Electronic Information Environment (EIE)

Service Specification Document/Interface Control Document

Technical Problem Management - External

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

EIE Project

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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.

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1 Introduction

This document establishes an interface between Canada Electronic Data Exchange (EDE) system and Industry or In-Service Support Contractor responsible for maintenance of a fleet subject to Performance Based Contracting (PBC). This interface will be used by Canada EDE to send Technical Problem messages to Industry. To support the Technical Problem transfer between Canada EDE and Industry, both systems will be required support specific Web Service operations as well as request and response XML schemas as described in this document.

1.1 Intended Audience

- Industry Partner System Designers
- Canada EDE Designers
- Industry Testers
- Canada EDE Testers

1.2 References

[Ref. 1]

a. ISSCF Business Process Catalogue Annex C: Technical Problem Management Process Model - In the Context of In-Service Support Contracting Framework (ISSCF)

b. PBC Business Process Catalogue Annex N: Technical Problem Management Process Model - In the Context of Performance-Based Contracting (PBC)

[Ref. 2]

a. BUC 5.1 - Electronic Information Exchange Business Use Case - Technical Problem Data

b. BUC 5.11 – Exchange Army Technical Problem Data

c. BUC 5.21 – Navy Exchange Technical Problem Data

[Ref. 3] Electronic Information Exchange Service Interaction Model

Note1: Only applicable references will be made available to industry partner based on the adoption by the platform authority within Canada – DND, since not all references are applicable to all platforms/fleet

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2 Business Information

Business Information is based on the EIE Business Use Case for Technical Problem Management [Ref. 2].

The goal of the Technical Problem Management service is to allow Canada to send to Industry information about a Technical Problem (TP) so that Industry and Canada can collaborate to resolve the TP. As per PBC requirements Industry will use its Technical Problem Management System (TPMS) to manage processes related to the TP and Canada personnel will have access to the Industry TPMS.

Within Canada DND the Technical Problem Management System is based on the same platform as Canada Maintenance Management System (CMMS).

2.1 Business Processes

Canada can raise a Technical Problem (TP) in Canada Maintenance Management System (CMMS). The TP is verified and approved in CMMS following established business process workflow. If it is determined that the TP requires analysis and/or resolution by Industry, it will be approved for release to Industry and sent by CMMS to Industry via EDE. A secure access to the Industry TPMS will be granted to accredited users from Canada to view or update the TP in the Industry TPMS. Depending on the requirements and capabilities of the Industry TPMS, Canada may update the TP in the Industry TPMS followed by a second stage approval.

Throughout a TP lifecycle the TP, and consequently the TP resolution, may have to go through several phases of review and approval process by Canada. All review and approval processes will be done in the Industry TPMS. The implementation of the proposed TP resolution will follow Canada's approved Change Management procedures and processes if an engineering change is required.

2.2 Business Triggers

The following actions within CMMS, the business triggers, will result in TP data being sent to Industry:

- A Technical Problem is approved for release to Industry.

For Further information, including cross-references to business processes, please refer to the Business Use Case [Ref. 2].

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3 Business Constraints

Terminology

The input to the service is a ***TPMS message*** which consists of one ***TP business object*** and metadata (e.g., message header) required for correct message processing between Canada and Industry.[1]

Constraints on *Usage* of the Service

1) The overall status of the weapon system may block exchange of TP data. For example, if the weapon system status is 'Quarantined', then TP data may not be exchanged with Industry. This is solely at the discretion of Canada's operational authorities.
2) Canada EDE shall ensure Technical Problem data for a weapon system is sent only to the Industry system which is properly authenticated and authorized to see In-Service Support data for that fleet.
3) Every invocation of a service operation is subject to mutual authentication using secure credentials such as PKI Certificates.

Constraints on Behaviour of the Service

4) Industry will authorize invocations by Canada DND of operations of the Technical Problem service.
5) Industry will report Technical Problem technical processing errors through the corresponding Error operation of the invoked Technical Problem service.
6) Industry will report any business processing errors related to the handling of TPs through some means outside of EDE.
7) Canada DND does not guarantee that Technical Problem messages will be received at the Industry in the same order they were created.
8) TPMS messages will be signed using digital certificates between Canada EDE and Industry. Please see Service Interaction Model [Ref. 3] for details.
9) Canada EDE may attempt to re-send TPMS messages (i.e., repeat operation invocations) in response to technical errors. This behaviour is controlled by parameters for each operation. Please see Service Interaction Model [Ref. 3] for details.

[1] TPMS messages are defined in section 7. TP business objects are defined in section 6. The message / business subject distinction is used throughout the document.

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4 Service Use Case

The requirements for the Technical Problem Management service are defined by one use case with several scenarios.

4.1 Overview

A high level view of the context of the service is shown below. For simplicity this view omits acknowledgement and error scenarios. These are discussed in Service Use Case Scenarios.

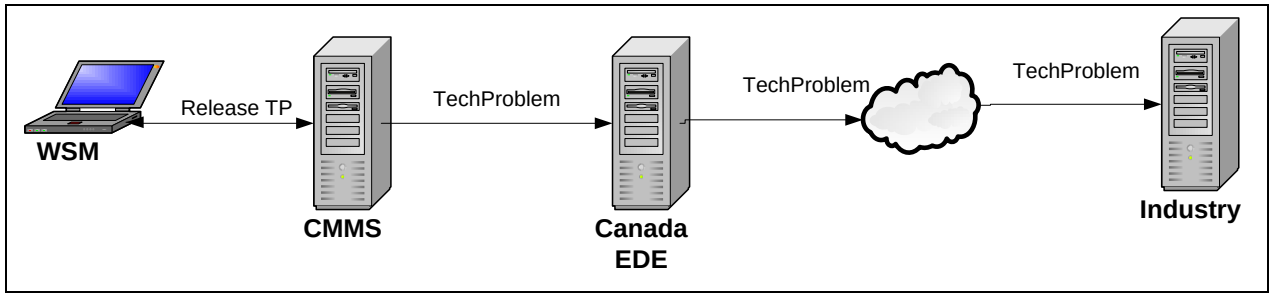

Figure 4-1 Technical Problem Management Context

The following activities occur:

- Canada DND user creates a technical problem in CMMS.
- Weapon System Manager[2] (WSM) reviews in CMMS and decides to release the technical problem to Industry.
- CMMS sends technical problem to Canada EDE.
- Canada EDE sends technical problem to Industry.
- Industry creates a technical problem in their TPMS.

Once the TP is created in the Industry TPMS, all subsequent access by Canada DND to the TP is directly to the Industry TPMS and does not use Canada EDE. (This is not depicted in Figure 4-1~~Figure 4-1~~.)

4.2 Successful Business Request and Response (Scenario 1)

This is the main or "Happy Day" scenario.

[2] WSM is a generic term for a role which may be satisfied by different groups per project. Could be an authorized delegate.

