# Electronic Information Environment (EIE)

**Service Specification Document/Interface Control Document**

**Navy Part Return – External**

**External – In the above context is intended to reflect that this content is for the In-Service Support (ISS) Contractors who have been contracted to participate in an ISS phase of a Weapon System or Platform that the Department of National Defence has acquired.**

**EIE Project**

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# 1 Introduction

This document establishes an interface between Canada Electronic Data Exchange (EDE) system and the In-Service Support (ISS) Contractor systems to send Part Return messages for Canada ships subject to Performance Based Contracting (PBC) to the ISS Contractor responsible for maintenance of the platform. To support the Part Return message exchange between Canada EDE and ISS Contractor, both systems need to support specific Web Service operations as well as request and response Extensible Markup Language (XML) schemas as described in this document.

The Part Return service requires a service for ISS Contractor to report acknowledgement messages back to Canada EDE system.

## 1.1 Intended Audience

- ISS Contractor System Designers
- Canada EDE Designers
- ISS Contractor Testers
- Canada EDE Testers

## 1.2 References

[Ref. 1]    Electronic Information Exchange Business Use Case - BUC 3.45 Navy - Exchange Part Return Data

[Ref. 2]    PBC Business Process Catalogue Annex M: Navy Supply Process Model - In the Context of Performance Based Contracting (PBC)

[Ref. 3]    Electronic Information Exchange Service Interaction Model

[Ref. 4]    Electronic Information Exchange Materiel Management Service Operational Model – External

# 2      Business Information

Business Information is based on the EIE Business Use Case for Part Return [Ref. 1].

The goal of the Part Return service is to send to ISS Contractor[1], in a near real-time manner, messages indicating Canada is returning to ISS Contractor parts which have been removed from a Platform in the course of performing tasks defined in Work Orders (WOs), or other parts to be returned including Special Tools and Test Equipment (STTE) [2], and parts received for a WO which were not used.

Within Canada, maintenance business processes are supported by two types of information systems, known generically as:

- Canada Maintenance Management System (CMMS)

- Canada Supply System (CSS)

Currently both functions are supported within Canada by the Defence Resource Management Information System (DRMIS).

## 2.1   Business Processes

The ISS Contractor-owned, managed and delivered Weapon System (WS) spares and consumables required for the WS maintenance activities performed by Canada personnel will only be requested on as-needed basis during maintenance activities. The parts required to complete maintenance tasks will be listed in the WO in CMMS. Each part will be identified as either Canada or ISS Contractor-owned/managed. Part Returns to ISS Contractor take place after tasks in a WO are completed.

Once a Canada technician has determined the need to return parts, there is a physical handover of the parts to ISS Contractor and the technician must update CMMS/CSS to indicate the parts were returned. ISS Contractor will send a business response to a Part Return to ensure Canada and ISS Contractor agree on the custody of all parts. ISS Contractor may require the up-to-date maintenance history data for the returned parts. This is addressed through regular Maintenance History services.

For further information on part returns please see the applicable EIE Business Use Case for Part Return [Ref. 1].

## 2.2   Business Triggers

The following actions within CMMS/CSS, the business triggers, will result in Part Return data being sent to ISS Contractor.

- Unserviceable parts being returned.

- Unused serviceable parts being returned.

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[1] In this document the terms Industry and ISS Contractor are synonymous. The term ISS Contractor is used during description of the business process to align with the Business Use Cases.  The term Industry is used during description of service interactions and service descriptions.

[2]Wherever the word "part" is used, this also encompasses Special Tools and Test Equipment (STTE). The service is designed to support STTE but may or may not be used for STTE for a specific platform.

- Serviceable parts being returned after FMF-performed backshop repair.
- STTE being returned.

For further information, including cross-references to business processes, please refer to the EIE Business Use Case for Part Return [Ref. 1].

## 2.3 Business Error Processing

In the event the ISS Contractor encounters business errors while attempting to post Part Return data to their backend systems, the ISS Contractor will report errors on all line items within a Part Return message Purchase Order in one error message.

Where possible, CSS will correct line item data based upon reported errors, and generate a new Part Return message with a new Purchase Order Number. CSS will not re-use the initial Purchase Order Number.

Canada will send only corrected line items in the new Part Return message, with a new Purchase Order number. In this case, only some of the line items in the original Part Return message are considered valid, while all items of the new Part Return message are expected to be receipted.

# 3    Business Constraints

**Constraints on *Usage* of the Service**

1) The Industry Part Return service shall only be invoked by the Canada EDE System. Canada EDE system will only invoke this service upon receiving a Part Return message from CSS.

2) Every invocation of a service operation is subject to mutual authentication using secure credentials, such as PKI Certificates.

**Constraints on *Behaviour* of the Service**

3) The Part Return service shall operate in near-real time.

4) Canada systems shall ensure Part Return data set for a Platform is sent only to the Industry system which is properly authenticated and authorized to see maintenance and materiel data for that ship class.

5) Industry will authorize invocations of operations of the Part Return service.

6) Canada does not guarantee that Part Return messages will be received at the Industry in the same order they were created.

7) Industry will report any business processing errors through the Part Return Error operation exposed by Canada using a distinct and separate invocation.

8) Canada does not expect Industry to report successful conclusion of business processing of the Part Return other than a Part Return Receipt message. Part Return Receipt Service is defined in a separate document.

9) Part Return messages will be signed using digital certificates between Canada EDE and Industry. Please see Service Interaction Model [Ref. 3] for details.

10) Canada EDE may attempt to repeat operation invocations in response to technical faults. This behaviour is controlled by parameters for each operation. Please see Service Interaction Model [Ref. 3] for details.
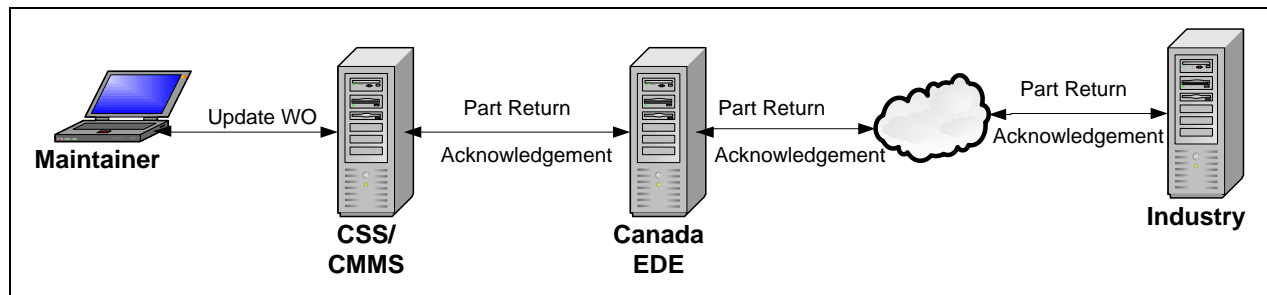
# 4    Service Use Case

The requirements for the Part Return service are defined by one use case with several scenarios.

