



Electronic Information Environment (EIE) Project

Business Use Case (BUC)

BUC 4.28 Navy - Exchange Maintenance EMR Install/Uninstall Data – ISS Contractor

EIE Project

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Table of Contents

1. EIE BUSINESS USE CASE OVERVIEW	1
1.1 INTRODUCTION.....	1
1.2 PURPOSE.....	1
1.3 INTENDED AUDIENCE.....	1
1.4 REFERENCES AND TRACEABILITY.....	2
2. BUC 4.28 NAVY - EXCHANGE MAINTENANCE EMR INSTALL/UNINSTALL DATA – ISS CONTRACTOR.....	3
2.1 OVERVIEW.....	3
2.2 SUB PROCESSES AND ACTIVITIES SUPPORTED.....	4
2.3 BUSINESS RULES AND ASSUMPTIONS	4
2.4 ACTORS	4
2.5 COMMON PRE-CONDITIONS	5
2.6 COMMON POST-CONDITION(S)	6
2.7 COMMON BUC STEPS	6
2.8 SCENARIOS	6
2.8.1 4.28.1 EMR Install/Uninstall – ISS Contractor [N1.4.3.4.5]	7
2.8.2 4.28.2 EMR Measurement Document – ISS Contractor [N1.4.3.4.6]	8
2.8.3 4.28.3 EMR Measurement Point – ISS Contractor [N1.4.3.4.7].....	9
2.8.4 4.28.4 Maintenance Plan – ISS Contractor [N1.4.3.8.1].....	10
2.9 INFORMATION REQUIREMENTS	11
2.10 SPECIAL REQUIREMENTS	11
3. FUNCTIONAL DATA DEFINITION	12
3.1 DATA ENTITIES DEFINITION.....	12
3.1.1 EMR Install/Uninstall	12
3.1.2 Measurement Point	12
3.1.3 Maintenance Plan.....	12
4. ISSUES AND EXCEPTIONS	13
5. BUSINESS PROCESS FLOWS	13
6. DEFINITIONS, ACRONYMS, ABBREVIATIONS	13
7. DOCUMENT HISTORY	14

List of Figures

Figure 2-1 Navy - Exchange Maintenance EMR Install/Uninstall Data - ISS Contractor	5
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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.

1. EIE Business Use Case¹ 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 activities are tracked in the Canada Maintenance Management System (CMMS). Exchange of maintenance-related data involves new exchange business processes between CMMS and ISS Contractor data consumers which complement already documented maintenance business processes.

This Business Use Case (BUC) describes the exchange of Equipment Master Record (EMR) data between Canada and the ISS Contractor for a platform managed according to PBC. EMR data includes changes to the actual Platform configuration, structural Platform changes related to parts (or equipment). As the ISS Contractor-performed maintenance proceeds, data associated with the Platform configuration changes are sent to Canada.

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.

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/>.

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- 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

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2. BUC 4.28 Navy - Exchange Maintenance EMR Install/Uninstall Data – ISS Contractor

This Business Use Case will identify processes and activities and define scenarios which apply to EMRs that pertain to as-maintained structural changes due to the ISS Contractor-performed maintenance. The term “**Maintenance EMR datasets**” will be used to refer to the data.

2.1 Overview

Identifier	BUC 4.28
Name	Navy - Exchange Maintenance EMR Install/Uninstall Data – ISS Contractor
Business goal	Send Maintenance EMR Install/Uninstall dataset to Canada as necessary to allow the ISS Contractor to fulfill its obligations under PBC.
Stakeholders	Canada and the ISS Contractor(s)
Workflow/interaction	Exchange of Maintenance EMR Install/Uninstall 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). The frequency of exchange is determined by Canada and each ISS Contractor. Some error scenarios may require manual intervention.
Context	Business Domain: Maintain Platform Functional Area: Preventive and Corrective Maintenance <ul style="list-style-type: none">Execute Corrective or Preventive Maintenance
Period of Time	The full lifecycle of the subject platform.
Description	<p>In the course of maintenance activities (corrective and preventive) performed by the ISS Contractor, equipment/parts may be uninstalled from a platform and new equipment/parts may be installed. These events result in new or updated EMR Install/Uninstall datasets.</p> <p>In accordance with PBC, the ISS Contractor shall transfer to Canada the EMR Install/Uninstall datasets associated with the platform in order to facilitate contractually agreed obligations of keeping the platform configuration synchronized between Canada and the ISS Contractor systems and applications.</p> <p>The ISS Contractor will transfer to Canada all maintenance EMR Install/Uninstall datasets which are created during the course of maintenance.</p>