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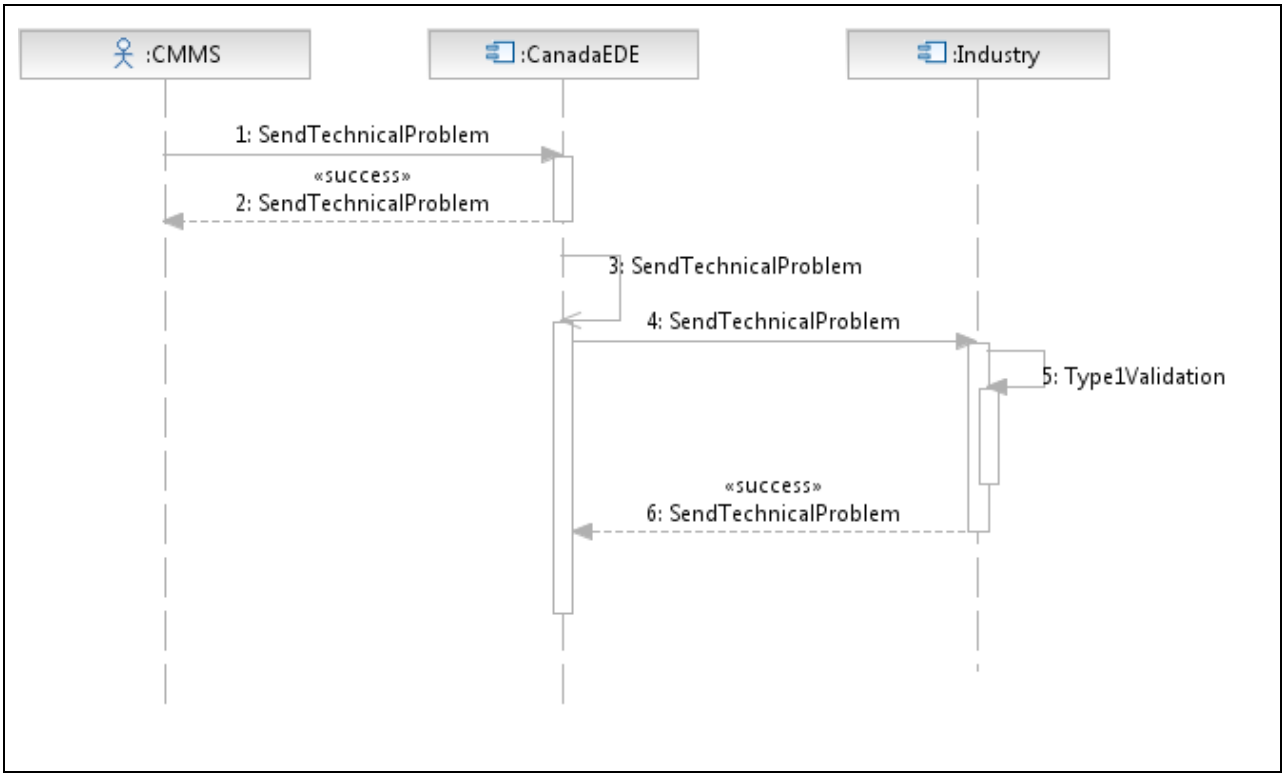

Figure 4-2 Technical Problem Management Request

Main Flow	
Scenario	"Happy Day:" Canada EDE successfully sends TP to Industry.
Pre-Condition	TP has been created in the Canada DND system and released by WSM[3].
Post-Condition	TP data is successfully received by Industry, a TP is created in Industry TPMS.
Steps	The CMMS system invokes the Canada EDE SendTechnicalProblem() operation with the released TP business object[4]. EDE returns to CMMS a "success" technical response for the SendTechnicalProblem () operation. EDE accepts custody of the message. EDE begins internal processing of the message. EDE invokes the Industry SendTechnicalProblem() operation with the released TP business object. (See Input Body definition.) Industry initiates "Type 1" validation. In this scenario there is no error. Industry accepts custody of the TP business object in the message

[3] WSM is a generic term for a role which may be satisfied by different groups per project

[4] Processing between CMMS and EDE is out of scope of this document

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	Industry returns to EDE a “success” technical response for the SendTechnicalProblem() operation. (See Output Body definition.)

4.3 Alternate Scenarios

The following scenarios apply to all uses of the Technical Problem service.

Alternate Scenarios distinguish between “***Type 1***” and “***Type 2***” errors. Type 1 errors are those errors detected prior to the service provider accepting custody of a message. Type 2 errors are those errors detected during internal processing prior to business validation by the service provider. Please see Service Interaction Model [Ref. 3] for details on these groupings.

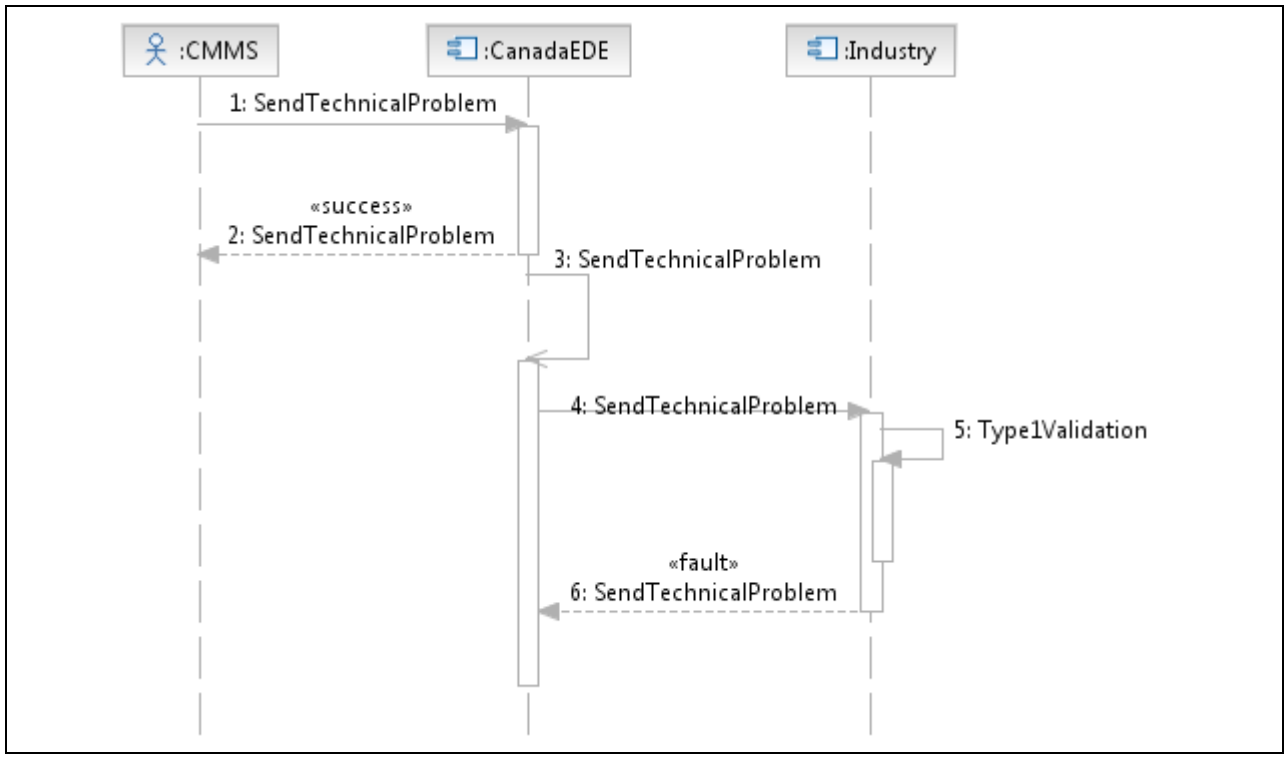

Figure 4-3 Technical Problem Management flow with Type 1 fault

Alternate Flow 1	
Scenario	Type 1 Errors detected by Industry prior to accepting custody of the TPMS message. Detailed specification of Type 1 errors are in Service Interaction Model [Ref. 3].
Pre-Condition	Same as Main Flow
Post-Condition	In this scenario the WSM[5] and Industry Staff will communicate directly (e.g., email, phone, fax, etc.) to resolve the problem and complete the TP.