## 4.1  Service Context[3]

A high level view of the context of the service is shown in Figure 4-1~~Figure 4-1~~ below. For simplicity this view omits error scenarios. These are discussed in Service Use Case Scenarios.



**Figure 4-1  Part Return Service Context**

The following activities occur:

1) Maintainer updates WO as parts are removed from the Platform.

2) CSS generates a Part Return message.

3) CSS sends Part Return to Canada EDE – Canada EDE accepts the message and returns a 'technical' response.

4) Canada EDE sends Part Return to Industry – Industry accepts the message and returns a 'technical' response.

5) Industry Supply system performs the required "back-end" processing including checking of business rules.

Once the Part Return is sent the maintainer does not have to wait for any response from Industry, he/she may pursue other activities. This mode of interaction is termed *Business Asynchronous*.

The "technical response" referred to above either (*i*) confirms a party in the exchange has accepted a message for further processing, or (*ii*) contains a fault message. A technical acceptance does not preclude subsequent "business" errors.

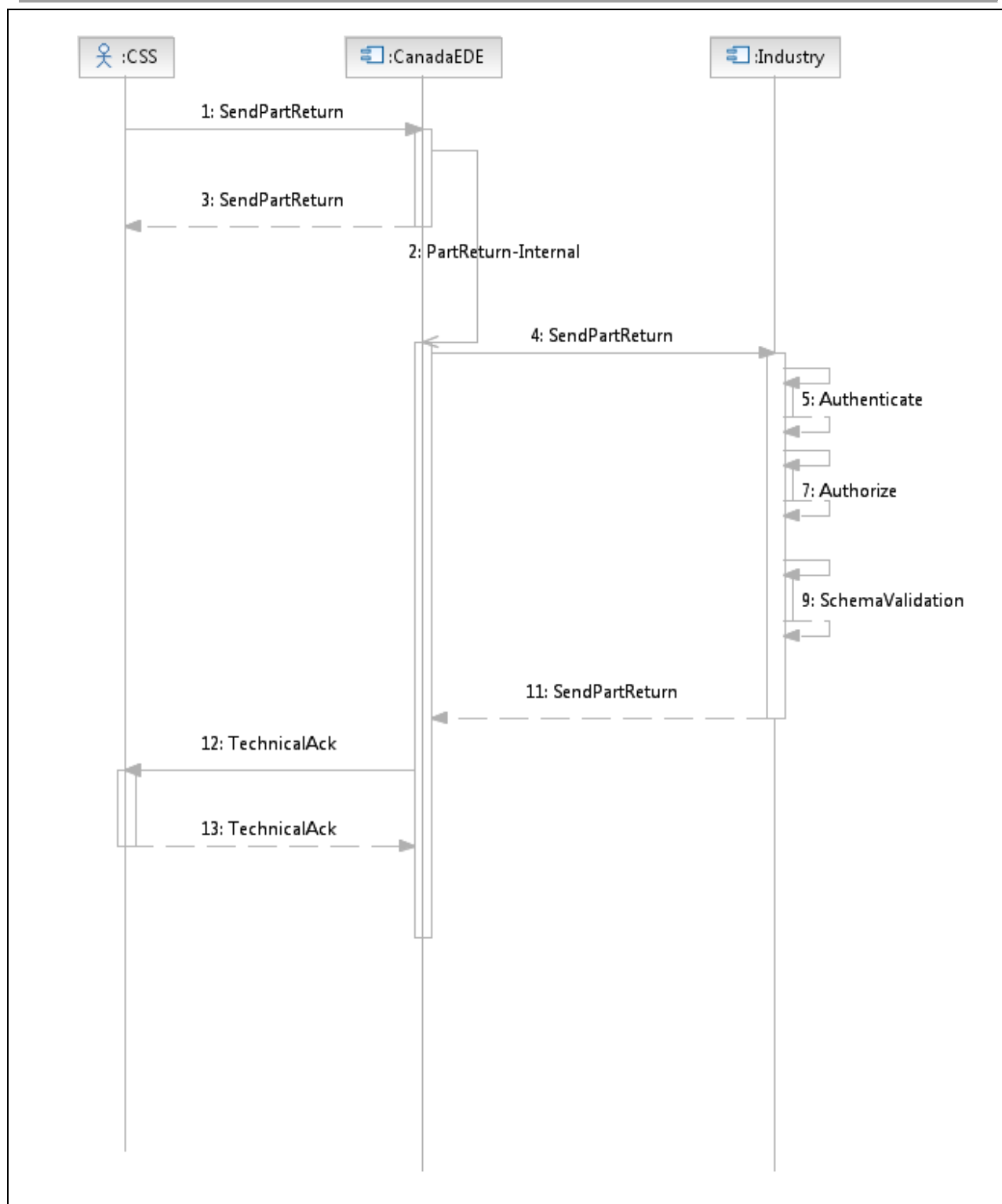## 4.2  Successful Request and Technical Response

This is the main or "Happy Day" scenario as shown in Figure 4-2~~Figure 4-2~~.

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[3] The terms Industry and ISS Contractor are used interchangeably in this document.