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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 and EDE systems shall ensure that the Maintenance EMR Install/Uninstall dataset for a platform is received from the ISS Contractor system, which is properly authenticated and authorized to send the maintenance and/or materiel data for that fleet.
2. Any EMR Install/Uninstall dataset is exchanged through the normal maintenance history processes where the content is originating from ISS Contractor.
3. For EMR installs associated master data (e.g., Maintenance plans, measuring points, and measurement documents) must be sent to CMMS when applicable. This also applies to all constituent EMRs within a complex assembly, when applicable.

2.4 Actors

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

Role Name	Role Description / Responsibilities
ISS Contractor	<ul style="list-style-type: none">• Provides a system that will have the ability to:<ul style="list-style-type: none">– Process and transmit the EMR Install/Uninstall datasets to Canada, and– Acceptance of the Acknowledgement of data from Canada
EDE	<ul style="list-style-type: none">• Transports and transforms the EMR Install/Uninstall data.
CMMS	<ul style="list-style-type: none">• Receives and processes the EMR Install/Uninstall data.

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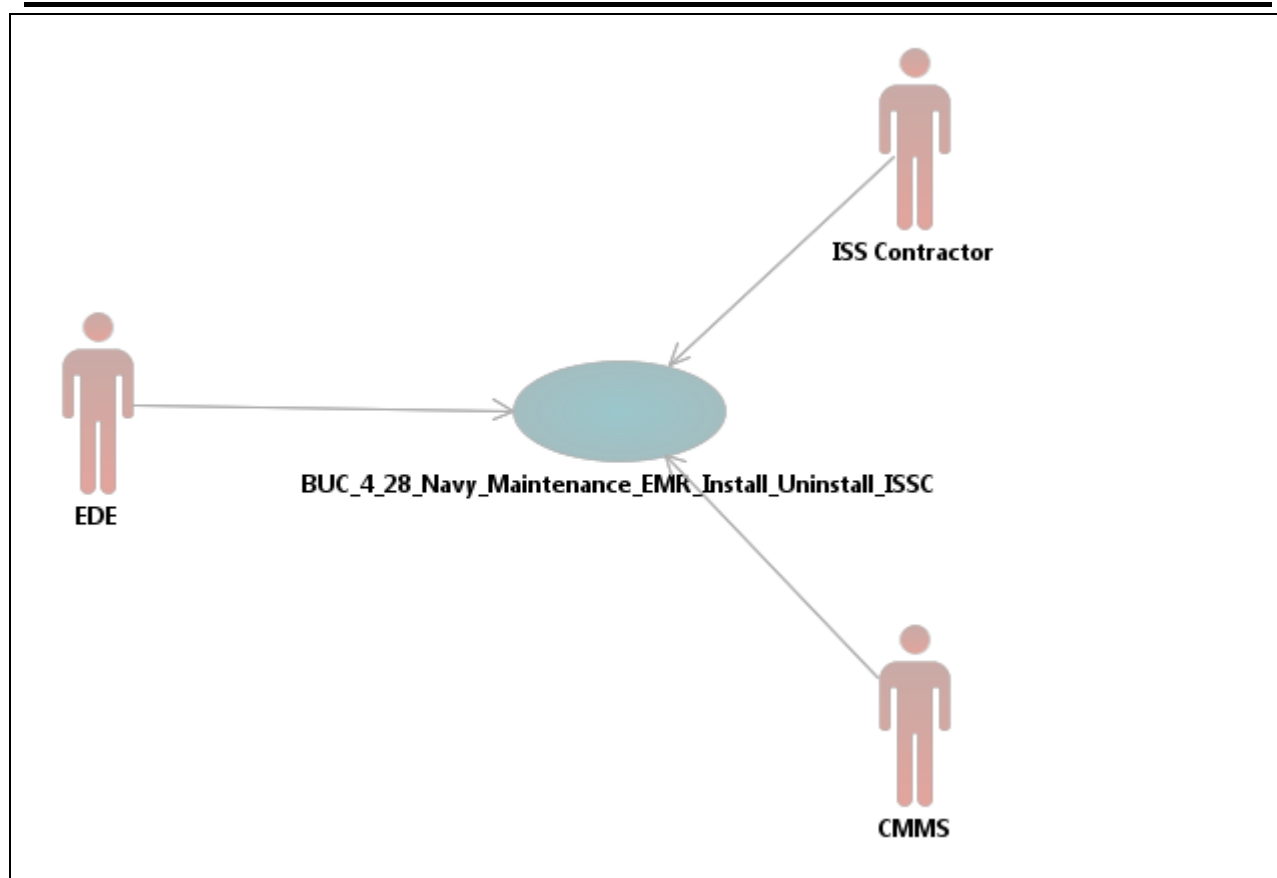