[5] WSM is a generic term for a role which may be satisfied by different groups per project

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Steps	The CMMS system invokes the Canada EDE SendTechnicalProblem() operation with the released TP data in the message[6]. EDE returns to CMMS a "success" technical response for the SendTechnicalProblem () operation. EDE accepts custody of the message. EDE begins internal processing of the message. EDE invokes the Industry SendTechnicalProblem() operation with the released TP business object. (See Input Body definition.) Industry initiates "Type 1" validation. Industry returns to EDE a "fault" technical response for the SendTechnicalProblem() operation. (See Fault Body definition.) Industry does **not** accept custody for internal processing.

[6] EDE internal processing is out of scope of this document

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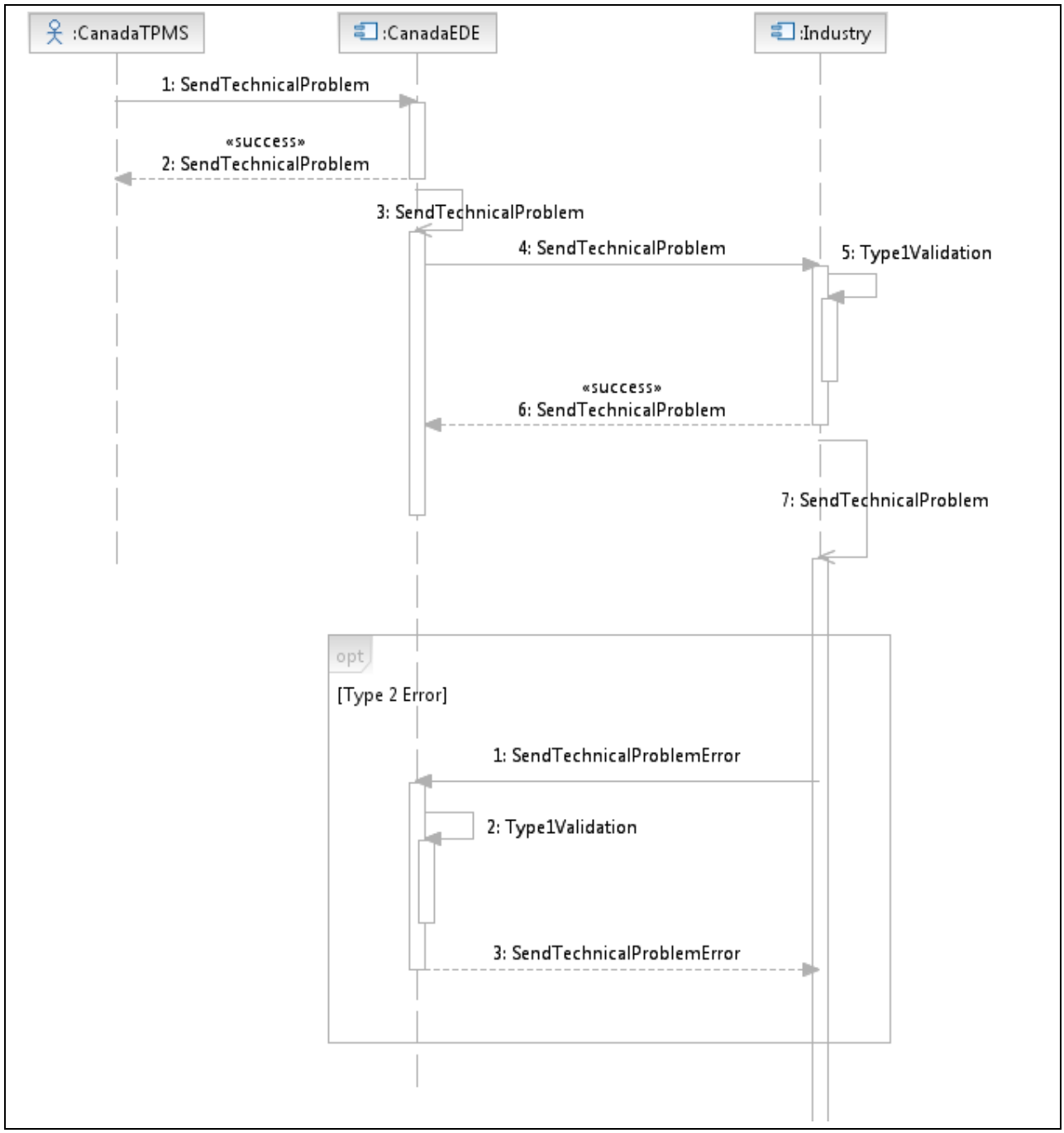

Figure 4-4 Technical Problem Management flow with Type 2 fault

Alternate Flow 2	
Scenario	Industry processing detects Type 2 Error. Detailed specification of Type 2 errors are in Service Interaction Model [Ref. 3]

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Pre-Condition	Same as Main Flow
Post-Condition	In this scenario the WSM[7] and Industry Staff will communicate directly (e.g., email, phone, fax, etc.) to resolve the problem and complete the TP.
Steps	Steps 1 to 6 are the same as the main flow. Industry commences internal processing. In the event Industry detects an error: Industry invokes the EDE SendTechnicalProblemError() operation with an error message. (See Error Input Body definition.) EDE initiates "Type 1" validation. In this scenario there is no error. EDE accepts "custody" of the TP error message. EDE returns to Industry a "success" technical response for the SendTechnicalProblemError() operation. If there is a Type 1 validation error (Step 2) there is no further processing.

Alternate Flow 3 (Industry Service unresponsive)	
Scenario	Canada EDE does not receive a technical response (see Main Flow step 3) within ACK_TIME_INTERVAL.
Pre-Condition	Canada EDE has invoked the SendTechnicalProblem() operation but does not receive a technical response within the specified ACK_TIME_INTERVAL for the Technical Problem Management service.
Post-Condition	Canada EDE marks the message as Dead Message.
Steps	Canada EDE does not receive any response from Industry within the allowed ACK_TIME_INTERVAL. Canada EDE will retry sending the message up to the defined maximum retry count or expiry of TIME_TO_LIVE, whichever occurs later. If there is no response, then Canada EDE marks the request message as Dead and handles it via the Dead Message protocol (See Service Interaction Model [Ref. 3].)

[7] WSM is a generic term for a role which may be satisfied by different groups per project

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5 Service Description

5.1 Service Overview

Technical Problem Management service requires interacting web services exposed by Canada EDE and Industry. The Industry will expose a service and operation which Canada EDE System will use to send TPMS messages (see Section 7 for message definition). After receipt of the input message, Industry will return a technical response back to Canada EDE. As part of the TPMS Service Canada will expose an error reporting operation used by Industry to report technical errors (Section 4, Alternate Flow 2).

5.2 Service Properties

Service Property	Description
Enterprise Service Name (Business)	Technical Problem Management Service
Enterprise Service Name (Technical)	TechnicalProblemManagementService
Purpose	This service supports the Canada DND PBC processes when Canada DND reports technical problems. On the occurrence of one of the business triggers, this service sends TPMS messages between Canada DND and Industry.
Business Response Time Interval	Nominal value is 2 hours – to be confirmed between Canada and Industry on a per-fleet basis.
Service Domain	Technical Problem Management
Business Owner	ADM (IM)
Service Grouping	Technical Problem Management
Source Provider	Technical Problem Management Service – Industry and Canada joint implementation
Target Service Consumers	Technical Problem Management Service – Industry and Canada joint consumers
Business Process Supported (now)	All Performance based Contracting (PBC) processes that require an ability to raise a technical problem against one or more elements of In-Service Support (ISS) program.
Business Process Supported (future)	TBD
Business Objective Supported	See Section 2: Business Information.
Expected life time	The full lifecycle of the subject weapons system.