**Figure 4-2  Part Return Message Flow**

| Main Flow | |
|---|---|
| Scenario | "Happy Day:" Canada EDE successfully sends Part Return to Industry. |
| Pre-Condition | Maintainer has obtained a part and recorded this fact in CSS. |
| Post-Condition | Part Return is successfully received by Industry. CSS is advised of successful delivery to Industry. |
| Steps | 1) CSS sends Part Return message to Canada EDE. |
| | 2) Canada EDE successfully Authenticates, Authorizes and Validates the message; then starts an internal process. |
| | 3) Canada EDE responds that the message is accepted. |
| | 4) The Canada EDE system invokes the Industry SendPartReturn operation. |
| | 5/6) Industry successfully Authenticates the service consumer. |
| | 7/8) Industry successfully Authorizes use of the service/operation. |
| | 9/10 Industry conducts the required validations as per Service Interaction Model [Ref. 3] - Section Technical Delivery Phase. |
| | 11) Industry provides technical response to Canada EDE. The response may indicate a status of Success or contain a fault. |
| | 12/13) Canada EDE sends *Technical* Acknowledgement to CSS |

Implicit in the above diagram is that a service Consumer may re-try to send a message to the service Provider in the event there is no technical response from the Provider or if the Provider response indicates a technical error. Resend behaviour is governed by parameters in the non-functional requirements of each operation.

## 4.3  Alternate Scenarios

Canada EDE will have received a Part Return message from CSS. The following scenarios apply to all uses of the Part Return service.

| Alternate Flow 1 (Authentication Failure) | |
|---|---|
| Scenario | Canada EDE does not provide appropriate credentials to Industry. |
| Pre-Condition | Canada EDE has invoked the Industry Part Return Service. |
| Post-Condition | The Industry sends an Authentication Failure fault response |
| Steps | 1)  The authentication credentials are either not provided or are incorrect. |
| | 2)  The Industry sends an Authentication Failure fault as the technical response. |
| | 3)  Canada EDE processes the fault. |

| Alternate Flow 2 (Authorization Failure) | |
|---|---|
| Scenario | Canada EDE is not authorized to use a service. |
| Pre-Condition | Canada EDE has invoked the Industry Part Return Service.<br>Industry has completed Authentication successfully. |
| Post-Condition | The Industry sends an Unauthorized Request fault as the technical response. |
| Steps | 1) The request message does not pass Industry authorization.<br>2) The Industry sends an Unauthorized Request fault as the technical response.<br>3) Canada EDE processes the authorization failure. |
| **Alternate Flow 3 (Technical Validation Failure)** | |
| Scenario | Canada EDE sends a malformed message to Industry. |
| Pre-Condition | Canada EDE has invoked the Industry Part Return Service.<br>Industry has completed Authentication and Authorization successfully. |
| Post-Condition | The Industry sends a Malformed Message fault response. |
| Steps | 1) The message does not pass validation as per agreed schema. (Regardless of the number and types of errors).<br>2) Industry sends schema validation error information as the technical response as the fault message as defined within the exposed interface.<br>3) Canada EDE processes the schema validation error. |
| **Alternate Flow 4 (Industry Service unresponsive)** | |
| Scenario | Canada EDE does not receive technical response within ACK_TIME_INTERVAL. |
| Pre-Condition | Canada EDE has invoked the operation but does not receive the technical response within the time specified for the Part Return service. |
| Post-Condition | Canada EDE marks the message as Dead Message. |
| Steps | 1) Canada EDE does not receive any technical response from Industry within the allowed ACK_TIME_INTERVAL.<br>2) Canada EDE will retry sending the message up to the defined maximum retry count, or Time to Live interval, whichever comes first.<br>3) If there is no response, then Canada EDE marks the request message as Dead and handles it via the DeadMessageHandlerService. |

The Part Return Business Validation Failure Message Flow is shown in .

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**Figure 4-3  Part Return Business Validation Failure Message Flow**

| Alternate Flow 5 (Business Validation Failure) | |
|---|---|
| Scenario | Industry business validations fail on one or more Part Return data records. |
| Pre-Condition | Canada EDE has invoked the Industry Part Return operation, the message has passed Authentication, Authorization and Schema Validation and a successful technical response has been received by Canada EDE. |
| Post-Condition | The Industry invokes Canada's Part Demand Return Error operation. |
| Steps | 1) The Part Return data records failed the Industry's business validation process. |
| | 2) Industry sends Business Error information by invoking the Part Return Error operation. |
| | 3) Canada's business user is notified of the error |
| | 4) Canada initiate internal error handling procedures |
| |     1) Where possible, CSS will correct line item data based upon reported errors, and generate a new Part Return message with a new Purchase Order Number. CSS will not re-use the initial Purchase Order Number. |
| | 5) Canada will send only the corrected line items in a new Part Return message, with a new Purchase Order number. In this case, only some of the line items in the original Part Return message will ever be receipted, while all items of the new Part Return message are expected to be receipted. |

# 5 Service Description – Part Return Service

## 5.1 Service Overview

Part Return service requires interacting web services exposed by Canada EDE System and Industry. The Industry will expose a service which Canada EDE System will use to send the Part Return message (see Section 7 for message definition). Upon receipt and acceptance of the message, the Industry will return a technical response back to Canada EDE System within the same transport communication session as per the request-response message pattern as defined in the Service Interaction Model [Ref. 3].

Canada EDE will provide a Part Return Error operation to be used by Industry to report a Business error if errors are found during Industry processing of the part return request by its internal Supply Systems that are within the scope for Canada to rectify.

## 5.2 Service Properties

| Service Property | Description |
|---|---|
| Enterprise Service Name (Business) | Part Return Service |
| Enterprise Service Name (Technical) | IndustryPartReturnService |
| Purpose | This service supports the Canada PBC Maintenance process for scheduled and unscheduled maintenance tasks. On the occurrence of business triggers, this service sends Part Return messages to Industry on a near-real time basis.<br><br>This service also supports reporting of business errors encountered while processing Part Return messages within the Industry supply systems. |
| Business Response Time Interval | 8 hours (time for Industry to respond with Part Return Receipt message) |
| Service Domain | Supply Management |
| Business Owner | ADM (IM) |
| Service Grouping | Supply Materiel / Part Return |
| Source Provider | Industry |
| Target Service Consumers | Canada EDE |
| Business Process Supported (now) | Perform 1st and 2nd level maintenance<br>    Execute Corrective or Preventive Maintenance |
| Business Process Supported (future) | None currently identified. |

| Service Property | Description |
|---|---|
| Business Objective Supported | See Section 2: Business Information. |
| Expected life time | The full lifecycle of the subject platform using PBC. |

## 5.3 Service Operations

| Provider | Consumer | Operation |
|---|---|---|
| Industry | Canada EDE | SendPartReturn |
| Canada EDE | Industry | SendPartReturnError |

### 5.3.1 SendPartReturn Operation

This operation is used by Canada EDE to send a Part Return message to Industry. Industry's implementation of this operation will perform authentication, authorization and technical validation on the Part Return message. Industry will return a status or fault information to the consumer.

