESSAGE BODY / DOCUMENT SUBMISSION PACKAGE:	
SubmittedToPortCode	Optional. It is used to identify the port code that the document is intended for.
ActionCode	Mandatory. Value = "ADD", "REPLACE", or "DELETE".
TRADE TRANSACTION TransactionCategory <i>Plus</i> the actual Transaction identifier (ex. EntryNumber + Filer) if applicable.	Mandatory. The TradeTransaction complex type must indicate the transactionCategory for the document submission. <TransactionCategory> should be set to 'SINGLE_TXN' and the actual transaction identifier (Entry Number + Filer) supplied, or <TransactionCategory> should be set to 'CONTINUOUS' to indicate that the document is not associated with a specific transaction. (ex. Yearly permits on file etc)
Filer + EntryNumber	Conditional - required when the submitted document supports a specific Entry/ Summary.
CBP REQUEST CBPRequestID value that was sent by CBP in the document request to trade or the word "UNSOLICITED" or "UNKNOWN".	Mandatory. This set of elements must be specified per the XML specification. It is used to identify the CBP request information that the submitted document is associated with. <CBPRequestID> should contain the actual value of the 'CBP Request ID' (ex. ACE Action Number etc. that was received from CBP in the Document Request when the document was requested/solicited by CBP. If not applicable, use the word 'UNSOLICITED' or 'UNKNOWN'.
DOCUMENT DATA:	
DOCUMENT HEADER: DocumentID DocumentLabel CompleteFileName FileExtensionType DocumentDescription	Mandatory. This set of elements must be specified per the XML specification. It is used to identify the header characteristics of the submitted document.
GOVT AGENCY LIST	Mandatory. This set of elements must be specified per the XML specification. It is used to identify the government agencies for

High-Level Document XML Metadata Information

**** Refer to the DIS Message Schema for the complete XML data structure.**

Note: If an element is optional, and you choose not to provide that data element in the XML submission, then please do not include that element at all. I.e. do not supply that element as an empty element.

	which the document is intended.
COMMENT	Optional. This element is optional. It is used to provide trade partner remarks, clarifications, and special instructions.
OPTIONAL DATA	Optional. This set of elements is used to provide a document-specific, common set of data (HTS Number, Country of Origin, Trade Party, Port of Entry, etc.) that is associated with the document type. Trade can provide these if they wish to provide more context information for the submitted document.

9.3.2. Document-Specific Metadata Validations

The purpose of this section is to provide an overview of the data elements that are specific to a particular document. Note that there is no mandatory requirement for the trade to include document-specific elements in a document submission except for the required XML data elements there are described in the above subsections of Section 9, Business Rules and Validations.

Documents that are Submitted to DIS via Secure FTP, Secure Web Services, or MQ Queues

Agency	Document Type	Use this Document Label Value to Submit the document to DIS	Description	Metadata
("OTHER" indicates that the document is not specific to any agency.)	("OTHER" is to be used when a document label does not fit under the category of the listed document types.)	"enumDocumentLabel" enumeration value (CommonData.xsd)		(O = Optional)
APHIS	PERMIT	APHIS Import Permit	APHIS Import Permit	Permit Number - O Country of Origin - O HTS Number - O Start Date - O End Date - O
APHIS	NOTICE	APHIS Notice Of Arrival	APHIS Notice of Arrival	Expected Arrival Date - O Container Number - O Country of Origin - O Bill of Lading (BOL) - O
APHIS	CERTIFICATE	APHIS Pre-Clearance 203	APHIS Pre-Clearance 203	Bill of Lading (BOL) - O Seal Numbers - O

