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Defence nationale

Electronic Information Environment (EIE) Project

Business Use Case (BUC)

BUC 4.29 Navy - Exchange Measurement Document Data – ISS Contractor

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Table of Contents

List of Figures

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 corrective and/or preventive maintenance activities on the Platform. In order for Canada and an 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 between Canada and the ISS Contractor, is collectively known as the Electronic Information Environment (EIE).

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

1.2 Purpose

Canada Maintenance Management System (CMMS) tracks all Canada-performed maintenance activities. Exchange of maintenance-related data involves new exchange business processes between CMMS and the ISS Contractor data consumers, which complement already documented maintenance business processes.

This Business Use Case (BUC) describes the exchange of Measurement Document data between the ISS Contractor and Canada for a Platform managed according to PBC that are captured against Equipment Master Record (EMR), Master Equipment Record (MER) and Functional Location (FLOC) Measurement Document as applicable. Measurement Document data exchange is the result of two scenarios:

1. ISS Contractor usage of the equipment/FLOCs, typically captured during the conduct of trials.

2. Establishing the current measurement readings in CMMS for installed equipment during the execution of maintenance by the ISS Contractor.

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[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/.

1.3   Intended Audience

The intended audience for this business use case includes:

- The ISS Contractor(s) who require detail of their business service-level interactions, benefits and obligations under PBC

- Canada Program Management Offices implementing PBC

- Solution Architects who will define a Business Service Model for the business service(s) described here

- Functional Testers who will use the business use case 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 L: Navy Maintenance Process Model - In the Context of Performance Based Contracting (PBC)

With respect to the referenced document, this BUC addresses the following sections:

Reference	Section
[Ref. 1] PBC Business Process Catalogue: Annex L	Annex L - Navy Maintenance Process Models

2. BUC 4.29 Navy - Exchange Measurement Data – ISS Contractor

This Business Use Case will identify processes and activities and define scenarios, which apply to EMR, and FLOC measurement data. The term "**Measurement Document datasets**" will be used to refer to any of these types of data. When a specific data type is involved, it will be explicitly named[2].

2.1 Overview

Identifier	BUC 4.29
Name	Navy - Exchange Measurement Document Data - ISS Contractor
Business goal	Send Measurement Document dataset to Canada as necessary to reflect actual usage in CMMS, and support proper maintenance scheduling.
Stakeholders	Canada and the ISS Contractor(s)
Workflow/interaction	Exchange of Measurement Document dataset from the ISS Contractor to Canada as defined at multiple points in corrective and preventive maintenance business processes. Reference [Ref. 1].
Processes	Information exchange is automated (system to system). Canada and each ISS Contractor determine the frequency of exchange. Some error scenarios may require manual intervention.
Context	Business Domain: Maintain Platform Functional Areas: Preventive and Corrective Maintenance • Execute Corrective or Preventive Maintenance • Conduct Trials - ISS Contractor
Period of Time	The full lifecycle of the subject platform.
Description	Measurement Document datasets associated with the platform will be sent by the ISS Contractor to Canada, enabling the CMMS to reflect proper platform usage and maintenance scheduling. The ISS Contractor will transfer to Canada Measurement Document datasets which are created during the course of maintenance.

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[2] The same terminology is used in Section 2.8 Scenarios.

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. The CMMS shall ensure Measurement Document dataset for a platform is received from the ISS Contractor system, which is properly authenticated and authorized to send the Measurement Document dataset for that ship class.