5.3 Service Operations

5.3.1 SendTechnicalProblem()

This operation is used by Canada EDE to send a TPMS message to Industry. Industry's implementation of this operation will perform Type 1 validation on the TPMS message. Industry will return a status or fault information to Canada EDE in a technical response. If the status is "success", Industry accepts custody of the message for further processing. Any returned fault implies Industry does **not** accept the message and error processing (as per Section 4: Service Use Case/Interaction Model) is performed.

5.3.2 'SendTechnicalProblemAck()' Operation

This operation is optionally used by Industry to send an acknowledgement message to Canada EDE after internal message processing accepts the business object (no Type 2 errors, see Service Interaction Model [Ref. 3]). Canada EDE's implementation of this operation will perform Type 1 validation on the error message. Canada EDE will return a technical response to Industry.

The use of this operation in a "pessimistic" scenario is to be confirmed between Canada and Industry on a per-fleet basis.

5.3.3 'SendTechnicalProblemError()' Operation

This operation is used by Industry to send an error message to Canada EDE after internal message processing detects a Type 2 error condition (see Service Interaction Model [Ref. 3]). Canada EDE's implementation of this operation will perform Type 1 validation on the error message. Canada EDE will return a technical response to Industry.

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6 Information Model

This section describes the **business objects** which are used in the Technical Problem Management service. The Unified Modeling Language (UML) notation is used. A functional view[8] of the information model is provided in the Technical Problem Management Business Use Case [Ref. 2], Section 3: Functional Data Definition.

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.

Note that all date or time values must be in **Coordinated Universal Time (UTC).** If an explicit time zone offset is not provided it is assumed to be zero.

The XML Schema is the authoritative source for purpose of the information exchange.

6.1 Technical Problem

The Technical Problem Report fields are described in the Functional view (please see Business Use Case [Ref. 2]).

A Technical Problem contains three mandatory fields:

- TP Title – A brief description of the TP;
- Customer Reference Number – The unique identifier of the TP in Canada DND's TP system;
- Description – a text description entered by the user who created the TP and may be updated by the TP release authority;

All other TP information is exchanged through optional sub-objects. A TP may contain:

- Any number of Attachments sub-objects;
- An optional (zero or one) Equipment sub-object;
- Any number of Fault Codes sub-objects;
- At least one User sub-object if adopted by specific platform/fleet ;
    - Users may be one or more of : Originator of the TP, or Reviewer of the TP, or the Closure OPI;
    - At least one of the three, at most one of each;
- An optional (zero or one) TechPubs sub-objects;
- An optional (zero or one) General sub-object;

[8] The Functional View details the collection of fields which make up a technical problem report.

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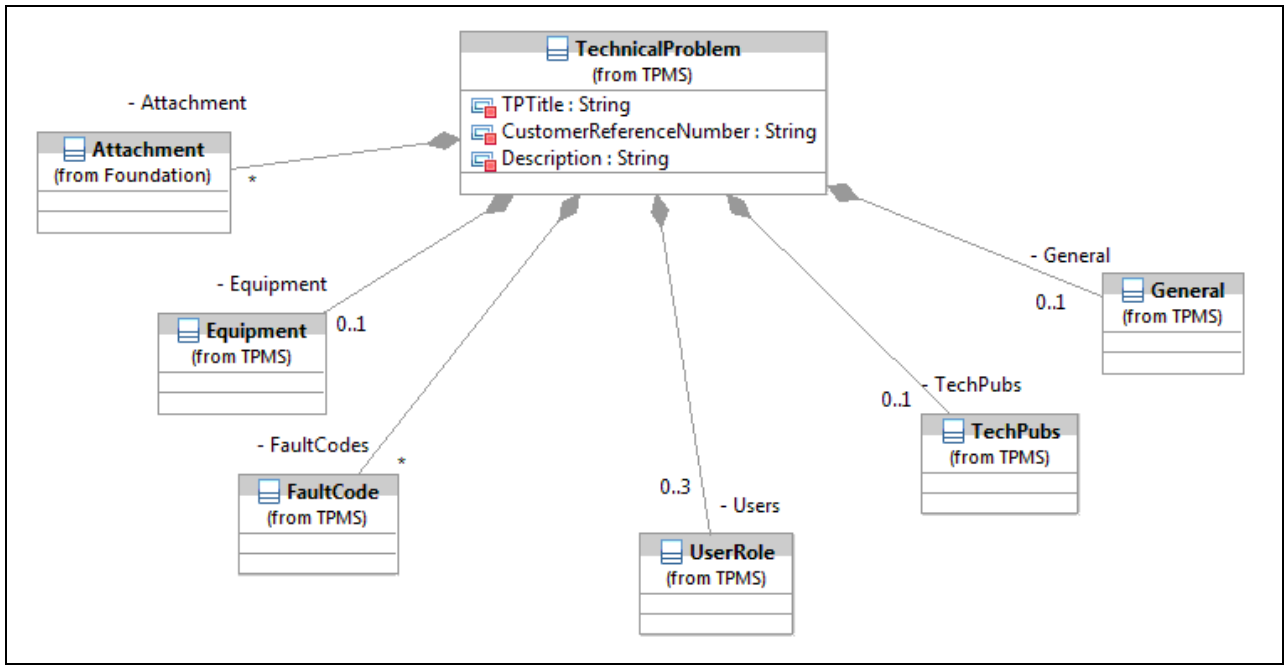

Figure 6-1 Information Model – Technical Problem

6.2 General Sub-Record

See Business Use Case [Ref. 2] for definition of fields. Most fields are a combination of a short code value and a text description.