Documents that are Submitted to DIS via Secure FTP, Secure Web Services, or MQ Queues				
Agency (“OTHER” indicates that the document is not specific to any agency.)	Document Type (“OTHER” is to be used when a document label does not fit under the category of the listed document types.)	Use this Document Label Value to Submit the document to DIS “enumDocumentLabel” enumeration value (CommonData.xsd)	Description	Metadata (O = Optional)
				Container Number - O HTS Number - O Inspection Location - O
APHIS	PERMIT	APHIS Transit Permit	APHIS Transit Permit	Permit Number - O Country of Origin - O Port of Arrival - O Port of Destination - O Start Date - O End Date - O HTS Number - O
APHIS	CERTIFICATE	Veterinary Health Certificate	Veterinary Health Certificate	Certificate # - O Country of Origin - O
CBP	CERTIFICATE	CBP-CF3229	Certificate of Origin	No metadata listed
CBP	OTHER	CBP-CF3299	Declaration for Free Entry of Unaccompanied Articles	No metadata listed
CBP	CERTIFICATE	CBP-CF4455	Certificate of Registration	No metadata listed
CBP	CERTIFICATE	CBP-CF4457	Certificate of Registration for Personal Effects Taken Abroad	No metadata listed
CBP	INVOICE	Commercial Invoice	Commercial Invoice	Importer - O Consignee - O Commercial Invoice Number - O Line Number - O Buyer - O Seller - O Manufacturer ID - O Foreign Port of Lading - O

Documents that are Submitted to DIS via Secure FTP, Secure Web Services, or MQ Queues				
Agency ("OTHER" indicates that the document is not specific to any agency.)	Document Type ("OTHER" is to be used when a document label does not fit under the category of the listed document types.)	Use this Document Label Value to Submit the document to DIS "enumDocumentLabel" enumeration value (CommonData.xsd)	Description	Metadata (O = Optional)
				HTS Number - O Country of Origin - O Filer Reference Number - O
CBP	INVOICE	Invoice Worksheet	Invoice Worksheet	Entry Line Number - O Invoice Number - O Invoice Line Number - O Filer Reference Number - O
CBP	BOND	ISF Bond (Type 16)	Importer Security Filing (ISF) Bond (Activity Type 16)	ISF Transaction Number - O Port Code - O Surety Code - O Agent ID Number - O Importer Number - O Bond Type - O Bond Amount - O Filer Reference Number - O
CBP	Manifest	N/A. Export Manifest documents are submitted to DIS via Email Only.	Export Manifest (MOT: Ocean)	VESSEL_IMO_NUMBER - O VESSEL_DEPARTURE_DATE - O US_PORT_OF_DEPARTURE= - O VESSEL_NAME - O ACTION - M (New, Replace, Add, Delete) VOYAGE_NUMBER - O VESSEL_SCAC - O MANIFEST_SUBMITTING_SCAC - O FIRST_FOREIGN_PORT_OF_UNLADIN G- O POC_INFO - O COMMENT - O Document Type - (Manifest) Document Label - (Export Manifest)
CBP	OTHER	Packing List	Packing List	Importer - O Consignee - O Commercial Invoice Number - O Shipper - O Entry Line Data - O Container Number - O Purchase Order Number - O

Documents that are Submitted to DIS via Secure FTP, Secure Web Services, or MQ Queues				
Agency ("OTHER" indicates that the document is not specific to any agency.)	Document Type ("OTHER" is to be used when a document label does not fit under the category of the listed document types.)	Use this Document Label Value to Submit the document to DIS "enumDocumentLabel" enumeration value (CommonData.xsd)	Description	Metadata (O = Optional)
				Filer Reference Number - O
CBP	BOND	STB (Type 1)	Single Transaction Bond (Activity Type 1)	Document Type - O Document Label - O Transaction Number - O <ul style="list-style-type: none"> ▪ Entry Number or ISF Transaction Number ▪ For Activity Type 1, Entry Number should be specified Port Code - O Surety Code - O Agent ID Number - O Importer of Number - O Importer Name - O Bond Amount - O Filer Reference Number - O
CDC	PERMIT	CDC Importation Permission Letter	CDC Importation Permission Letter	No metadata listed
CDC	PERMIT	CDC Form 0728	CDC Form 0728	Permit Number - O Start Date - O End Date - O Permit Type - O
CDC	EXEMPTION	CDC Import Permit Exemption Letter	CDC Import Permit Exemption Letter	HTS Number - O Importer or Shipper - O Expiration Date - O
DCMA	CERTIFICATE	DCMA Certification of Duty-Free Entry	DCMA Certification of Duty-Free Entry	Entry Number - O
EPA	OTHER	EPA Form 3520-1	EPA Form 3520-1 (Importation of Motor Vehicles and Motor Vehicle Engines Subject to Federal Air Pollution Regulations (on the road))	HTS Number - O Importer - O Owner - O Vehicle Identification Number - O Manufacture Date - O Manufacturer - O Model - O EPA Certificate Number - O Entry Date - O
EPA	OTHER	EPA Form 3520-21	EPA Form 3520-21	HTS Number - O