If Industry accepts the message for further processing an output message is returned. The content of the output indicates SUCCESS, Industry accepts custody of the message for further processing. If Industry does NOT accept the message, Industry will return one or more fault blocks.

### 5.3.2 SendPartReturnError Operation

This operation is used by Industry to send a Part Return Error message to Canada EDE. Canada's implementation of this operation will perform authentication, authorization and technical validation on the Part Return Error message. Canada will return a status or fault information to the consumer.

If Canada accepts the message for further processing an output message is returned. The content of the output indicates SUCCESS, Canada accepts custody of the message for further processing. If Canada does NOT accept the message, Canada will return one or more fault blocks.

## 5.4 Message Interaction

As defined in Section 4: Service Use Case, the Part Return service supports a business-asynchronous interaction with a message-passing paradigm. Each Web Service operation must be defined such that the messages required by the system use case (faults in particular, see Section 4.3 Alternate Scenarios) are explicit in the Web Service definition. This implies each Part Return web service operation must be defined with an input, output and fault element. This corresponds well to an http transport where the output or fault elements would be in the http response.

Message interaction is further described in Electronic Information Exchange Service Interaction Model [Ref. 3].

# 6    Information Model

This section describes the **business objects** which are used in the Part Return service. The Unified Modeling Language (UML) notation is used. A functional view[4] of the information model is provided in the EIE Business Use Case for Part Return [Ref. 1], Section 3: Functional Data Definition, and an Entity-Relationship diagram (ERD) is provided in Appendix A of this document.

The purpose of this section is to provide a bridge between the functional view of the information model and the concrete details of the design as expressed in an XML Schema[5].

**Note**: The only authoritative source for purpose of the information exchange will be the specific XML Schema for the business object.

## 6.1  Purchase Order

A Part Return message contains a Purchase Order business object. The Purchase Order information model is shown in Figure 6-1Figure 6-1 below.

The Purchase Order (class Purchase Order) is used to manage "goods movement" between Canada and Industry. A Purchase Order contains one or more Line Items (class LineItem).

In a part return context, a Line Item represents a return for a certain quantity of parts – all of the same type. A Line Item must be contained in a Purchase Order.

Returned parts are defined in class (PartCustody) and indicate Returned Date and Quantity, along with the part serviceability (UnservicableCode). A returned part may be batch managed, with Batch Lot and ExpiryDate defined.  A returned part may be serialized, with serial numbers (class PartDetail).  A PartCustody must be contained in a LineItem.

The field descriptions are elaborated in the Functional view (please see EIE Business Use Case for Part Return [Ref. 1]).
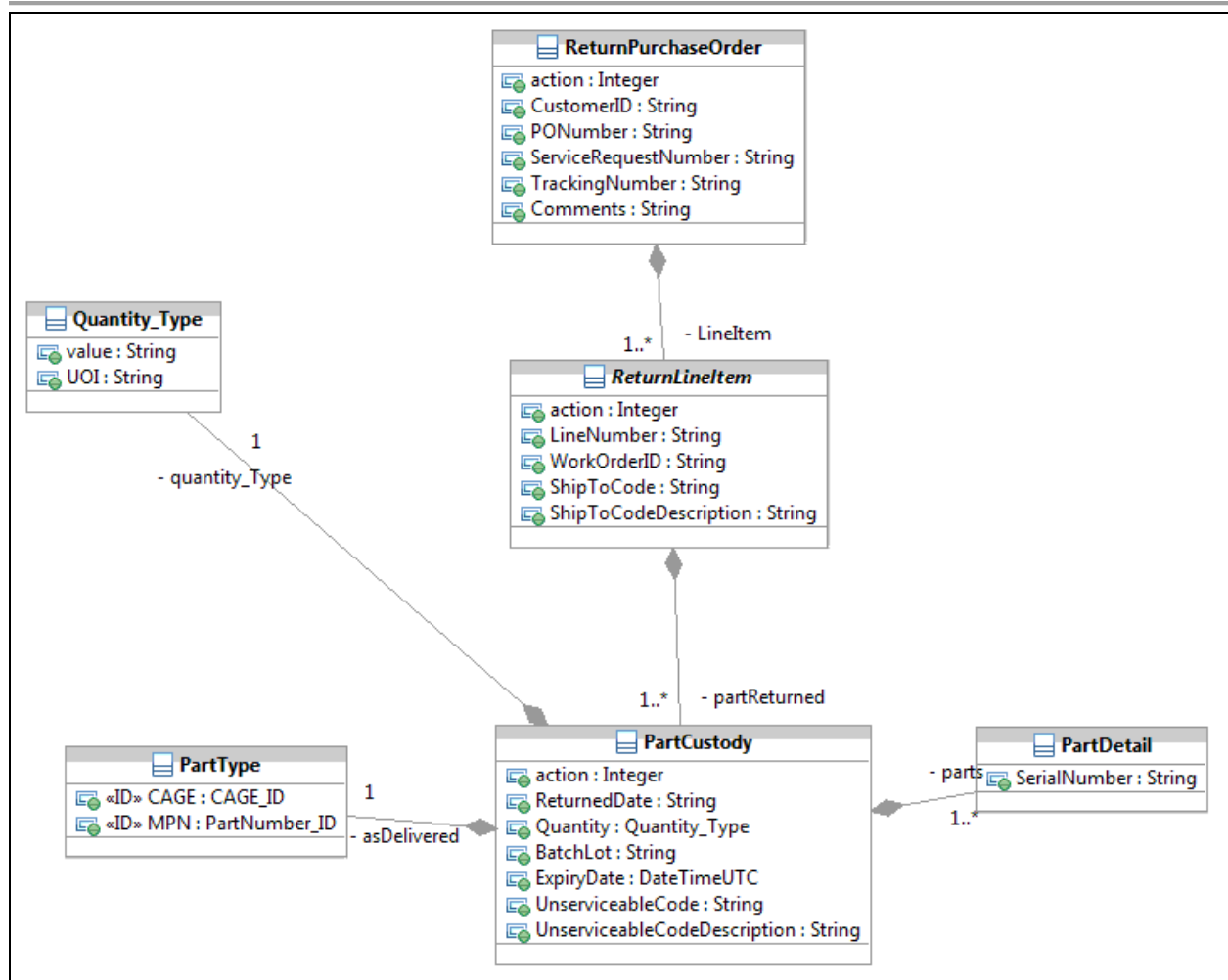
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[4] The Functional View details the collection of fields which make up a purchase order and its sub-records.

