Electronic Information Environment (EIE) Project

Business Use Case (BUC)

BUC 3.44 Navy - Exchange Part Receipt Data

EIE Project

document identification	identifier du document
issue date	date de diffusion
09 September 2015	
version	version
1.0	
OPI	BPR
PBC - EIE Solution Office	
designator	désignation
EIE Project	
group / division	groupe / division
ADM(IM) / DGEAS	

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.

Table of Contents

List of Figures

List of Tables

1. EIE Business Use Case[1] Overview

1.1 Introduction

Performance Based Contracting (PBC) is a set of guidelines to Canada Major Capital Projects (MCPs) on how to model a Platform acquisition and in-service support (ISS) processes. Under these guidelines Canada is responsible to perform some corrective and/or preventive maintenance activities on the Platform. The ISS Contractor will own, manage and deliver to the specified Hand-Over Point (HoP) all materiel required to support the Platform, with the exception of excluded systems. In order for Canada and the ISS Contractor to fulfill their obligations under PBC, specific datasets must be exchanged between Canada and ISS Contractor.

The collection of information systems provided by Canada and ISS Contractor, used to maintain the Platform and the various information exchange mechanism, is collectively known as the Electronic Information Environment (EIE).

The web services and supporting infrastructure which enable the exchange of data between ISS Contractor and Canada's operational systems in support of PBC between Canada and the ISS Contractor(s) is collectively known as Electronic Data Exchange (EDE). The EDE components span application nodes, network zones and the Internet.

Given the significance of materiel demand and supply in the overall success of contracted performance objectives of PBC and platform operational availability, all data exchange between Canada Supply System (CSS) and the ISS Contractor systems will have to occur in near real-time via EDE.

1.2 Purpose

The ISS Contractor-owned spare parts required to complete a maintenance task will be listed in the work order in the CMMS. Each spare part will be identified as either Canada or ISS Contractor-supplied. For all ISS Contractor-supplied parts not available in inventory, CMMS will generate and send to the ISS Contractor a Part Demand through EDE. In response, ISS Contractor will provide Estimated Date of Delivery (EDD). ISS Contractor is required to provision requested materiel within the contractually-agreed time in order to meet Performance Based parameters. ISS Contractor is also responsible to send adequate data in order to receive the provisioned part into CMMS / CSS. This data will be sent to Canada in a Part Issue transaction.

Once the part has been physically received at the Handover Point (HoP), the receipt will also have to be acknowledged in the CSS. When the supply technician receives a part in the CSS, the system will generate and send to ISS Contractor, via EDE, a Part Receipt transaction.

---

[1] "Business Use Case: A business process, representing a specific workflow in the business; an interaction that a stakeholder has with the business that achieves a business goal. It may involve both manual and automated processes and may take place over an extended period of time." - http://www.ibm.com/developerworks/rational/library/apr07/english/. Also defined as such in EIE Solution Architecture.

This Business Use Case (BUC) describes the exchange of Part Receipt data between Canada and ISS Contractor for a platform managed according to PBC.

1.3 Intended Audience

The intended audience for this BUC includes:

- ISS Contractor who requires detail of their business service-level interactions, benefits and obligations under PBC.
- All Canada personnel implementing the PBC.
- Solution Architects who will define a Business Service Model for the business service(s) described here.
- Functional Testers who will use the BUC to define test scenarios for Integration testing.
- Designers who will perform detailed design and unit test.

1.4 References and Traceability

Business Process documents

[Ref. 1] PBC Business Process Catalogue Annex M: Navy Supply Process Model - In the Context of Performance Based Contracting (PBC)

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

With respect to the referenced documents this BUC addresses the following sections:

Reference	Section
[Ref. 1] PBC Business Process Catalogue Annex M	Annex M – Navy Supply Process Model
[Ref. 2] PBC Business Process Catalogue Annex L	Annex L – Navy Maintenance Process Model

2. BUC 3.44 Navy - Exchange Part Receipt Data

This BUC will identify processes, activities and define scenarios which apply to Part Receipt data.