Figure 2-1 Navy - Exchange Maintenance EMR Install/Uninstall Data - ISS Contractor

2.5 Common Pre-Conditions²

These apply to every scenario unless explicitly stated otherwise.

1. Canada requires that the Maintenance EMR datasets for installed and uninstalled EMR be sent to Canada by the ISS Contractor;
2. Canada and the ISS Contractor have agreed upon Maintenance EMR datasets format for installed and uninstalled EMR (see [Functional Data Definition](#));
3. Canada and the ISS Contractor have agreed upon the exchange mechanism for the Maintenance EMR datasets for installed and uninstalled EMR.

² 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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2.6 Common Post-Condition(s) ³

The following applies to every scenario unless explicitly stated otherwise.

1. Maintenance EMR dataset for installed and uninstalled EMR 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 EMR datasets for installed and uninstalled EMR	EDE receives the EMR datasets for installed and uninstalled EMR.	EDE
Convert EMR datasets for installed and uninstalled EMR to CMMS Format	EDE converts data to a format acceptable by CMMS.	EDE
Send EMR datasets for installed and uninstalled EMR to CMMS	EDE sends EMR datasets for installed and uninstalled EMR to CMMS, in accordance with transmission definition agreed to with CMMS.	EDE
Capture EMR datasets for installed and uninstalled EMR in CMMS	CMMS receives and creates datasets (EMR Install/Uninstall, Measurement Document, Measurement Point, Maintenance Plan)	CMMS

2.8 Scenarios⁴

In the following scenarios the pre-condition and trigger serve to uniquely identify the EMR 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].

³ Under the business –optimistic assumption, there is only one post-condition.

⁴ A scenario corresponds to a specific activity in a maintenance business process when a triggering event occurs which causes an EMR 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 that results in an EMR dataset being transferred from the ISS Contractor.



2.8.1 4.28.1 EMR Install/Uninstall – ISS Contractor [N1.4.3.4.5]

Scenario Name	4.28.1 EMR Install/Uninstall – ISS Contractor [N1.4.3.4.5]		
Business Process	This scenario occurs in the following business process: <ul style="list-style-type: none">• Execute Corrective or Preventive Maintenance<ul style="list-style-type: none">– Execute Maintenance - ISS Contractor		
Business Context	According to the business process identified above, the ISS Contractor will send datasets associated with the platform configuration changes to Canada. Execute Maintenance - ISS Contractor <ul style="list-style-type: none">• 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 installs or uninstalls an equipment/part.		
Steps	Step Name	Step Description	Actor
	Execute maintenance task(s)	The ISS Contractor uninstalls or installs an equipment or part and transmits the EMR Install/Uninstall dataset to Canada, for serialized parts.	ISS Contractor
	Continue with Common BUC Steps		
Postcondition(s)	See Common Post-Conditions .		
Notes			

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2.8.2 4.28.2 EMR Measurement Document – ISS Contractor [N1.4.3.4.6]

Please refer to BUC 4.29 Navy - Exchange Measurement Document Data – ISS Contractor, Scenario 4.29.1.1 - Installed EMR Measurement Document – ISS Contractor for details of providing Measurement Document datasets for installed EMRs.



