

Navy Electronic Information Environment (EIE)
Concept of Operations (ConOps)

(Version 0.9I)

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1 Introduction

1.1 Document change control

This section serves to control the development and distribution of revisions to the document. Changes to the document will be under the authority of the program manager.

Revision Number	Date of Issue	Author(s)	Brief Description of Change
0.9a	28 Jan 2015	Elwyn Tiegs	First Draft (para numbers & glossary corrected)
0.9f	3 March 2015	Elwyn Tiegs & Daniella Latty	Revised draft including updates from "EIE ConOps for RCN v3.0" author David Evans and from "AJISS EIE CE Requirements Specification (RS)" author Alain Rousseau
0.9h	17 March 2015	Elwyn Tiegs and Daniella Latty	Update to reflect EDE only used during ship ISS and remove AJISS specific text.
0.9i	20 March 2015	Elwyn Tiegs and Daniella Latty	Update EDE Process Flow diagrams in Annexes, incorporate EDE Business Requirements updates and comments from Steve Nother
0.9j	20 March 2015	Elwyn Tiegs	Created clean draft by accepting all changes, removing all comments and re-generating ToC.
0.9k	30 November 2015	Elwyn Tiegs	Update ConOps for draft RFP package release to Industry. Updates include updated Business Process Specification diagrams and more generic pan-Navy CE descriptions.
0.9l	24 December 2015	Elwyn Tiegs	Updated Business Process Specification diagrams to final versions and added Service Specifications in Annex B

1.2 Executive summary

The Defence Renewal (DR) Charter depicts the following key outcomes, which are all directly aligned with the implementation of Electronic Information Environment (EIE):

- a. Resources to be focussed strategically on front-line military capabilities and readiness, and overhead costs and process inefficiencies to be reduced to the greatest extent possible.
- b. Technology and innovation will be embraced and used in ways that support, reinforce, and enable process improvements.
- c. A comprehensive regime of performance metrics and targets to be in place and employed to measure and assess improvements, guide resource allocation decisions, and ensure accountability.
- d. A culture of continuous improvement and renewal will be instilled and accepted as a permanent feature of the defence business.

In that spirit, the National Shipbuilding Procurement Strategy (NSPS), DGMPD (L&S) naval acquisition projects (AOPS, JSS and CSC) will recapitalize the Royal Canadian Navy (RCN) over the next several years/decades. In parallel, DGMEPM and the RCN are in the midst of transforming the Naval Materiel Management System (NaMMS) and specifically, its Future In-Service Support (FISS) program aspect.

Warship acquisition and sustainment continue to be an inherently complex undertaking that carries significant inherent risks. Due to pressures exerted by increasing threat performance, warship complexity continues to undergo substantial inflation that is expected to persist. This overarching risk can be mitigated by the integration of the stakeholder teams amongst CANADA's various organizations and across the CANADA/Industry interface. This CANADA/Industry integration will streamline processes and enable stakeholders to achieve notable efficacy and efficiency, thus enabling significant project outcome improvements. It is for that reason that the RCN and ADM(Mat) need technologically advanced electronic communication tools to share data, information and knowledge with Industry Partners to collaborate in the development, sustainment and disposal of new warship capabilities.

In order for Canada to achieve the aim of common program understanding amongst all stakeholders, investment in electronic infrastructure that allows automation of data exchange and enables efficient collaboration of CANADA/Industry teams is needed and justified. RCN (DMFM) and ADM(Mat) DGMEPM/DGMPD(L&S) propose the following EIE Strategic Objectives:

- a. a **robust, secure and affordable** communications channel that allows secure bi-directional exchange of information between CANADA and trusted Industry partners is required;

- b. maintaining continuity within the warship's lifecycle stages to preserve data set harmony through acquisition, sustainment and disposal. Data sets should start in the design phase and transition seamlessly to ISS and disposal. This approach requires thought and planning ahead of implementation to avoid any obstacles related to IP ownership of either the data set itself or the overarching organizing structure of the data ;
- c. development of interfaces between CANADA and Industry information systems that allows automated, bi-directional and near real-time exchange of program data (sustainment/transactional data), referred to as an **Electronic Data Exchange (EDE)** capability;
- d. development of a **Collaborative Environment (CE)** capability that enables efficient, workforce interaction and integrated project teams between, not only CANADA and Industry, but also internally, between CANADA's numerous organizations (FMFs, MCPs, MEPM, PWGSC, Industry Canada...);
- e. acquisition and implementation of corporate ADM MAT **software application toolsets, competency** regime and **process** framework, compliant with NaMMS and specifically, its Future In-Service Support (FISS) program aspect and support organizations (N4NEMS, MCPs, MEPM) legacy and future fleets.