2.1 Overview

Identifier	BUC 3.44
Name	Navy - Exchange Part Receipt Data
Business goal	The timely generation of a Part Receipt-related dataset to ISS Contractor indicating that a part has been successfully received by Canada. The receipt of the part by Canada in CSS is required so that both parties have the required timestamps in order to track the supply performance and calculate performance metrics.
Stakeholders	Canada and ISS Contractor(s)
Workflow/interaction	Exchange of a Part Receipt-related dataset between Canada and ISS Contractor occurs every time an ISS Contractor-supplied part is received in the CSS. Refer to the corrective and preventive maintenance business process flows that identify supply materiel touch points. Reference [Ref. 2].
Processes	Information exchange is automated (system to system). The exchange is immediate upon a triggering event occurring in the source system – CMMS/CSS. Some error scenarios may require manual intervention.
Context	Business Domain: Supply materiel Functional Area: • Part Demand and Fulfillment • PUK Demand and Fulfillment • PUK Replenishment • Inventory Replenishment • Initial Setup of STTE in CMMS/CSS
Period of Time	The full lifecycle of the subject platform.
Description	Canada Engineering and Maintenance uses CMMS when performing maintenance planning and execution. A work order is created in the CMMS to track Canada-performed maintenance. All required parts that are listed in the work order and not available in inventory will be demanded from the ISS Contractor. Once they are physically received, the Canada Authorized person will acknowledge the receipt of the part in the CMMS/CSS. The part receipt acknowledgment in the CSS will generate a Part Receipt notification that will be sent to the ISS Contractor via EDE.

[redacted]	On a near real-time basis, Canada will use EDE to transfer to the ISS Contractor the Part Receipt dataset, which is created and permitted by Canada to be shared with the ISS Contractor.

2.2 Sub-Processes and Activities Supported

Refer to EIE Business Process document, [Ref. 1] for diagrams that capture business process flow supported by this BUC.

2.3 Business Rules and Assumptions

1. A Part Receipt is created for a specific ISS Contractor-owned part that has been received in the CSS.
2. The CMMS/CSS and EDE systems shall ensure a Part Receipt dataset for a platform is sent only to the ISS Contractor system which is properly authenticated and authorized to see maintenance and materiel data for that ship class.

2.4 Actors

The following actors have been identified as performing the documented business activities:

Role Name	Role Description / Responsibilities
Canada Authorized Person	• Physically receives part • Execute a goods receipt transaction in CSS • Issues it to a work order in CMMS, if applicable
CMMS / CSS	• Generates and sends Part Receipt data
EDE	• Transports and transforms the Part Receipt data
ISS Contractor Supply Chain Management System (SCMS)	• Provides a system that will have the ability to: – accept and process a Part Receipt data sent from Canada, and – acceptance of acknowledge of the data from Canada