[5] The XML Schema may not preserve the exact same generalization and composition associations used in the UML representation.

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**Figure 6-1  Information Model – Purchase Order for Part Return**

The 'action' attribute is discussed in Section 7.1.1 Part Return Input Messages.

# 7    Operation Message Model

This section describes how the business objects described above (Section 6 Information Model) are aggregated for the purpose of reliable information exchange.

Since EIE Supply services are request/response, each operation requires input, output and fault message definitions.  Message definitions use a common supply message header definition, as well as a common security block definition.  Please refer to Electronic Information Exchange Service Interaction Model [Ref. 3] for details on message header and security block definition.
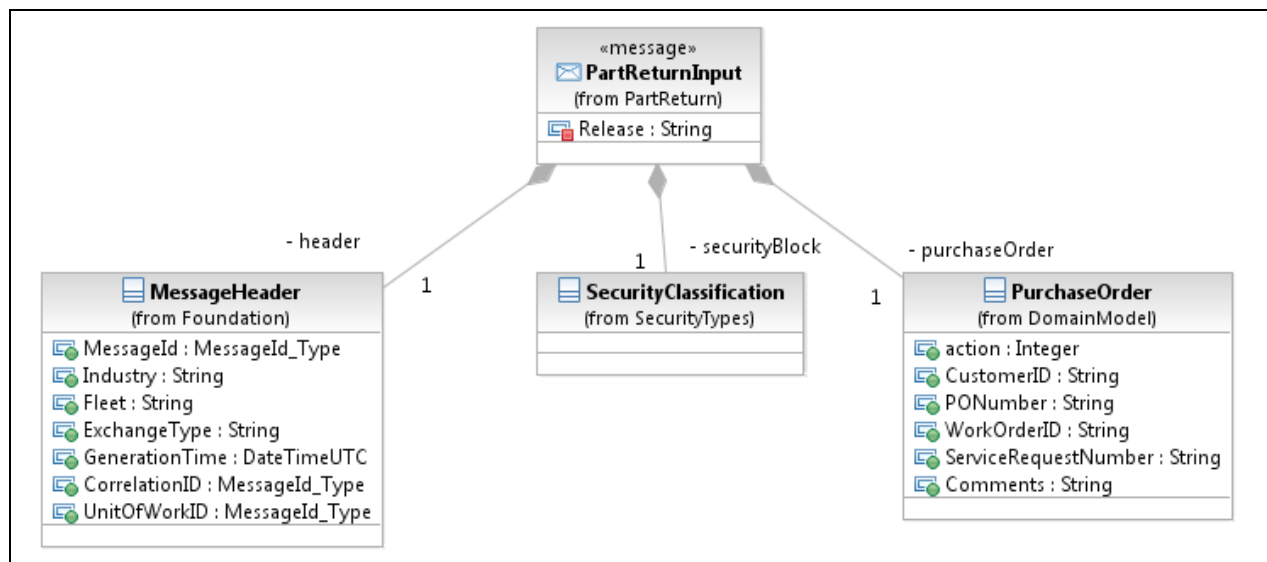
## 7.1  Part Return Message Constructs

### 7.1.1  Part Return Input Body

As shown in Figure 7-1~~Figure 7-1~~, a Part Return input message consists of:

- A Message Header;
- A Security Block;
- A Purchase Order (with contained LineItems etc.).

In order to uniquely identify data from a business payload, certain elements will be identified as elements that can make up the unique Business identifier for each business object that has been transmitted. These elements will then be used by either the consumer or provider to report any errors with associated with the contained business payload.



**Figure 7-1  Exchange Messages – Part Return Input Message**

For a PartReturnInputMessage the MessageHeader Correlation ID and Unit of Work ID are not used.

Within the PurchaseOrder, LineItem, and PartCustody business objects (the latter two not shown here) there is an attribute named 'action' which is set by the service consumer as a directive to Industry on handling the business object. Valid values for 'action' are:
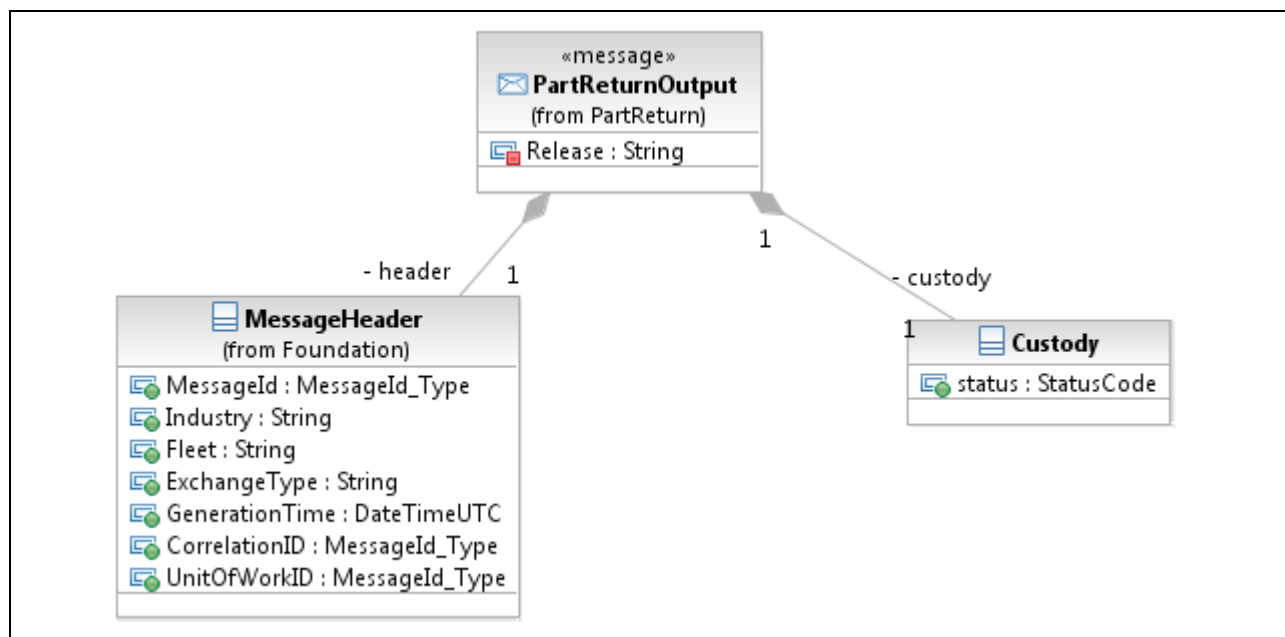
- Create a new business object:        action = 1;

- Edit an existing business object:        action = 2;

- Delete a business object:        action = 3.