The aim of this ConOps is to describe the goals, assumptions, activities and deliverables and then the requirements for an effective, affordable, sustainable and secure Navy EIE program.

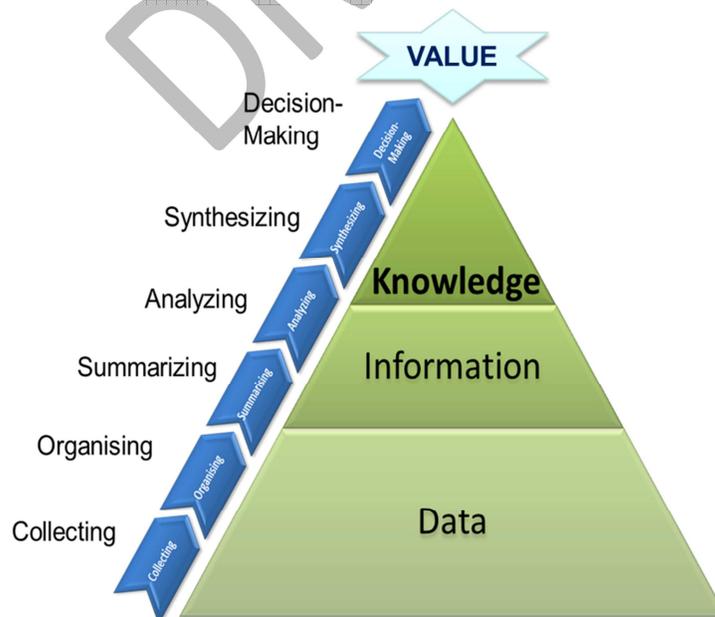
2 Program Overview

2.1 Background

In 2007 a memorandum was sent from ADM(Mat) to ADM(IM) identifying the high level requirements for information sharing between DND and Industry. The memorandum was based on the input from the Major Crown Projects that existed at that time. These requirements have been revalidated at the January 2015 EIE WG meeting. The basic intent behind the EIE requirements was shifting more equipment life cycle support functions from DND to Industry for increased efficiency and availability and for Performance Based Accountability for the transferred responsibilities. In order for industry to assume these additional functions more information must be shared from DND to Industry and from Industry to DND.

2.2 Program summary

In order for CANADA to achieve the aim of common program understanding amongst all stakeholders, investment in electronic infrastructure, that allows automation of data exchange and enables efficient collaboration amongst CANADA’s internal organizations and between CANADA and Industry, is needed and justified: the proposed EIE Strategic Objectives are as stated in the Executive summary. The ultimate objective of a common program understanding starts with sharing data that becomes information and ultimately leads to knowledge. Knowledge enables better decision making and management of a program. This hierarchy is illustrated in the following pyramid diagram.



2.3 Electronic Information Exchange (EIE)

DND's Materiel Group has changed the traditional component-level, time and materials approach to the procurement of Platform support. This new approach mandates the establishment of a long-term, performance-based ISSC which assigns System Support responsibilities to an industry partner. This requires the measurement of the industry partner's performance during the ISS phase as well as the application of incentives and penalties based on the actual performance versus the required performance stipulated in the ISSC. The EIE provides a common electronic platform to facilitate information sharing and information exchange between DND and its industry partners.

An EIE will be implemented for RCN MCPs to capture, display and exchange pertinent information between DND and the ISS Contractor(s). The EIE will ensure that accurate and timely information is captured and available to the Contractor and DND to allow these organizations to collaboratively manage the Platform program and fulfill their respective responsibilities.

2.3.1 Scope

This ConOps applies to the EIE for upcoming naval Platform acquisitions and will be the basis for a pan-Navy approach to sharing information with Industry for both the new MCP and legacy fleets. The term EIE includes DND and Contractor information systems used for Platform acquisition and support as well as any supporting infrastructure.