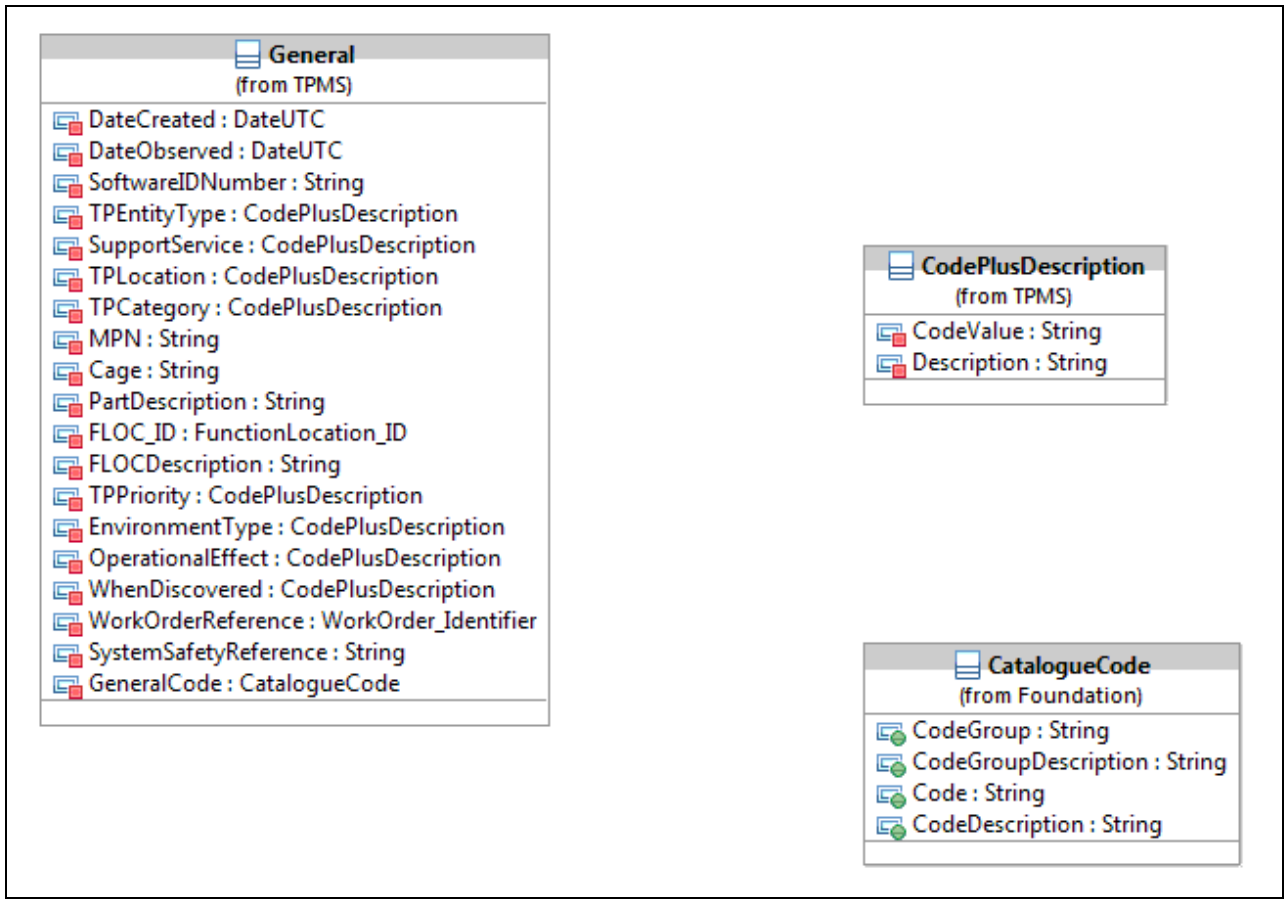

Figure 6-2 Information Model – Technical Problem - General

6.3 FaultCode Sub-Record

See Business Use Case [Ref. 2] for definition of fields. The same catalogue code structure is used as other services.

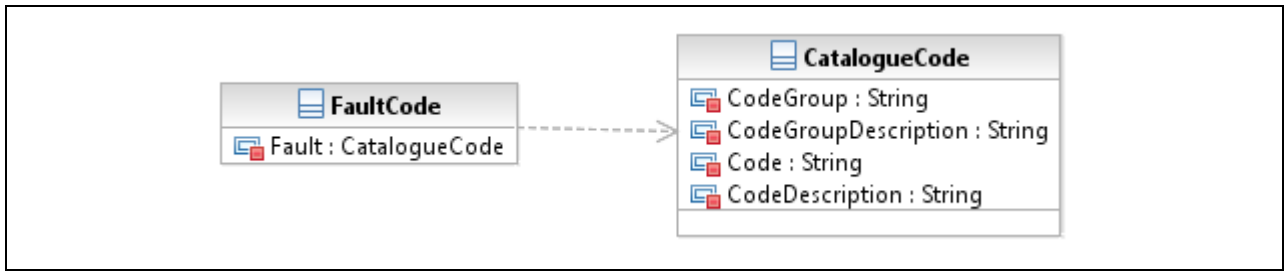

Figure 6-3 Information Model – Technical Problem – Fault Code

6.4 Attachment

See Business Use Case [Ref. 2] for definition of fields.

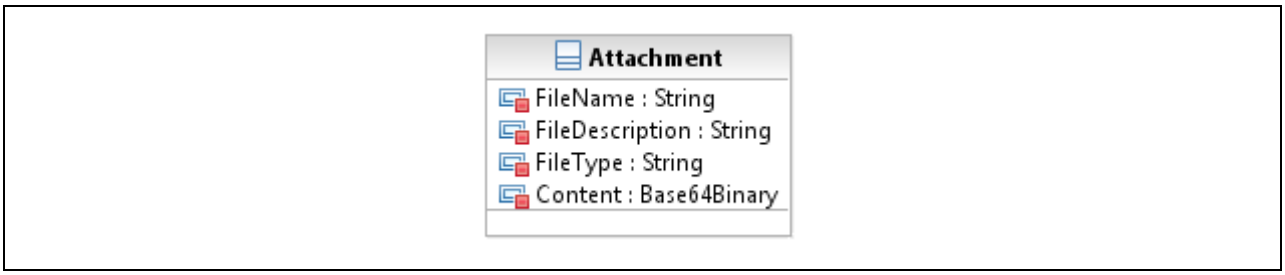

Figure 6-4 Information Model – Technical Problem – Attachment

6.5 Equipment

See Business Use Case [Ref. 2] for definition of fields.

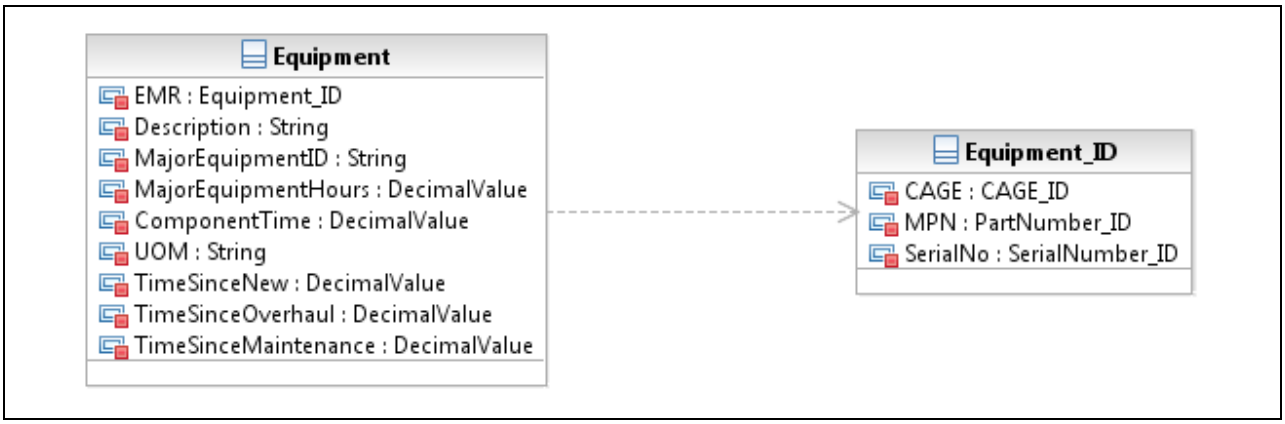

Figure 6-5 Information Model – Technical Problem - Equipment

6.6 Tech Pubs

See Business Use Case [Ref. 2] for definition of fields.

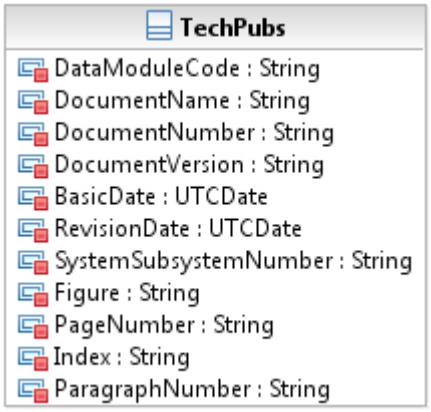

Figure 6-6 Information Model – Technical Problem – Tech Pubs

6.7 User Role

See Business Use Case [Ref. 2] for definition of fields.