Documents that are Submitted to DIS via Secure FTP, Secure Web Services, or MQ Queues				
Agency ("OTHER" indicates that the document is not specific to any agency.)	Document Type ("OTHER" is to be used when a document label does not fit under the category of the listed document types.)	Use this Document Label Value to Submit the document to DIS "enumDocumentLabel" enumeration value (CommonData.xsd)	Description	Metadata (O = Optional)
			(Importation of Motor Vehicles and Motor Vehicle Engines Subject to Federal Air Pollution Regulations (off the road or heavy duty highway))	Importer - O Owner - O Engine Manufacturer/Model/Serial Number - O Vehicle Manufacturer/Model/Serial Number - O Engine or Vehicle Build Date - O Entry Date - O
EPA	NOTICE	EPA Form 3540-1	EPA Form 3540-1 (Notice of Arrival of Pesticides and Devices)	HTS Number - O Entry Date - O CAS Number - O Product Name - O Active Ingredients - O Country of Origin - O Importer/Consignee - O Shipper - O EPA Registration Number - O EPA Producer Establishment Number - O
EPA	OTHER	EPA Pesticide Label	EPA Pesticide Label	Entry Date - O HTS Number - O CAS Number - O Product Name - O Active Ingredients - O Importer - O Manufacturer - O EPA Registration Number - O EPA Producer Establishment Number - O
EPA	CERTIFICATE	EPA TSCA Certification	EPA Toxic Substance Control Act (TSCA) Import Certification Form	Importer Number - O HTS Number - O CAS Number - O EPA Registration Number - O EPA Producer Establishment Number - O
EPA	EXEMPTION	EPA Vehicle/Engine Exemption	EPA Pre-approved Vehicle/Engine	HTS Number - O Entry Date - O

Documents that are Submitted to DIS via Secure FTP, Secure Web Services, or MQ Queues				
Agency (“OTHER” indicates that the document is not specific to any agency.)	Document Type (“OTHER” is to be used when a document label does not fit under the category of the listed document types.)	Use this Document Label Value to Submit the document to DIS “enumDocumentLabel” enumeration value (CommonData.xsd)	Description	Metadata (O = Optional)
			Exemption Letter	Importer - O Owner - O Engine Manufacturer/Model/Serial Number - O Vehicle Manufacturer/Model/Serial Number - O Engine or Vehicle Build Date - O
FSIS	PERMIT	FSIS 9010-1 Return of Exported Products	FSIS 9010-1 (Application for the Return of Exported Products to the United States)	HTS Number - O Consignee - O
FSIS	CERTIFICATE	FSIS 9060-5 U.S. Export Certificate	FSIS 9060-5 (US Export Certificate)	HTS Number - O Country of Origin - O Consignee - O
FSIS	NOTICE	FSIS 9540-4 Shipper Notification	FSIS 9540-4 (Shipper Notification - Importation of Udenatured Inedible Meat Product)	HTS Number - O Country of Origin - O Consignee - O
FSIS	NOTICE	FSIS 9540-5 Sample Notification	FSIS 9540-5 (Sample Notification)	HTS Number - O Country of Origin - O Consignee - O
NOAA	CERTIFICATE	NOAA Form 370	Fisheries Certificate of Origin (NOAA Form 370)	Entry Date - O Importer of Record - O HTS Number - O
NOAA	PRE-APPROVAL	Toothfish Pre-approval	Toothfish Pre-approval Form	HTS Number - O Approval Number - O Importer of Record - O Permit Number - O
OTHER	CERTIFICATE	Certificate Of Origin	Certificate of Origin	Bill of Lading (BOL) - O Country of Origin - O Container Number - O Certificate Number - O
OTHER	CERTIFICATE	CITES Certificate	CITES Certificate	Certificate Number - O Country of Origin - O HTS Number - O