2.3.2 Intended Audience

This ConOps is targeted for the following audience:

- (i) Project Management Offices (PMOs) of RCN MCPs,
- (ii) Class Program Managers (CPMs) supporting RCN MCPs,
- (iii) ADM(IM) DDRMIS, and
- (iv) Industry EIE Managers.

2.3.3 EIE Components

The concept of Electronic Information Exchange was introduced in 2007 and led by air and land Major Crown Projects (MCPs). The EIE consists of two distinct components.

Electronic Data Exchange (EDE): The EIE EDE allows near real-time electronic communication between DND information systems and Industry information systems. Data exchange under the EDE construct can be described as system to system data exchange where ideally no deliberate intervention is required. The information exchanged by the EDE can include engineering and maintenance data, supply data, configuration management data, equipment health and usage

data and performance metric information. The EDE aims to provide a near real-time electronic interface between the DND information systems and industry partner information systems.

Collaborative Environment (CE): The EIE CE enables Project Management Offices (PMOs), Class Program Managers (CPMs), Fleet Maintenance Facilities (FMFs), Industry (Acquisition and In-Service), and other stakeholders to collaborate and share information. The CE facilitates project communication, workflow management, project deliverables review and approval process, technical publication management, risk and issue management and training management, and other DND business processes, as may be required. The CE also allows secure access to Industry information systems for authorized DND personnel.

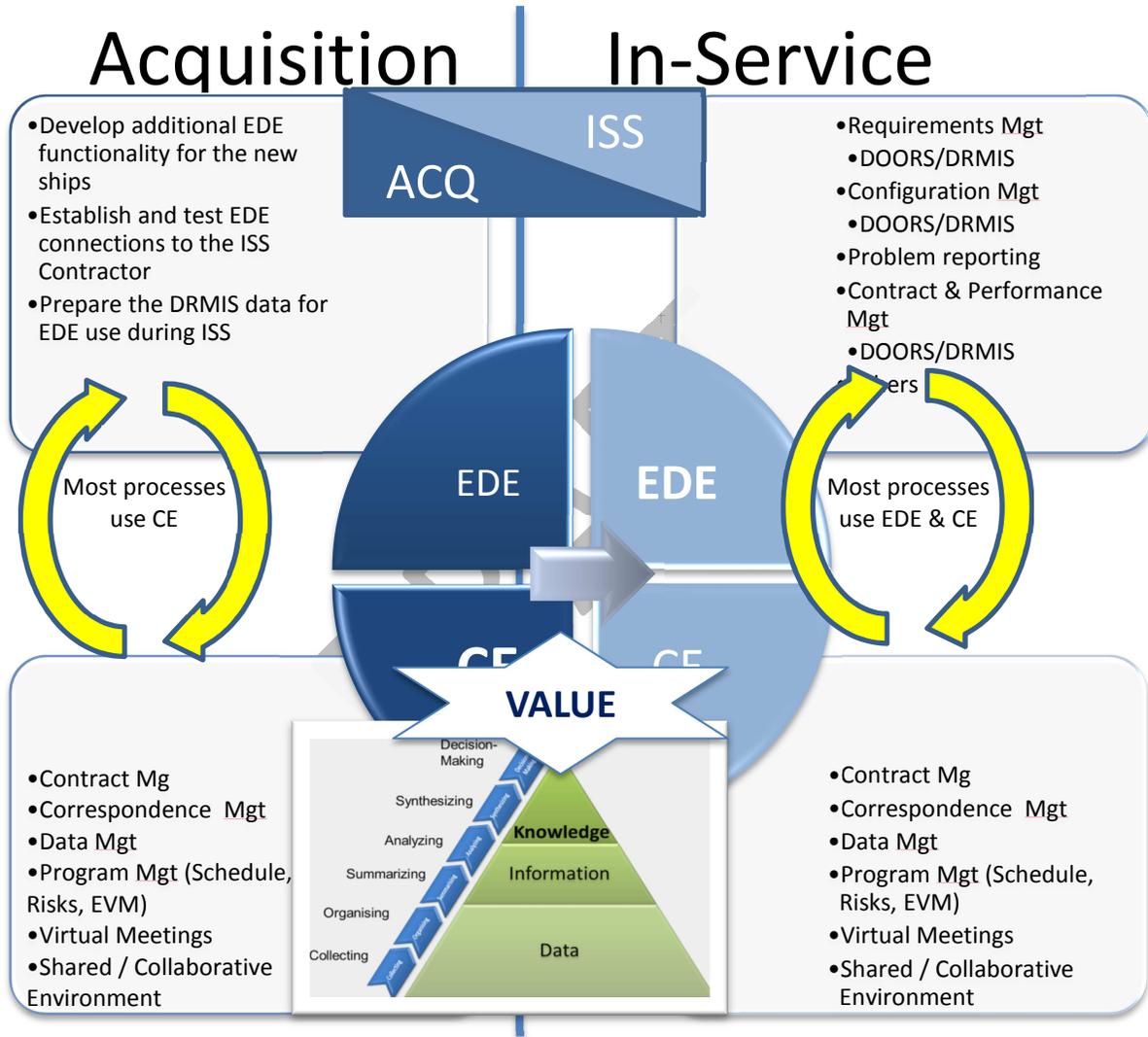
The Electronic Data Exchange (EDE) component supports the in-service activity and is the source for the data required for a Performance Based Contract for ISS. The creation of the data required in DRMIS for EDE must start during the design phase - As a designer builds the ship's structure in their internal ERP system the ship's structure must be matched in DRMIS to prepare for the use of DRMIS in ISS and for EDE data exchanges. The EDE is meant to achieve the following objectives:

- a. Use of DRMIS populated by the contractor to manage the In-Service Support (ISS) process (reports, waivers, deviations, change requests etc);
- b. Problem reporting (contractor and CANADA) for IT&E observations;
- c. Contractor population of maintenance data package;
- d. Contractor material identification;
- e. Warranty process management
- f. At the transition between acquisition and in-service the entire state of the warship is established will be transferred into DRMIS and the ISS contractor can seamlessly take over management of the ship.

The Second component of EIE is the Collaborative Environment (CE). This capability is envisioned to provide the means for integrated project teams to collaborate on the creation and evaluation of project (acquisition and sustainment) artefacts, manage workflows and support program governance. The CE must enable effective communication in spite of geographic distribution, and effective means for the evaluation of program risk, all in a secure and reliable manner. The fundamental aims of the CE are to increase information accuracy, availability and timeliness and to reduce information transaction cost through greater work process efficiency. But the CE functions are also needed during In-Service Support. As more of the support functionalities are being devolved to Industry, there is a requirement to share information beyond the maintenance, supply and problem reporting transactions of the EDE.

As illustrated in the Figure below, the EDE and CE activities apply to both the acquisition and ISS/sustainment phases. The EDE solution focuses on the exchange of data related to ISS or

sustainment activities – maintenance, materiel, problem reporting, and configuration management. EDE related activities occur during acquisition to prepare DRMIS and EDE for use during ISS. As the first ship will be under ISS while subsequent ships are in Acquisition, there will be an overlap of ISS CE and EDE with Acquisition CE and EDE setup. Since naval MCPs could span over two decades and their respective ISS phase over a longer period, this ConOps purposely covers the wider application of EDE, CE and other related data/information sharing options for the RCN/ADM(Mat).



It is critical to understand that firms tend to integrate all key management functions within an overall system (an ERP); these components cannot be independently altered. Hence the need to focus on leveraging existing implementations in industry through the definition of appropriate IT architecture-neutral interface. This is the level of abstraction that has been employed in the creation of the existing EDE interfaces. Competitive and market forces have driven firms to adopt a certain efficient structure; to take advantage of these efficiencies the

RCN/ADM MAT must avoid forcing a particular management model upon them (such as DRMIS). The RCN/ADM MAT must be flexible enough to take advantage of industry efficiency by adapting its system at the architecture neutral EDE interface layer.

This ConOps proposes a pan-navy CE capability that could be rolled-out, in various degrees, in all naval acquisition, implementation, sustainment and disposal projects. This is an important concept that needs to be reinforced. It is essential to have a flexible set of tools that can be deployed within a secure network environment. The default response should be customizing each solution for each project while preserving the use of common EIE functions as much as possible.

2.4 One Navy, One EIE

The concept of an EIE for the RCN was articulated in the Navy Electronic Information Exchange (EIE) Charter. The EIE will be used by all new Navy fleets, beginning with AOPS, continuing with JSS, and then including CSC. As well, individual legacy systems will be considered for inclusion.