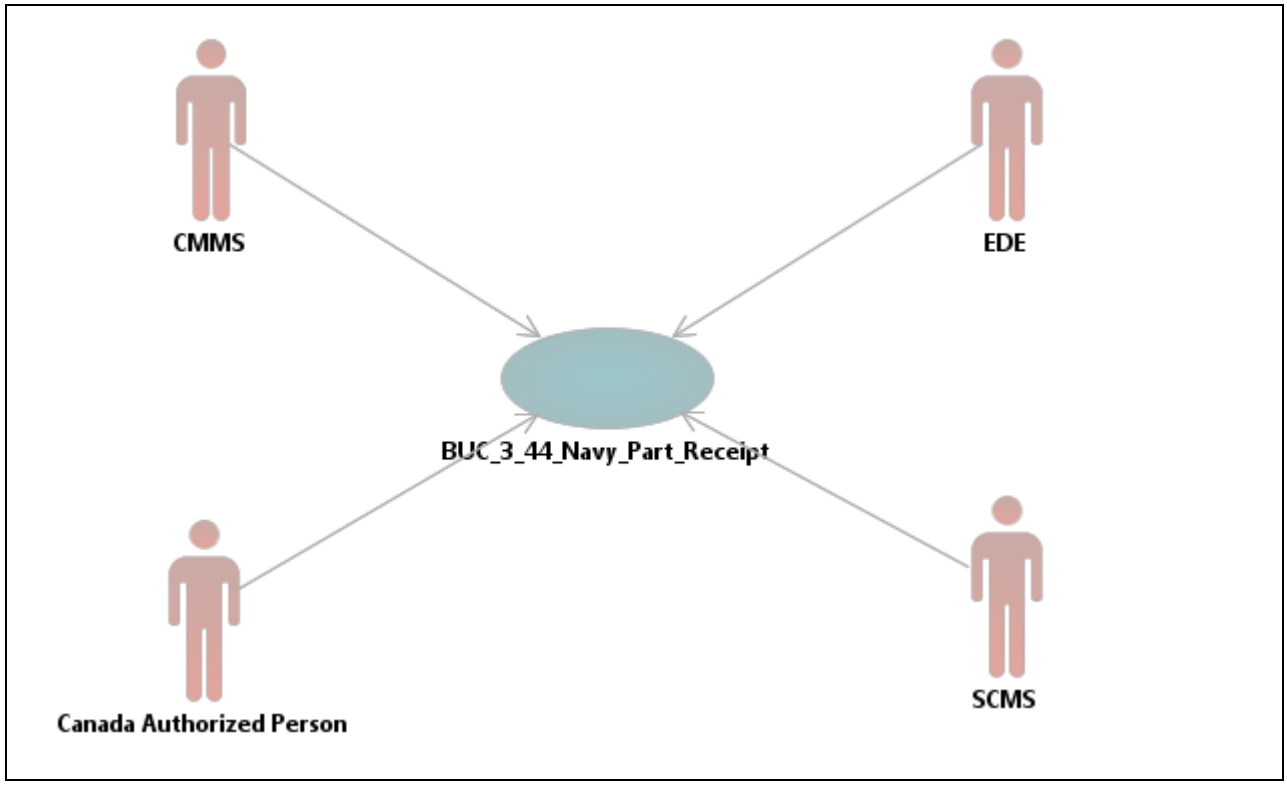

Figure 2-1 Navy - Exchange Part Receipt Data

2.5 Common Pre-Conditions

These apply to every scenario unless explicitly stated otherwise.

1. Canada and ISS Contractor have agreed upon Part Receipt dataset format (see Functional Data Definition)
2. Canada and ISS Contractor have agreed upon near real-time data exchange mechanism for Part Receipt dataset.

2.6 Common Post-Condition(s)

The following applies to every scenario unless explicitly stated otherwise:

1. Part Receipt dataset has been received by ISS Contractor and an acknowledgement has been received by Canada.

2.7 Common BUC Steps

Each scenario defined below includes the following common steps:

Common Steps	Step Description	Actor
Determine the ISS Contractor and ship class	The CMMS/CSS determines the ISS Contractor and ship class applicable to the part.	CMMS / CSS
Prepare Part Receipt dataset	The CMMS/CSS creates a Part Receipt dataset as per the data map and record definition provided by EDE.	CMMS / CSS
Send Part Receipt dataset to ISS Contractor	The CMMS/CSS sends the Part Receipt dataset to EDE.	CMMS / CSS
Convert Part Receipt dataset to common format	EDE converts data to XML-based format that has been adopted by Canada and ISS Contractor.	EDE
Send Part Receipt dataset to ISS Contractor SCMS	EDE sends Part Receipt related dataset to ISS Contractor, in accordance with transmission definition as per Canada EDE defined standard.	EDE
Acknowledge receipt of Part Receipt dataset	ISS Contractor System sends an acknowledgement receipt to EDE for received Part Receipt dataset.	ISS Contractor SCMS
Forward acknowledgement to CMMS/CSS	EDE forwards the acknowledgement receipt to CMMS/CSS.	EDE
Mark Part Receipt dataset as sent	CMMS/CSS updates the Part Receipt dataset as being sent.	CMMS / CSS

2.8 Scenarios[2]

In the following scenarios the pre-condition and trigger serve to uniquely identify the Part Receipt exchange in the context of a maintenance and supply materiel business processes. This supports direct traceability between business processes and exchange use case scenarios.