### 7.1.2   Part Return Output Body

The output of the SendPartReturn operation is the PartReturnOutputBody. As shown in Figure 7-2Figure 7-2, the output body consists of:

- A Message Header;

- A PartReturnOutput indicating acceptance.

The output message has no security block. The output does not contain any sensitive or protected information.



**Figure 7-2  Part Return Output Message**

For a PartReturnOutputBody:

- The MessageHeader Correlation ID will reflect the Message ID of the originating Part Return input message.

- UnitofWorkID is not used or applicable for this type of message.

- The MessageHeader Exchange Type must be set to the Exchange Type of the PartReturnInputMessage.

- The value of the PartReturnOutput 'Custody' evaluates to "success".

### 7.1.3 Part Return Fault Body

A fault returned by the SendPartReturn operation uses the PartReturnFaultBody element. As shown in Figure 7-3Figure 7-3, the fault message consists of:

- A Message Header;

- A Security Block;

- One or more FaultBlocks.

Each fault block pertains to zero to many business objects, to the level of granularity which the Service provider can provide. If the system cannot determine a Business Identifier then this is omitted. To report differing faults on more than one business object extra fault blocks can be included in the fault message.
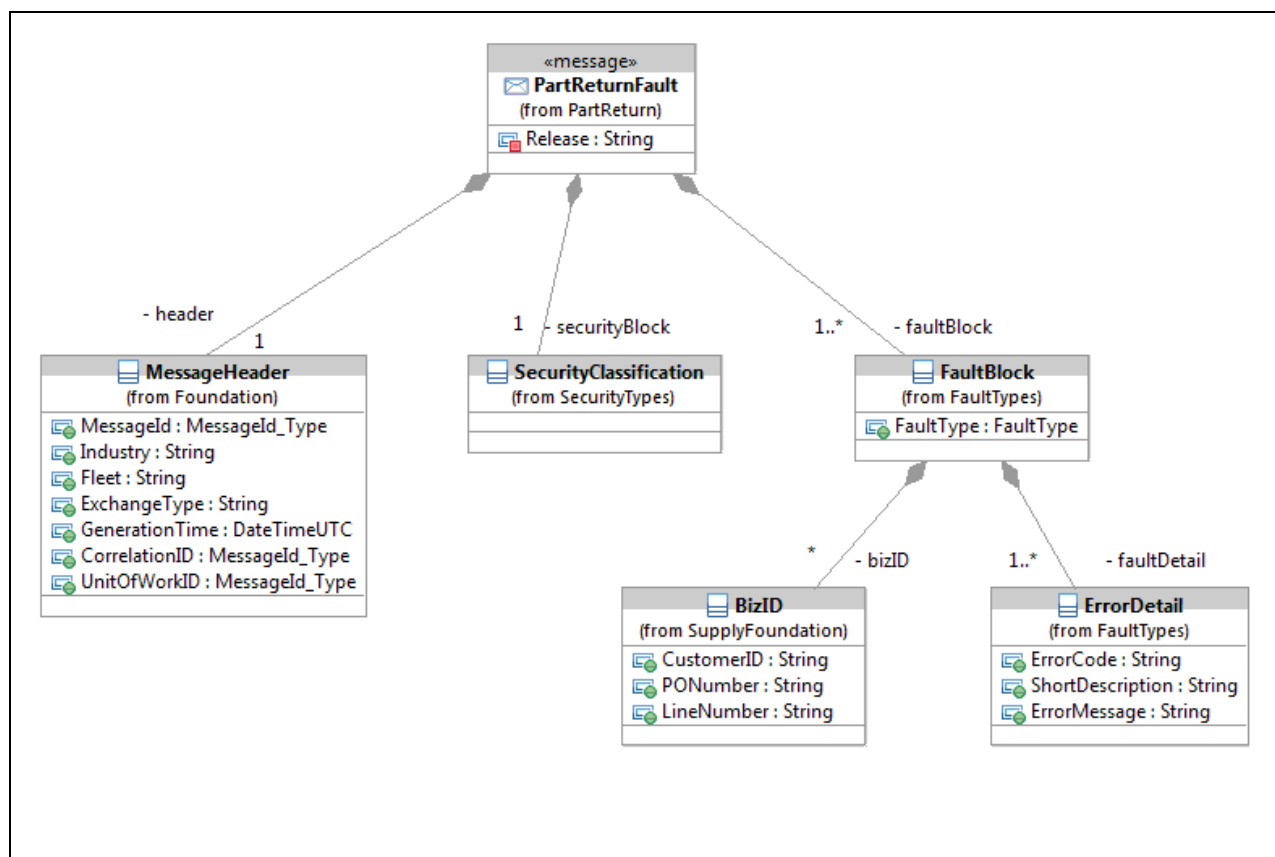


**Figure 7-3  Part Return Fault Message**

For a PartReturnFaultBody:

- The MessageHeader Correlation ID will reflect the Message ID of the originating Part Return input message.

- UnitofWorkID is not used.

- The MessageHeader Exchange Type must be set to the Exchange Type of the PartReturnInputBody.

## 7.2   Part Return Error Message Constructs

In the event Industry encounters a business error while processing the purchase order in their backend supply system, Industry will send Canada a Part Return Error message through the following constructs.

### 7.2.1   Part Return Error Input Body

As shown in Figure 7-4Figure 7-4, a Part Return Error input message consists of:

- A Message Header;
- A Security Block;
- One or more Error body.

Within the Error Body, at least one BizID must be provided, along with at least one ErrorDetail block.