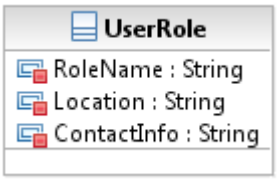

Figure 6-7 Information Model – Technical Problem - User

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.

The Technical Problem service follows the request/response model and each operation definition includes a distinct input, output and fault message. See Service Interaction Model [Ref. 3] for definition of the common MessageHeader and SecurityClassification elements.

Note that all date or time values must be in **Coordinated Universal Time (UTC).** If an explicit time zone offset is not provided it is assumed to be zero.

7.1 Technical Problem Input Body

A Technical Problem input body consists of

- A Message Header;
- A Security Block;
- A Technical Problem Business Object.

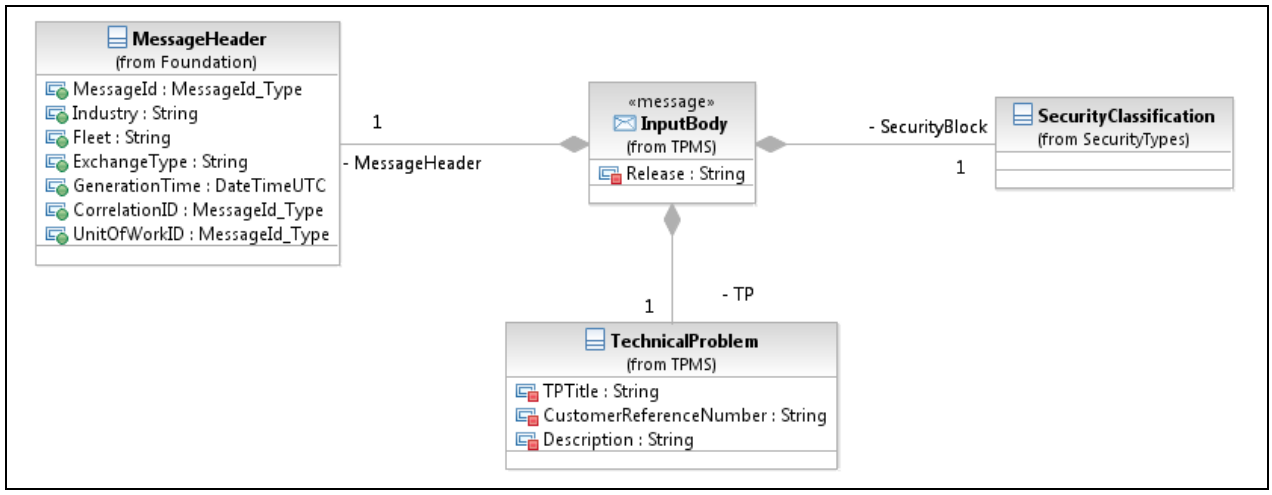

Figure 7-1 Exchange Messages – Technical Problem Input Message

For a TechnicalProblemInputMessage the MessageHeader Correlation ID and UnitOfWorkID are not used.

7.2 Technical Problem Output Body

The output of the SendTechnicalProblem() operation is the TP OutputBody. The output body consists of:

- A Message Header;
- A Custody object

The TP OutputBody has no security block. The TP OutputBody must not contain any sensitive or protected information.

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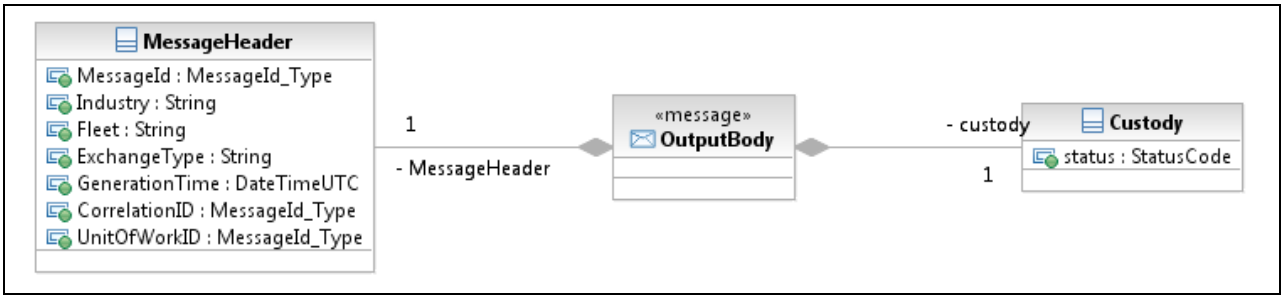

Figure 7-2 Exchange Messages – Technical Problem Output Message

For a TP OutputBody:

- The MessageHeader Message Id is a new unique value;
- The MessageHeader Correlation ID is set to the MessageID of the TP Input Body;
- The MessageHeader Exchange Type must be set to the Exchange Type of the TP InputBody;
- The value of the Custody status field is "success"[9].

7.3 Technical Problem Fault Body

A fault returned by the SendTechnicalProblem() operation uses the TP FaultBody element. The TP FaultBody consists of:

- A Message Header;
- A Security Block;
- One or more FaultBlock's.

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

[9] As stated in Section 5.3, the main significance of the output is that, by its presence, there is no fault.

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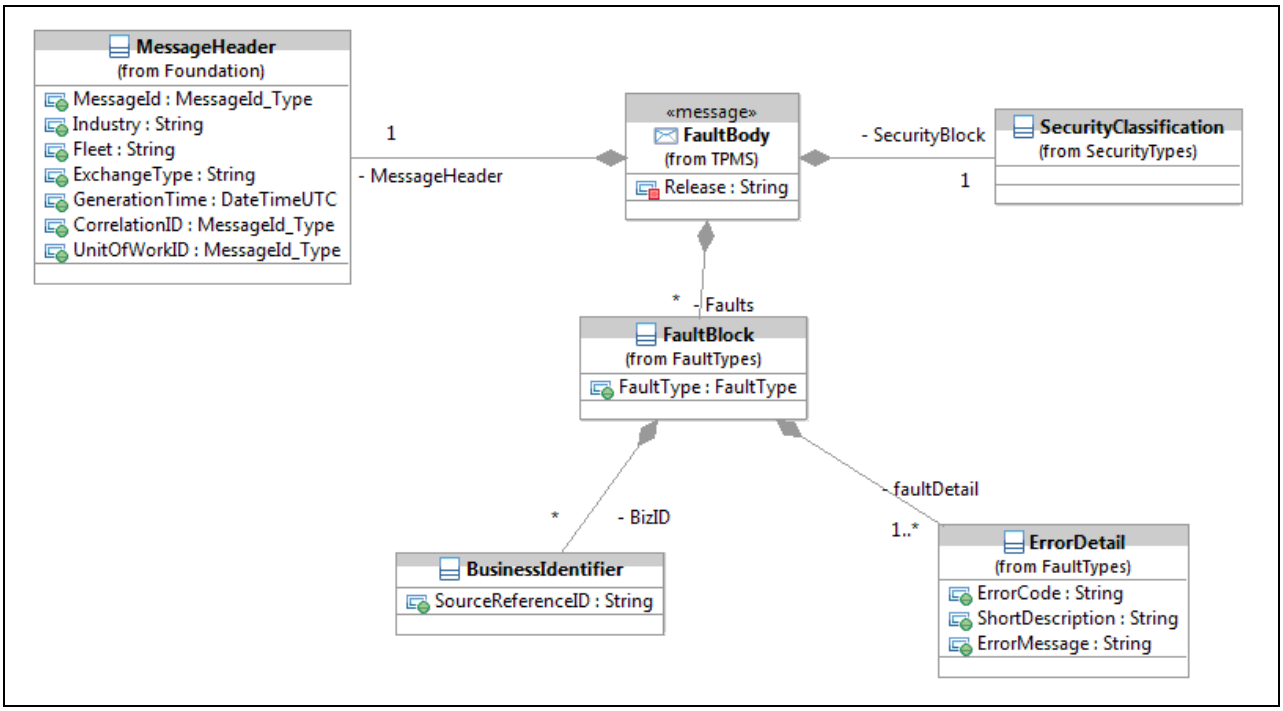

Figure 7-3 Exchange Messages – Technical Problem Fault Message

MessageHeader is mandatory, but only MessageID and GenerationTime are mandatory within the header. This is for the scenario where the input message is so damaged that the necessary attributes cannot be found. Correlation ID is set to the Message Id of the TP Input Body – whenever the initial Message ID is available.