Documents that are Submitted to DIS via Secure FTP, Secure Web Services, or MQ Queues				
Agency ("OTHER" indicates that the document is not specific to any agency.)	Document Type ("OTHER" is to be used when a document label does not fit under the category of the listed document types.)	Use this Document Label Value to Submit the document to DIS "enumDocumentLabel" enumeration value (CommonData.xsd)	Description	Metadata (O = Optional)
OTHER	CERTIFICATE	Foreign Certificate	Foreign Certificate	Certificate Number - O Country of Origin - O Start Date - O End Date - O
OTHER	OTHER	Generic Document	Generic Document	No metadata listed
OTHER	OTHER	Ingredients List	Ingredients List	Commodity Description - O HTS - O
OTHER	CERTIFICATE	Meat Certificate	Meat Certificate	Certificate Number - O Container Number - O Bill of Lading (BOL) - O HTS Number - O Country of Origin - O
OTHER	OTHER	Passport, D/L, Govt Issued ID	Passport, D/L, Govt Issued ID	No metadata listed
OTHER	PERMIT	Permit	Permit	No metadata listed
OTHER	OTHER	Photo or Image	Photo or Image	No metadata listed
OTHER	CERTIFICATE	Phytosanitary Certificate	Phytosanitary Certificate	Certificate Number - O Country of Origin - O
OTHER	OTHER	Vehicle title, SE Other	Vehicle title, SE Other	No metadata listed
TTB	CERTIFICATE	TTB Champagne Certificate of Origin	TTB Champagne Certificate of Origin	Certificate Number - O Certificate Type - O Consignee - O Country of Origin - O

10. Document Statuses, Events, and Reject Reasons

This section provides the DIS document submission, processing, and validation statuses of a trade-submitted document. The statuses are part of the DIS outgoing responses to the trade partners.

XML Data Element	Enumeration value
ProcessingEvent	INITIAL_VALIDATION
	DETAILED_VALIDATION
	REVIEW
	OTHER
ProcessingStatus	PASSED
	FAILED
DocumentSubmissionStatus	NOT_RECEIVED
	RECEIVED
	FAILED_VALIDATION
DocumentValidationStatus	PASSED
	FAILED
DocumentReviewStatus	PENDING
	ACCEPTED
	REJECTED
	FILED
DocumentRejectReason	POOR_IMAGE_QUALITY
	INCORRECT_METADATA_ASSOCIATION
	INCORRECT_DOCUMENT_RECEIVED
	NO_ASSOCIATED_TRANSACTION
	INCOMPLETE_DOCUMENT_SET
	INCORRECT_CBP_REQUEST
	OTHER

11. Document Resubmit and Withdrawal Reasons

This section describes the available resubmit and withdrawal reasons that the trade can provide for a submitted document.

XML Data Element	Enumeration value
DocumentWithdrawalReason	POOR_IMAGE_QUALITY
	INCORRECT_DOCUMENT_SENT
	INCOMPLETE_DOCUMENT_SENT
	INCORRECT_CBP_REQUEST
	OTHER
DocumentResubmitReason	UPDATED_INFO
	POOR_IMG_QUALITY

	INCORRECT_PRIOR_SUBMISSION
	OTHER

12. DIS Messaging XML Schema Description (XSDs)

Current, well formatted XSD and XML files of the DIS XML specification are provided as a separate package that can be used for detailed analysis and technical implementation.

12.1. DIS Message Schema Documentation for All Interfaces

The DIS message schema is consisted of the following XSD components. Please refer to the message schema the complete information.

- CommonData.xsd
- DataRequestPackage.xsd
- DIS_XML_Documentation.txt
- DocumentReviewResponse.xsd
- DocumentSubmissionPackage.xsd
- DocumentWithdrawal.xsd
- MessageEnvelope.xsd
- MessageValidationResponse.xsd
- RequestedDataPackage.xsd

12.2. Sample XML Messages for All Interfaces

The following sample messages are provided in the "SAMPLE_XML" folder within the DIS Message Schema documentation. Please refer to these files for details:

- ABC_Invoice.xml
- ABC_TSCA.xml
- SampleDocumentReviewResponse.xml
- SampleDocumentWithdrawal.xml
- SampleMessageValidationResponse.xml