- If appropriate, multiple BizIDs may be provided referencing a common error(s).

- If appropriate, multiple errors can be defined within the error body.  These errors would apply to all BizIDs defined within the ErrorBody construct.

**Figure 7-4  Exchange Messages – Part Return Error Input Body**

For a Part ReturnError InputBody the MessageHeader CorrelationID and UnitofWorkID are not used.

Each error pertains to one or more business objects, to the level of granularity which the Service Consumer can provide. To report differing errors on more than one business object extra error blocks can be included in the error input message.

### 7.2.2   Part Return Error Output Body

The output of the SendPartReturnError operation is the PartReturnErrorOutputBody The output body is similar to the PartReturnOutputBody.

Please refer to 7.1.2 Part Return Output Body for this definition.

### 7.2.3   Part Return Error Fault Body

A fault returned by the SendPartReturnError operation uses the PartReturnError FaultBody element.

Please refer to 7.1.3 Part Return Fault Body for this definition.

# 8 Service Operation Details

## 8.1 Detailed Operation Characteristics – SendPartReturn

Canada EDE system will invoke the exposed Industry Part Return service through this operation. A Part Return message will be based on a purchase order originally generated by CSS.

Refer to PartReturn_Industry.wsdl for implementation details.

**Detailed Operation Characteristics**

| Interface Definition | Description |
|---|---|
| Operation Name | Send Part Return |
| Operation Technical Name | SendPartReturn |
| Operation Description | This operation is invoked by Canada to send a Purchase Order record to Industry. The Purchase Order describes parts which Canada is returning to Industry by Canada. |
| Target Operation Provider | Industry |
| Target Operation Consumer | Canada EDE |
| Properties | *Request/Response* message exchange pattern. |
| Input Message Definition | Please refer to Operation Message Model Section 7.1.1 Part Return Input for details. |
| Output Message Definition | Please refer to Operation Message Model Section 7.1.2 Part Return Output for details. |
| Fault Definition | Please refer to Operation Message Model Section 7.1.3 Part Return Faults for details. As discussed in Section 4: Service Use Case the following faults may be reported:<br>1) Unauthenticated access<br>2) Unauthorized request<br>3) Malformed message<br>4) Service Unavailable |

**Non Functional Requirements**

| Non Functional Requirements/Technical Details | |
|---|---|
| Frequency | Based on Service Level Agreements (SLA) to be determined between Canada and Industry on a per ship class basis |

| Non Functional Requirements/Technical Details ||
|---|---|
| Peak Throughput Time | Based on Service Level Agreements (SLA) to be determined between Canada and Industry on a per ship class basis |
| Peak Throughput Volume | Based on Service Level Agreements (SLA) to be determined between Canada and Industry on a per ship class basis |
| Payload Size | ~ 2KB per Part Return Line Item |
| Attachments | None |
| Attachment Size | N/A |
| ACK Time Interval | 2 minutes |
| Retry Time Interval | 5 minutes |
| Number of Retries | 5 |
| Biz. Response Time Interval | N/A |
| Time to Live Span | Nominally 1 hour – if message cannot be delivered within 1 hour, revert to secondary delivery channel, which may be manual. |
| Service Op Availability | During core processing hours. 95% available uptime is the goal of the service |
| Downtime Requirements | The service cannot be used during established maintenance windows, which is currently expected to be for about 2 hours per week. The unavailability window may be accumulated and invoked during major maintenance periods, but ensuring that the overall availability of the service is still maintained. |
| Dead Message Handling | Alternative communication channel applies for this operation when Canada EDE cannot successfully send Part Return message to Industry. |

## 8.2 Detailed Operation Characteristics – SendPartReturnError

Industry system will invoke the exposed Canada EDE Part Return Error service through this operation. A part return error message will contain Industry-reported business errors encountered while attempting to process a Part Return message generated by CSS.

Refer to PartReturn_Canada.wsdl for implementation details.

**Detailed Operation Characteristics**

| Interface Definition | Description |
|---|---|
| Operation Name | Send Part Return Error |
| Operation Technical Name | SendPartReturnError |

| Interface Definition | Description |
|---|---|
| Operation Description | This operation is invoked by Industry to send a Business Error message to Canada. The Business Error describes errors encountered while processing Canada's Part Return message. |
| Target Operation Provider | Canada EDE |
| Target Operation Consumer | Industry |
| Properties | *Request-Response* message exchange pattern. |
| Input Message Definition | Please refer to Operation Message Model Section 7.2.1 Part Return Error Input for details. |
| Output Message Definition | Please refer to Operation Message Model Section 7.2.2 Part Return Error Output for details. |
| Fault Definition | Please refer to Operation Message Model Section 7.2.3 Part Return Error Fault for details. |

**Non Functional Requirements**

| Non Functional Requirements/Technical Details ||
|---|---|
| Frequency | Based on Service Level Agreements (SLA) to be determined between Canada and Industry on a per ship class basis. |
| Peak Throughput Time | N/A |
| Peak Throughput Volume | N/A |
| Payload Size | ~ 5KB per Error |
| Attachments | None |
| Attachment Size | N/A |
| ACK Time Interval | 2 minutes |
| Retry Time Interval | 5 minutes |
| Number of Retries | 5 |
| Biz. Response Time Interval | N/A |
| Time to Live Span | Nominally 1 hour – if message cannot be delivered within 1 hour, revert to secondary delivery channel, which may be manual. |
| Service Op Availability | During core processing hours. 95% available uptime is the goal of the service |

| Non Functional Requirements/Technical Details | |
| --- | --- |
| Downtime Requirements | The service cannot be used during established maintenance windows, which is currently expected to be for about 2 hours per week. The unavailability window may be accumulated and invoked during major maintenance periods, but ensuring that the overall availability of the service is still maintained. |
| Dead Message Handling | Alternative communication channel applies for this operation when Industry cannot successfully send Part Return Error message to Canada. |

## 8.3   Service Bindings

### 8.3.1   SOAP Over http

The implementation of this service will use a Simple Object Access Protocol (SOAP) binding with document style messages and Hyper Text Transfer Protocol (http) transport.

The business objects (Section 6), MessageHeader and SecurityMarkings elements[6] are bound to the SOAP Body element. The SOAP Header is used for EIE adopted WS-* standards-based elements (e.g., WS_Security assertions) elements,.