The AOPS and JSS Combined Concept of Support identifies, at a high level, the approach for in-service support for the AOPS and JSS fleets. It describes the support services to be provided by the In-Service Support Contractor and by DND during the in-service life of the AOPS and JSS, and eventually CSC, and identifies opportunities where Canada and the potential ISS Contractor can make best use of performance based and incentivized contracts within a relational contract model.

The chosen methodology for an EIE must fit with the Future In-Service Support system requirements found at Future In-Service Support System (FISS) Requirements Document.

2.5 Situation

Under the Canada First Defence Strategy (CFDS) and National Shipbuilding Procurement Strategy (NSPS), DND Major Project Delivery divisions have been recapitalizing core air, land and sea weapon system fleets. With a single ERP policy, DND now has one system of record to manage its equipment, material, finance and human resource, the Defence Resource Management Information System (DRMIS). Of significance, Defence Renewal (DR) Initiative 2.3 (Sustainment) directs the establishment of long-term, performance-based ISS contracts, enabled by DRMIS and EIE capabilities.

In response to the CFDS and DR policies, an initial EDE Capability has been funded, prototyped and rolled-out to the Chinook helicopter and C130J aircraft fleets in June 2013 and April 2014 respectively. Following the RCAF lead, the Army TAPV project has also developed and tested a sub-set of the Air Force EDE capability and is expected to roll-out its EDE solution in the 2015-2016 timeframe to align with vehicle deliveries. Consequently, the RCN has an opportunity to reduce developmental effort and leverage lessons learned by assessing and validating the opportunity to re-use RCAF and CA work in the crafting of the Corporate EDE solution needed to fulfil its data exchange requirements, both internally and externally. In light of the lessons

learned with the Air Force and Army EDE developments, it is anticipated that enhancements to the existing EDE capability will be required to meet all the Navy requirements. This ConOps proposes the evaluation of the current EIE functions and the assessment of their suitability for re-use in the development of the **Corporate EDE solution**, to create a pan-RCN EDE capability that could be rolled-out in legacy and future naval fleets.

Contractor-provided **CE solutions** have been developed and rolled-out by air, land and sea projects. These Contractor hosted CE environments have been created for the projects: C130J, Chinook, TAPV and AOPS. These CE environments have significant problems and do not satisfy the collaboration requirements of the PMOs and will also not satisfy the in-service support information sharing needs. As these collaboration environments were created by each project as Industry hosted capabilities, there is no Corporate CE solution. There is a need for approved standard network architecture (or architectures) to interface industry to CANADA, all while avoiding overly prescriptive definitions for common DND-Industry software tools. Adjustments to the CE will need to be made to accommodate differences between industry sectors and variation between firms within a sector. This ConOps identifies both the requirements the CE needs to satisfy and the exiting CE defects that will need to be addressed for the Navy to have a fully functional CE.

2.6 Problem Definition

From a RCN/ADM MAT point of view, the following problem statement applies: Develop an efficient and secure electronic communication capability for Canada and the marine Industry to design, build, sustain and dispose of future and legacy ships and submarines.

From the onset, there are challenges that must be considered as part of this problem definition to include, but not limited to:

- a. **ITSEC/EMSEC:** a new security architecture is required to meet the more challenging threat environment. The new architecture needs to allow the business requirement of EIE to be satisfied while maintaining an appropriate level of security safeguards;
- b. **Effective IT Solutions:** with the complexity of master data, ERP networks and emergent information technologies, the RCN/ADM MAT have an opportunity to streamline acquisition and sustainment processes through a more efficient use of naval IT systems, such as DRMIS and EIE;
- c. **Affordability:** recent experiences by air, land and sea projects have demonstrated the complexity, efforts and costs of initializing IT systems, EDE and CE. The RCN/ADM MAT must carefully balance the cost-benefit tradeoffs of not only developing but sustaining sophisticated electronic communication tools by CANADA and Industry. Under a budget constrained environment, affordable IT solutions must be assessed and prioritized.

- d. Pan-RCN/ADM MAT Application: initially led and funded by naval Major Crown Projects, the concept of “*One Navy One EIE*” solution could be exported/applied to existing and future ships and submarines, as well as to minor warships, auxiliary vessels and other naval weapon systems. Assuming that the boundaries of the EIE are liberally defined at the application layer, the key risk in this endeavour resides in establishing the communications channel. Once the channel is in place, the suite of software applications, chosen to run over it, is arbitrary and will change over time.