SecurityClassification is optional for the scenario where the input message is so damaged that the necessary attributes cannot be determined.

7.4 TP Ack Input Body

The input to the SendTechnicalProblemAck() operation consists of a Message Header, a list of business identifiers, and a “success” status indicating Industry has not detected an error in the TP business objects.

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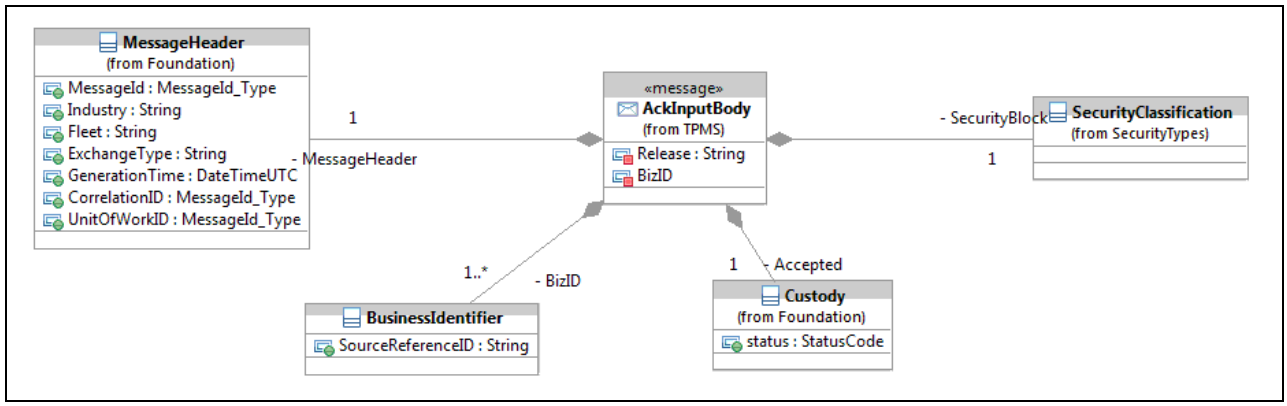

Figure 7-4 Exchange Messages – Technical Problem Ack Input Message

The Message Header has a new unique Message Id. The CorrelationID and UnitOfWorkID are not applicable.

7.5 TP Error Input Body

The input to the SendTechnicalProblemError() operation consists of a Message Header, a Security Block and a list of Error Blocks. Each Error Block references a business object (by business identifier) and a list of one or more errors pertaining to the business object.

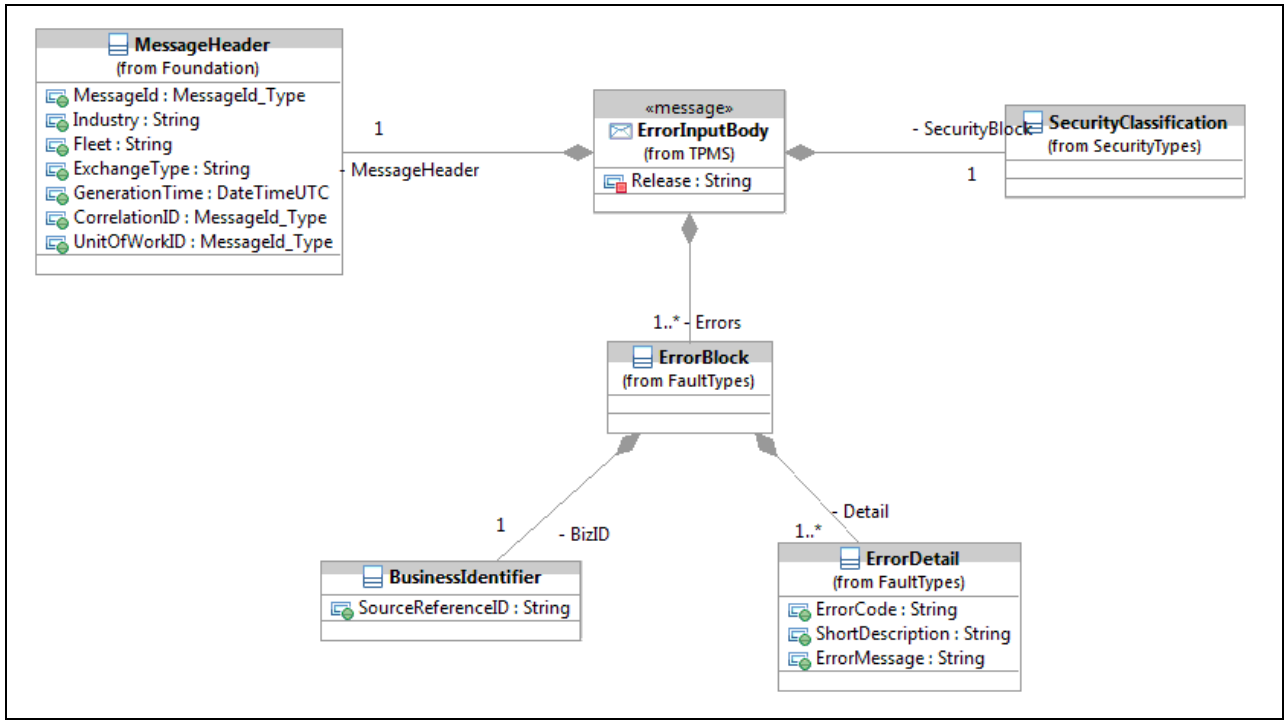

Figure 7-5 Exchange Messages – Technical Problem Error Input Message

MessageHeader and SecurityClassification are mandatory as in this scenario (after Type 1 validation has passed) the input message is well-formed.

The Message Header has a new unique Message ID. CorrelationID and UnitOfWorkID are not applicable for this context of exchange.

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8 Service Operation Details

8.1 Detailed Operation Characteristics – SendTechnicalProblem()

Canada DND system will invoke the exposed Industry Technical Problem service through this operation. The input will consist of a TP InputBody (as above).

Please refer to Service Interaction Model [Ref. 3] for definitions of the terminology used in the non-functional requirements section.

Please refer to TechicalProblem wsdl files for implementation details.

Interface Definition	Description
Operation Name	Send Technical Problem
Operation Technical Name	SendTechnicalProblem
Operation Description	This operation is invoked by Canada DND to send a technical problem report to Industry
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 Technical Problem Input Body for details.
Output Message Definition	Please refer to Operation Message Model Section 7.2 Technical Problem Output Body for details.
Fault Definition	Please refer to Section 7.3 Technical Problem Fault Body for details. Please refer to Service Interaction Model [Ref. 3] for Type 1 faults.