In this binding the http response is used for operations' output or fault messages.

### 8.3.2   SOAP Over Java Message Service

Not currently supported for this service.

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[6] See the PartReceipt Service WSDL file for the precise binding.

# 9    Definitions, Acronyms, Abbreviations

| Acronym | Description |
|---------|-------------|
| ADM (IM) | Assistant Deputy Minister (Information Management) |
| ADM (Mat) | Assistant Deputy Minister (Materiel) |
| BUC | Business Use Case |
| CMMS | Canada Maintenance Management System |
| CSS | Canada Supply System |
| DND | Department of National Defence |
| DRMIS | Defence Resource Management Information System |
| EDD | Estimated Delivery Date |
| EDE | Electronic Data Exchange |
| EIE | Electronic Information Environment |
| EMR | Equipment Master Record |
| HoP | Hand-Over Point |
| HTTP | Hyper Text Transfer Protocol |
| HTTPS | Hyper Text Transfer Protocol Secure |
| ICD | Interface Control Document |
| ISS | In-Service Support |
| ITAR | International Traffic in Arms Regulations |
| JMS | Java Message Service |
| MA&S | Materiel Acquisition and Support |
| MER | Master Equipment Record |
| MP | Maintenance Plan |
| MPN | Manufacturer Part Number |
| MSN | Manufacturer Serial Number |
| MSP | Miscellaneous Small Part |
| PBC | Performance Based Contracting |
| PO | Purchase Order |
| SLA | Service Level Agreement |
| SOAP | Simple Object Access Protocol |
| STTE | Special Tools and Test Equipment |
| UML | Unified Modeling Language |
| URL | Uniform Resource Locator |
| WO | Work Order |
| WS | Weapon System |
| WSDL | Web Service Definition Language |
| XML | Extensible Markup Language |

*The information being provided is to illustrate the model that exists for business processes and information exchange within the Performance Based Contracting (PBC) solution for the Department of National Defence. The information is provided to facilitate an understanding of the business architecture and the solution architecture that exist for the PBC program. The content is not intended to reflect the end state specifications for all of the PBC EIE related services.*
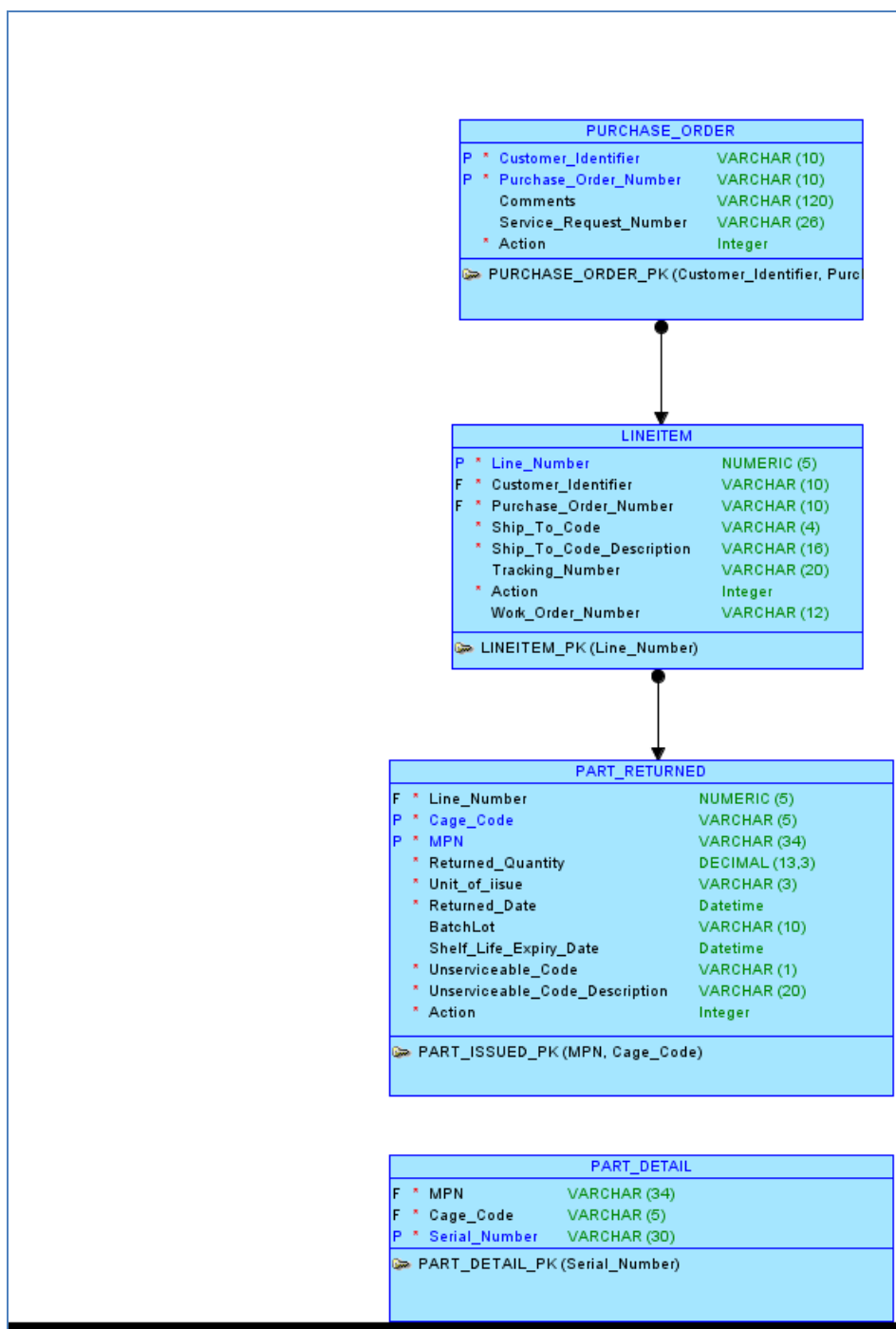
| Acronym | Description |
|---------|-------------|
| XSD | XML Schema Definition |
| XSL | Extensible Stylesheet Language |

# 10 Appendix A – Information Model Entity Relationship View

*Information Model – Entity-Relationship View*

# 11 Document History

| Revision Number | Description | Date |
|---|---|---|
| 1.0 | Initial release for Navy RFP | 22 September 2015 |
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