[2] A scenario corresponds to a specific activity in the maintenance or supply materiel business processes when a triggering event occurs which causes a Part Receipt dataset exchange. Picture the maintenance or supply business process as proceeding horizontally through recognition of a corrective or preventive maintenance situation, through fault isolation, and maintenance activities. Each exchange use case scenario corresponds to a vertical slice from a maintenance or supply business process which results in a Part Receipt dataset being transferred to ISS Contractor.

2.8.1 3.44.1 Part Receipt [N1.5.3.1.5]

Scenario Name	**3.44.1 Part Receipt [N1.5.3.1.5]**
Business Process	This scenario occurs in the following Supply Materiel business processes: • Part Demand and Fulfillment • PUK Demand and Fulfillment • PUK Replenishment • Inventory Replenishment • Initial Setup of STTE in CMMS/CSS
Business Context	Part Demand and Fulfillment • A Canada Supply Technician will be responsible to receive the ordered parts at the HoP and acknowledge the receipt of the parts in the CSS. The receipt of the parts in the CSS will trigger a Part Receipt notification back to the ISS Contractor, via the EDE, closing the Part Demand and fulfillment cycle. PUK Demand and Fulfillment • Inbound deliveries for the content of the PUK will be electronically generated in the CSS based on the PUK Issue sent by the ISS Contractor. A Supply Technician will verify that the content of the PUK received at the HoP matches the inbound deliveries. As a result of the verification and part acceptance process, goods receipts will be completed in the CSS and Parts Receipts will be sent from the CSS to the ISS Contractor via the EDE for all parts and STTE received. PUK Replenishment • Inbound deliveries for the content of the replenishment to the PUK will be electronically generated in the CSS based on the PUK Issue sent by the ISS Contractor. A Supply Technician will verify that the content of the replenishment PUK received at the HoP matches the inbound deliveries. As a result of the verification and part acceptance process, a goods receipt will be completed in the CSS and Parts Receipts will be sent from the CSS to the ISS Contractor via the EDE for all parts and STTE received. Inventory Replenishment • Inbound deliveries for the replenishment will be electronically generated in the CSS based on the Inventory Replenishment transaction sent by the ISS Contractor. A Supply Technician will verify that the physical items received at the HoP matches the inbound deliveries. As a result of the verification and part acceptance process, a goods receipt will be completed in the CSS and Parts Receipts will be sent from the CSS to the

<table>
<tr><td></td><td>ISS Contractor via the EDE for all parts and STTE received.

Initial Setup of STTE in CMMS/CSS
• If STTE is given to DND for use, it will be demanded through a standard Part Demand message. The Part Issue shall be sent for the item and a Part Receipt returned to the ISS Contractor via the EDE along with the physical receipt of the STTE.</td></tr>
<tr><td>Precondition(s)</td><td>See Common Pre-Conditions.</td></tr>
<tr><td>Trigger event</td><td>Canada Authorized person confirms in the CSS that the part has been received.</td></tr>
<tr><td>Steps</td><td>
<table>
<tr><th>Step Name</th><th>Step Description</th><th>Actor</th></tr>
<tr><td>Receive a part in the CSS</td><td>Canada Authorized person physically receives a part, and then electronically receives it in CSS. The part data, sent in the Part Issue datasets, has been successfully processed in the CMMS/CSS.</td><td>Canada Authorized Person</td></tr>
<tr><td>Send Part Receipt data to ISS Contractor</td><td>Send associated Part Receipt Dataset to the ISS Contractor.</td><td>Canada Authorized Person</td></tr>
<tr><td colspan="3">Continue with Common BUC Steps~~Common BUC Steps~~</td></tr>
</table>
</td></tr>
<tr><td>Postcondition(s)</td><td>See Common Post-Conditions.</td></tr>
<tr><td>Notes</td><td></td></tr>
</table>

Formatte
Underline,

2.9 Information Requirements

Each record has a primary key consisting of:

- CMMS Customer Identifier
- Unique Canada Part Demand Identifier, i.e. Purchase Order Number;
- Receipted Part Identification Data (Line number)

In addition, each record consists of:

- Receipted Part Identification Data (MPN, CAGE)
- Quantity Received including unit of issue;
- Part serial number, if serialized component;
- Batch lot and shelf expiry date as relevant.