Non Functional Requirements/Technical Details	
Frequency	Based on Service Level Agreements (SLA) between Canada and Industry on a per-fleet basis for technical problem management
Peak Throughput Time	Based on Service Level Agreements (SLA) to be determined between Canada and Industry on a per-fleet basis.
Peak Throughput Volume	Based on Service Level Agreements (SLA) to be determined between Canada and Industry on a per-fleet basis.
Payload Size	Variable based on the elements that are populated.
Attachments	Service will support MTOM (Message Transmission Optimization Mechanism) attachments.

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Non Functional Requirements/Technical Details	
Attachment Size	Maximum 100 MB can be supported for total size. Reduction in total size of attachment accepted per industry/fleet can be tailored as required within Canada EDE.
ACK Time Interval	5 minutes
Retry Time Interval	10 minutes
Number of Retries	5
Biz. Response Time Interval	Based on Service Level Agreements (SLA) to be determined between Canada and Industry on a per-fleet basis for technical problem management.
Time to Live Span	Not applicable for this type of message.
Service Op Availability	During core processing hours. The specific period will be defined during later phases of service realization 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 to report that this operation is not available when Canada EDE cannot successfully send TP business objects to Industry partner. See Service Interaction Model [Ref. 3].

8.2 Detailed Operation Characteristics – SendTechnicalProblemAck()

Industry will use this operation to inform Canada EDE of successful internal processing if required as per each industry and fleet.

Please refer to TechnicalProblem wsdl files for implementation details.

Detailed Operation Characteristics

Interface Definition	Description
Operation Name	Send Technical Problem Ack
Operation Technical Name	SendTechnicalProblemAck()
Operation Description	This operation is invoked by Industry to send a Technical Problem acknowledgement to Canada.
Target Operation Provider	Canada EDE

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Interface Definition	Description
Target Operation Consumer	Industry
Properties	*Request/Response* message exchange pattern.
Input Message Definition	Please refer to Operation Message Model Section 7.4 Technical Problem Ack Input Body for details. Please refer to Service Interaction Model [Ref. 3] Type 2 faults for the faults which may be sent in this operation.
Output Message Definition	Please refer to Operation Message Model Section 7.2 Technical Problem Output Body for details.
Fault Definition	Please refer to Section 7.3 Technical Fault Body for details. Please see Service Interaction Model [Ref. 3] for faults which may be returned by this operation.

Non Functional Requirements

Non Functional Requirements/Technical Details	
Frequency	Same as SendTechnicalProblem() operation. Worst case is one error per TechnicalProblem business object.
Peak Throughput Time	Same as SendTechnicalProblem() operation.
Peak Throughput Volume	Same as SendTechnicalProblem() operation.
Payload Size	~ 2KB per error
Attachments	None
Attachment Size	N/A
ACK Time Interval	2 minutes
Retry Time Interval	10 minutes
Number of Retries	5
Biz. Response Time Interval	N/A
Time to Live Span	Not applicable for this type of message exchange
Service Op Availability	During core processing hours. The specific period will be defined during later phases of service realization 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.

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Non Functional Requirements/Technical Details	
Dead Message Handling	Alternative communication channel applies to report that this operation is not available when Industry cannot successfully send TP business acknowledgement objects to Canada EDE. See Service Interaction Model [Ref. 3].

8.3 Detailed Operation Characteristics – SendTechnicalProblemError()

Industry will use this operation to inform Canada EDE of errors in internal processing prior to saving in Industry TPMS.

Please refer to TechnicalProblem wsdl files for implementation details.

Detailed Operation Characteristics

Interface Definition	Description
Operation Name	Send Technical Problem Error
Operation Technical Name	SendTechnicalProblemError()
Operation Description	This operation is invoked by Canada EDE to send one or more Technical Problem errors to Industry.
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 7.5 Technical Problem Error Input Body for details. Please refer to Service Interaction Model [Ref. 3] Type 2 faults for the faults which may be sent in this operation.
Output Message Definition	Please refer to Operation Message Model Section 7.2 Technical Problem Output Body for details.
Fault Definition	Please refer to Section 7.3 Technical Fault Body for details. Please see Service Interaction Model [Ref. 3] for faults which may be returned by this operation.

Non Functional Requirements

Non Functional Requirements/Technical Details	
Frequency	Same as SendTechnicalProblem() operation. Worst case is one error per TechnicalProblem business object.
Peak Throughput Time	Same as SendTechnicalProblem() operation.

Non Functional Requirements/Technical Details	
Peak Throughput Volume	Same as SendTechnicalProblem() operation.
Payload Size	~ 2KB per error
Attachments	None
Attachment Size	N/A
ACK Time Interval	2 minutes
Retry Time Interval	10 minutes
Number of Retries	5
Biz. Response Time Interval	N/A
Time to Live Span	Not applicable for this type of message exchange
Service Op Availability	During core processing hours. The specific period will be defined during later phases of service realization 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 to report that this operation is not available when Industry cannot successfully send TP error objects to Canada EDE. See Service Interaction Model [Ref. 3].

8.4 Service Binding

8.4.1 SOAP Over http

The implementation of this service will use a SOAP binding with document style messages and http transport.

The business objects (Section 6), MessageHeader and SecurityMarkings elements are bound to the SOAP Body element. The SOAP Header is used for EIE adopted WS-* standards-based elements (e.g., WS_Security assertions). See the Technical Problem Service Web Service Definition Language (WSDL) file for the precise binding.

In order to support attachments in SOAP messages, both Industry and Canada will support SOAP1.2 and follow the MTOM specifications.

Attachments will not be included in the message digest being generated when signing the message. The message digest will only be generated based on the Input Body excluding any attachments content.

The content type defined in the multi-part message will be as defined by provider of the data.

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In this binding the http response is used for each operation's technical response (i.e., output or fault messages).

8.4.2 SOAP Over JMS

Not currently supported.

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9 Definitions, Acronyms, Abbreviations

Term	Description
CM	Configuration Management
CMMS	Canada Maintenance Mangement System
CSS	Canada Supply System
DND	Department of National Defence
DRMIS	Defense Resource Management Information System
EDE	Electronic Data Exchange
EIE	Electronic Information Environment
EMR	Equipment Master Record
FLOC	Functional LOCation
ISS	In Service Support
ISS-C	In Service Support Contractor
ISSCF	In Service Support Contracting Framework
MER	Master Equipment Record
MPN	Manufacturer Part Number
MMR	Material Master Record
NATO	North Atlantic Treaty Organization
NSN	NATO Stock Number
PBC	Performance Based Contracting
SOAP	Simple Object Access Protocol
UTC	Coordinated Universal Time
WS	Weapon System
WSDL	Web Service Definition Language

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10 Document History

Revision Number	Description	Date
0.1	Initial Draft	Jul 13, 2011
1.0	Baselined for release to Boeing	21 October, 2011
1.1	Update to remove certain operations	16 November 2011
1.2	An update in Section 2.1 in response to a Boeing comment.	13 March, 2012
1.3	Updated class diagram to include elements added for MMR and code group.	1 August, 2012
1.4	Updated BizID to have concrete element definition Updated the non-functional requirements table for number of retries, Time-to-live span and Dead Message Handling text Corrected UML class model to make user optional	3 February 2013
1.5	Added footnotes to WSM reference to encompass other project organizations	27 February 2013
1.6	Removed PROTECTED-A markings from document and add proviso to page footer.	11 June 2013
1.7	Updated to include Navy references.	01 October 2015

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.