2.7 Program goals, outputs, outcomes, and benefits

In order to achieve the aim of a common EIE program understanding amongst stakeholders, the following strategic objectives must be met:

- a. A robust and secure communications channel that allows bi-directional exchange of information amongst CANADA organizations and between CANADA and trusted Industry Partners. The current barriers that prevent this exchange result in substantial inefficiency in program execution and delivery.
- b. Development of interfaces between CANADA information systems and Industry that will allow automated bi-directional exchange of equipment management program data using an Electronic Data Exchange (EDE) capability.
- c. Implementation of a software application toolset, training regime and process framework that enable efficient collaboration of integrated project teams across the stakeholder community. Within this structure, acquisition and sustainment teams must be able to interact with all classes of program artefacts (documentation, drawings, models, software, database, etc.) while the system assists with revision history, configuration control, workflow management, version control and process continuity (Collaborative Environment).

2.7.1 Program scope

The proposed scope and High Level Mandatory Requirements (HLMR) for the Navy EIE are illustrated in the Table below.

HLMR	Description	Remarks
HLMR#1 - Navy EDE Solution	Corporate EDE solution, agnostic to any specific naval vessel or fleet. Must be suitable to Naval Major Crown Projects (AOPS, JSS and CSC).	Must be aligned to NaMMS and specifically, its Future In-Service Support (FISS) program aspect. Must leverage corporate

HLMR	Description	Remarks
	Primary consideration for ISS Solutions that involve contractors and FMFs: EDE for ISS/Sustainment phase such as AOPS and JSS ISSC (AJISS).	EDE solution to greatest extent.
HLMR#2 - Navy CE Solution	<p>Corporate CE solution applicable to both acquisition and ISS/Sustainment phase with understanding that there is no one size fits all solution and that each CE should be defined based on the needs of the project it supports and customization, based on common fundamental principles and one standard toolset, should be the default approach.</p> <p>Consideration to be given to contractor-hosted and Canada-hosted CE solution.</p>	This is an immediate requirement for the Naval MCPs as well as legacy Class Program Management (CPM) fleets.
HLMR#3 IM Sec / EM Sec	EIE (EDE and CE) compliance.	
HLMR#4 Security Assessment and Authorization (SA&A)	Shall have ADM(IM) SA&A approval.	Based on C130J, Chinook and TAPV, this process could take 2-3 years
HMLR#5 Cost-Benefit Analysis	Conduct a Cost-Benefit Analysis on the Navy EDE and CE solutions as well as other data exchange, information sharing and workforce collaboration alternatives.	

2.7.2 Program assumptions, constraints, restraints and risks

2.7.2.1 Assumptions

The following table lists the items, considered to be true, real, or certain, that cannot be proven or demonstrated when this Concept of Operations was prepared, but they are taken into account to stabilize the program approach or planning. These assumptions will be validated during the planning process. If any are inaccurate, inconsistent, or incomplete, they will result in program risks.

No.	The following is assumed:

No.	The following is assumed:
1	Navy EIE Funding and HR provided by Naval MCPs, MEPM and N4NEMS. Equipment costs borne by respective units.
2	Navy Business Process Streamlined and Aligned with IT Enablers (DRMIS and EIE)
3	Feasibility of a flexible, customizable (toolbox of applications) “One Navy One EIE” solution for existing and future fleets.
4	Current EDE solution functionality must be assessed prior to potential re-use in Corporate EDE capability.

2.7.2.2 Constraints

The following table lists the specific obligations that place conditions on the program, especially those associated with the program scope (e.g. a hard deadline, a set milestone, and contract provisions).

No.	Category	Constraints
1	Scope	Existing EDE Solutions (C130J, Chinook, TAPV) must be assessed for feasibility of re-use in Corporate EDE development & sustainment costs.
2	Funding	Provided by Major Crown Projects (AOPS, JSS and CSC), DGMEPM, RCN
3	Schedule	Alignment with the Acquisition Major Crown Projects (AOPS, JSS and CSC)
4	IT Security	ITSEC/EMSEC Compliance
5	Scope	Alignment with NaMMS and specifically its FISS program aspect

2.7.2.3 Restraints

The following table lists the specific limitations (restraining factors) that place conditions on the program, especially those associated with the program scope (e.g. existing Government of Canada Enterprise/Corporate systems solutions, predetermined budget, policies, and privacy or security considerations).