2. Measurement documents for measurement points that inherit their values must not be sent, with the exception of 'counter resets' for constituent equipment within an already-installed complex assembly.
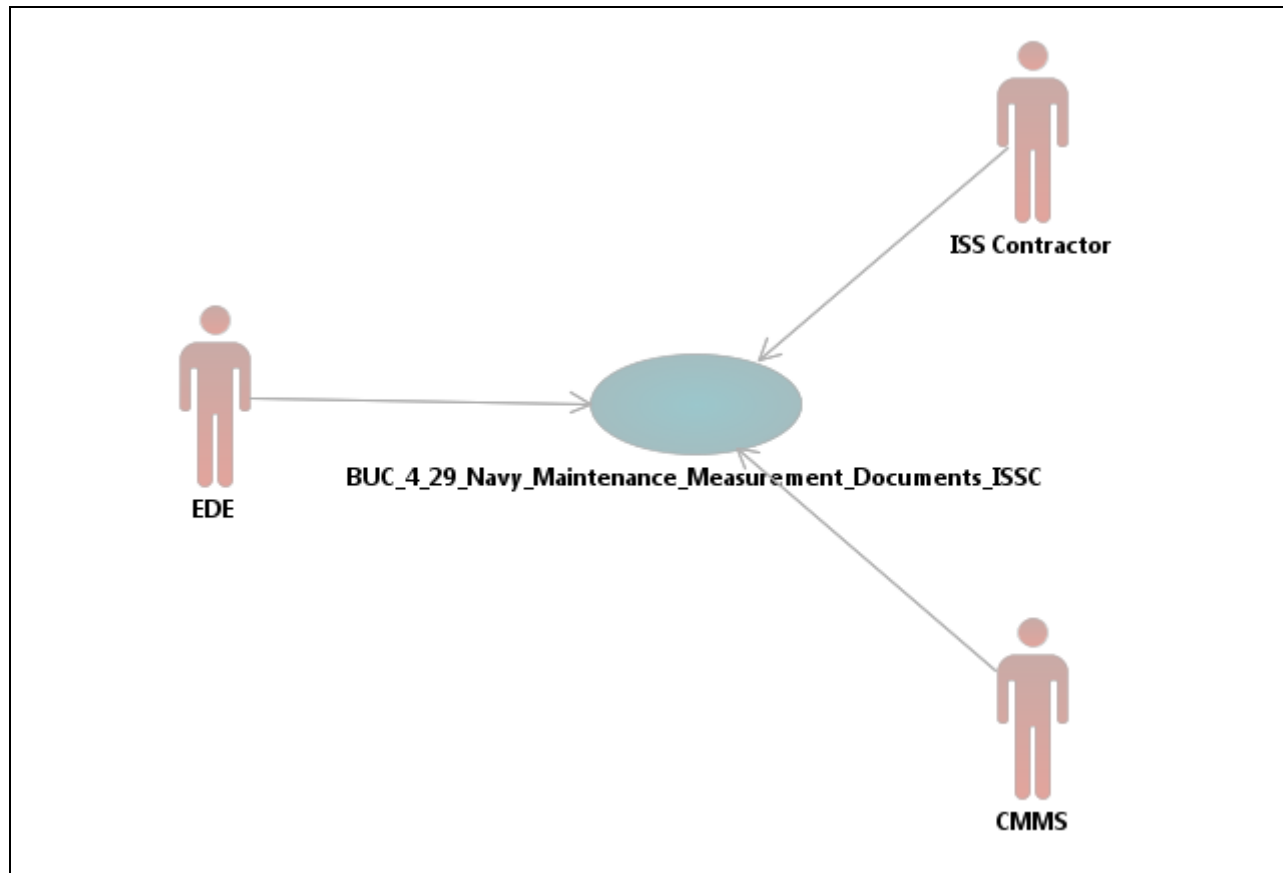
2.4   Actors

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

Role Name	Role Description / Responsibilities
CMMS	• Supports processing of measurement data
EDE	• Transports and transforms measurement data.
ISS Contractor Data Consumer	• Provides a system that will have the ability to: - Process and transmit the Measurement Document datasets to Canada, and - Acceptance of the Acknowledgement of data from Canada

Figure 2-1 Navy - Exchange Measurement Document Data - ISS Contractor

2.5 Common Pre-Conditions[3]

These apply to every scenario unless explicitly stated otherwise.

1. Canada requires that the Measurement Document datasets be sent to Canada by the ISS Contractor:

    a. MER Measurements

    b. FLOC Measurements

    c. EMR Measurements

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[3] A pre-condition is something which happens or is established outside the scope of the normal day-to-day operation of CMMS and EDE.

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2. Canada and the ISS Contractor have agreed upon Measurement Document datasets format (see Functional Data Definition)

3. Canada and the ISS Contractor have agreed upon Measurement Document data exchange mechanism.

2.6   Common Post-Condition(s) [4]

The following applies to every scenario unless explicitly stated otherwise.

1. Measurement Document dataset has been received by Canada and an acknowledgement has been received by the ISS Contractor.

2.7   Common BUC Steps

Each scenario defined below includes the following common steps:

Common Steps	Step Description	Actor
Receive Measurement Document data	EDE receives Measurement Document records.	ISS Contractor
Convert Measurement Document data to CMMS format	EDE converts data to a format as per the defined and adopted definition published by Canada to the ISS Contractor.	EDE
Send Measurement Document data to CMMS	EDE sends Measurement Document datasets to CMMS in accordance with transmission definition agreed to with CMMS.	EDE
Capture Measurement Document data in CMMS	CMMS creates Measurement Document object dataset	CMMS

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[4] Under the business – optimistic assumption, there is only one post-condition.

2.8   Scenarios[5]

In the following scenarios the pre-condition and trigger serve to uniquely identify the Measurement Document data exchange in the context of a maintenance business process. This supports direct traceability between maintenance business processes and exchange use case scenarios.