2.8.3 4.28.3 EMR Measurement Point – ISS Contractor [N1.4.3.4.7]

Scenario Name	4.28.3 EMR Measurement Point – ISS Contractor [N1.4.3.4.7]		
Business Process	This scenario occurs in the following business process: <ul style="list-style-type: none">• Execute Corrective or Preventive Maintenance<ul style="list-style-type: none">– Execute Maintenance - ISS Contractor		
Business Context	According to the business process identified above, the ISS Contractor will send datasets associated with platform configuration changes to Canada. Execute Maintenance - ISS Contractor <ul style="list-style-type: none">• 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 installs an equipment/part.		
Steps	Step Name	Step Description	Actor
	Execute Maintenance Task(s)	The ISS Contractor installs an equipment or part and transmits the EMR Measurement Point dataset for the installed EMR to Canada.	ISS Contractor
	Continue with Common BUC Steps		
Postcondition(s)	See Common Post-Conditions .		
Notes			

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2.8.4 4.28.4 Maintenance Plan – ISS Contractor [N1.4.3.8.1]

Scenario Name	4.28.4 Maintenance Plan – ISS Contractor [N1.4.3.8.1]		
Business Process	<p>This scenario occurs in the following business process:</p> <ul style="list-style-type: none">• Execute Corrective or Preventive Maintenance<ul style="list-style-type: none">– Execute Maintenance - ISS Contractor		
Business Context	<p>According to the business process identified above, the ISS Contractor will send datasets associated with platform configuration changes to Canada.</p> <p>Execute Maintenance - ISS Contractor</p> <ul style="list-style-type: none">• 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 and Maintenance Plans for installed EMRs.		
Precondition(s)	See Common Pre-Conditions .		
Trigger event	The ISS Contractor installs an equipment/part.		
Steps	Step Name	Step Description	Actor
	Execute Maintenance Task(s)	The ISS Contractor installs an equipment or part and transmits the Maintenance Plan dataset for the installed EMR to Canada, if one exists for the serialized part.	ISS Contractor
	Continue with Common BUC Steps		
Postcondition(s)	See Common Post-Conditions .		
Notes			

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2.9 Information Requirements

The details on the data elements are provided in Section [3](#).

2.10 Special Requirements

None identified.

3. Functional Data Definition⁵

The data elements that make up the datasets for EMR Install/Uninstall, EMR Measurement document, EMR Measurement Point and Maintenance Plans for installed EMR are enumerated here. A detailed technical message schema for exchange of datasets will be provided following the awarding of the ISS contract.

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.

3.1.1 EMR Install/Uninstall

Refer to *Master Data BUC 2.2 Exchange Master Data – Inbound*, Table **3.6 Business Entity Definition - EMR** for the definition of data elements that make up the EMR Structure datasets

3.1.2 Measurement Point⁶

Refer to *Master Data BUC 2.2 Exchange Master Data – Inbound*, Table **3.10 Business Entity Definition - MPOINT** for the definition of data elements that make up the Measurement Point datasets.

3.1.3 Maintenance Plan⁷

Refer to *Master Data BUC 2.2 Exchange Master Data – Inbound*, Table **3.8 Business Entity Definition - MP** for the definition of data elements that make up the Maintenance Plan datasets.

⁵ 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.

⁶ Applicable to Install event only

⁷ Applicable to Install event only

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
EDE	Electronic Data Exchange
EMR	Equipment Master Record
ICD	Interface Control Document
ISS	In Service Support
MCP	Major Capital Project
MER	Master Equipment Record
MPN	Manufacturer Part Number
PBC	Performance Based Contracting
WO	Work Order

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7. Document History

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1.0	Final version ready for Navy RFP	11 September 2015

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