2.10 Special Requirements

None identified.

3. Functional Data Definition[3]

The data elements which make up a Part Receipt dataset are enumerated in this section. A detailed technical message schema for exchange of datasets will be provided following the awarding of the ISS contract.

3.1 Business Entity Definition – Part Receipt

The Data Entities Definition Table 3-1~~Table 3-1~~ below contains examples of the reference data. Specific and accurate reference data should be obtained from Canada through official channels prior to using the reference data in downstream design and implementation activities.

Formatte

Table 3-1 Data Entities Definition

Name	Definition	Type	Length
Customer Identifier	CMMS generated a unique identifier of the ISS Contractor.	Char	10
Purchase Order Number	CMMS internally generated Purchasing document item number identification as per PO/demand.	Char	10
Comments	Open text field from the Delivery text segment of the Purchase Order header. (Additional instructions or notes for the Item Manager).	Char	120
Line Number	This number corresponds to CMMS originating PO line item number. (Unique Identifier for a specific demand quantity by part within a PO).	Num	5
Work Order Number	CMMS internally generated unique identifier of a Work Order for which demand is created and part is being issued to. (Not applicable to Navy)	Char	12
Manufacturer Part Number (MPN)	Designated Manufacturer's Part Number (MPN) *Note:* Canada-supplied parts may have an MPN up to 34 characters in length ISS Contractor-supplied parts must have an MPN of 31 characters or less.	Char	34

[3] This is a ***functional*** view of the data. A detailed schema including fields for parent/child structure, metadata to manage exchange with Industry, more specific types, etc. will be designed in a subsequent activity.

Name	Definition	Type	Length
CAGE Code	Commercial And Government Entity (CAGE) code number that uniquely identifies the manufacturer of the part or product, sometimes produced under government contract.	Char	5
Total Demanded Quantity	The total quantity by materiel. (If scheduled delivery this number will be equal to the sum of Scheduled Quantity by EDD).	Float	13,3
Unit of Issue	The Unit of Issue of the demanded quantity.	Char	3
Ship To Code	Location to ship the materiel to satisfy the demand. It is an enumerated field that shall be defined jointly by Canada and ISS Contractor. Each ship class/ISS Contractor may have differently agreed values for this attribute.	Char	4
Ship To Code Description	English description of the Ship To Code value.	Char	16
Serial Number	The Serial Number for the materiel delivered to satisfy the demand	Char	30
Quantity Received	Quantity received by Canada for this Line number materiel.	Float	13,3
Received Date	CSS timestamp signifying the date a part is received	Datetime	
Pick Up Location	Location the materiel is available for Canada pick up the item	Char	10
Tracking Number	Tracking Number from the shipper.	Char	20
Batch Lot	The batch lot identifier for the materiel delivered to satisfy the demand	Char	10
Shelf Life Expire Date	The expiration date for life limited parts delivered to satisfy the demand	Datetime	
External Reference Number	ISS Contractor generated number to identify line item in ISS Contractor systems	Char	30
Service Request Number	ISS Contractor generated number for unserviceable backshop repair to be performed by Canada.	Char	26

4. Issues and Exceptions

None identified.

5. Business Process Flows

Refer to EIE Supply Materiel Business Process document, [Ref. 1] for diagrams that capture business process flow supported by this BUC.

6. Definitions, Acronyms, Abbreviations

Term	Description
BUC	Business Use Case
CAGE	Commercial And Government Entity
CMMS	Canada Maintenance Management System
CSS	Canada Supply System
DND	Department of National Defence
EDD	Estimated Delivery Date
EDE	Electronic Data Exchange
EIE	Electronic Information Exchange
HoP	Hand-Over Point
ISS	In Service Support
MCP	Major Capital Project
MPN	Manufacturer's Part Number
PBC	Performance Based Contracting
PO	Purchase Order
PUK	Pack-Up Kit
SCMS	Supply Chain Management System
STTE	Special Tools and Test Equipment
WO	Work Order

7. Document Control

7.1 Document History

Version Number	Description	Date
1.0	Release to the Navy RFP	09 Sept 2015