The numeric identifier that appears in square brackets besides each scenario name is an identifier that can be used to locate the event in the business process flow as per [Ref. 1].

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

2.8.1   4.29.1 EMR Measurement Document - ISS Contractor [N1.4.3.4.6]

Scenario Name	**4.29.1.1 Installed EMR Measurement Document – ISS Contractor [N1.4.3.4.6]**		
Business Process	This scenario occurs in the following business processes: • Execute Corrective or Preventive Maintenance – Execute Maintenance - ISS Contractor		
Business Context	Execute Maintenance - ISS Contractor • As the ISS Contractor-performed maintenance proceeds, data associated with the Platform configuration changes will also be sent to Canada. Required data includes EMR Uninstall/Install, EMR Measurement readings for installed EMR, EMR Measuring Point for installed EMR and Maintenance Plans for installed EMR.		
Precondition(s)	See Common Pre-Conditions.		
Trigger event	The ISS Contractor changes the platform configuration during maintenance.		
Steps	**Step Name**	**Step Description**	**Actor**
	Execute maintenance task(s)	The ISS Contractor executes maintenance tasks and transmits the Measurement Document dataset to Canada	ISS Contractor
	Continue with Common BUC Steps		
Postcondition(s)	See Common Post-Conditions.		
Notes			

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.

Scenario Name	4.29.1.2 EMR Usage Measurement Document – ISS Contractor [N1.4.3.4.6]		
Business Process	This scenario occurs in the following business processes: • Execute Corrective or Preventive Maintenance – Conduct Trials - ISS Contractor		
Business Context	Conduct Trials - ISSC • The ISS Contractor will provide trial results through the collaborative environment and the usage data - EMR Measurement Document data via the EIE EDE.		
Precondition(s)	See Common Pre-Conditions.		
Trigger event	The ISS Contractor records usage on an already installed EMR.		
Steps	**Step Name**	**Step Description**	**Actor**
	Record EMR Usage Data	The ISS contractor records usage on an already installed EMR and transmits the Measurement Document dataset to Canada	ISS Contractor
	Continue with Common BUC Steps		
Postcondition(s)	See Common Post-Conditions.		
Notes			

2.8.2   4.29.2 FLOC Measurement Document - ISS Contractor [N1.4.3.5.2]

Scenario Name	**4.29.2 FLOC Measurement Document – ISS Contractor [N1.4.3.5.2]**
Business Process	This scenario occurs in the following business processes: • Execute Corrective or Preventive Maintenance − Conduct Trials - ISS Contractor
Business Context	Conduct Trials - ISS Contractor • The ISS Contractor will provide trial results through the collaborative environment and the usage data - EMR Measurement Document data via the EIE EDE.
Precondition(s)	See Common Pre-Conditions.
Trigger event	The ISS Contractor records usage on a FLOC.

Steps	Step Name	Step Description	Actor	
	Record FLOC Usage Data	The ISS contractor records usage on a FLOC and transmits the Measurement Document dataset to Canada	ISS Contractor	
	Continue with Common BUC Steps			

Postcondition(s)	See Common Post-Conditions.
Notes	

2.9   Information Requirements

The details on the data elements are provided in Section 3.

2.10 Special Requirements

None identified.

3. Functional Data Definition[6]

The data elements that make up Measurement datasets are enumerated in this section.

3.1 Data Entities Definition

The Data Entities Definition tables below contain examples of the reference data. Specific and accurate reference data should be obtained from DND through official channels prior to using the reference data in downstream design and implementation activities. A detailed technical message schema for exchange of datasets will be provided following the awarding of the ISS contract.

3.1.1 EMR, MER and FLOC Measurement Document

Refer to *Master Data BUC 2.2 Exchange Master Data – Inbound*, Table **3.11 Business Entity Definition - MDOC** for the definition of data elements that make up the Measurement Document datasets.

Note:

There is a requirement for consistent naming or a cross-reference of measurement names and units of measure between Canada and the ISS Contractor.

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[6] 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 defined in the associated service specification that this business use case will use to fulfill the identified scenarios.

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4. Issues and Exceptions

None identified.

5. Business Process Flows

Refer to EIE Maintenance 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
DND	Department of National Defence
E&M	Engineering and Maintenance
EDE	Electronic Data Exchange
EIE	Electronic Information Exchange
EMR	Equipment Master Record
ICD	Interface Control Document
ISS	In Service Support
ISSC	In Service Support Contractor
MCP	Major Capital Project
MER	Master Equipment Record
MPN	Manufacturer Part Number
PBC	Performance Based Contracting
WO	Work Order

7. Document Control

7.1 Document History

Revision No.	Description	Date
1.0	Final version for Navy RFP release	11 September 2015