No.	Category	Restraints
1.	Technical	CE solution tool box must look at government Shared Services Canada (SSC) corporate tools first
2.		

2.8 Milestones

The expected Navy EIE (EDE and CE) Project milestones are presented in the Table below.

Timelines	Milestone Activity	Remarks
2015	Navy EIE Charter signed	
2016	Navy EIE CONOPS and Functional Requirement completed. CE Solution planned, funded, developed, tested, C&A	
2016	Commence CE Solution roll-out to navy MCPs and MEPM	
2017	AJISS Contract Award	
2018	Delivery AOPS#1. AOPS rolled-out in DRMIS. CSC rolled-out in DRMIS	
2019	Delivery JSS#1. JSS rolled-out in DRMIS EDE Rolled-out to AJISS	

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3 EDE REQUIREMENT

3.1 EDE Purpose

The purpose of this section is to outline the Concept of Operations (ConOps) of the Electronic Data Environment (EDE) portion of the Electronic Information Environment (EIE) established to support the information exchange requirements of the Major Crown Projects (MCPs). This ConOps details the naval Platform support processes, the information required to conduct those processes, and the information exchange requirements to deliver the necessary information to the In-Service Support (ISS) Contractors.

3.2 Corporate EDE

The Corporate EDE is comprised of a series of Interface Control Documents (ICDs) which can be found in Annex B. These documents provide the necessary information with which a contractor can develop the infrastructure, systems, and data integration for sharing of information between DND and the Contractor in support of a long-term, performance-based ISSC. The EDE enables data and information sharing between the Contractor and DND through integrated systems for the automatic electronic sharing of data.

The EDE ICDs define the interface requirements and design for the exchange of data between the Contractor and DND information systems.

The EDE ICDs are organized by segregating the functional documentation (i.e. Business Processes and Requirements) and technical documentation (i.e. Interface Requirements). The technical documentation contained in the ICDs provides the details necessary for an IT developer to program that section of the EDE including:

- a. Interface Requirements;
- b. Data Mappings;
- c. Necessary Interface Acknowledgement(s) and Receipt(s);
- d. End-user Interactions;
- e. Payload Definitions; and
- f. Payload XML Schemas.

The EDE ICDs are comprised of:

- a. Operational Models;
- b. Business Process Specifications;
- c. Business Used Cases; and
- d. Service Specifications.

Note that the authoritative sources for the ICD information are the model, process specification, use case and service specification documents. This ConOps is not to be read as the authoritative source for ICD information. This document's descriptions are an overview to aid in the understanding of the detailed ICD documentation.

3.3 EDE Business Objectives

The EDE is based on the following business objectives:

- BO-1:** The Materiel, Acquisition and Support (MA&S) business model must ensure that the right information is available at the right time in the right information system. The model must demonstrate that it offers high data integrity and timely information sharing, in a secure and flexible environment, to support the various electronic information systems required.
- BO-2:** The MA&S business model must ensure that information exchanges between DND and its Industry Partners take place in a standardized manner across the various equipment and Platform support contracts.
- BO-3:** The MA&S business model must be consistent with departmental policies and strategies. Of primary importance are the Enterprise Resource Planning (ERP) strategy; the solution must fit within the departmental plans for systems rationalization.
- BO-4:** The MA&S business model must be cost efficient to the department in consideration of the long term support contracts and not simply the acquisition and set-up phase. Along this vein, the MA&S business model must be human resource efficient in its steady state operation.
- BO-5:** The MA&S business model must support clear and irrefutable Industry accountability. As incentives and penalties are applied based on Industry partner's actual performance versus the contracted performance, the model must ensure clear lines of accountability.

3.4 EDE Constraints

The EDE solution is bounded by the following constraints:

- (i) the solution must be compatible with SAP ECC 6 to integrate with DRMIS,
- (ii) the solution must abide by its Security Assessment and Authorization (SA&A) guidelines and restrictions which includes the sharing of UNCLASSIFIED data only, and
- (iii) ADM(IM) must be the solution provider of the DND EDE components and be the controlling authority of the ICDs."

3.5 EDE Business Requirements

The EDE Business Requirements are listed at Annex C and have been primarily derived from the process maps detailed in the Annexes. These have been developed from a high level and there are some sub-processes that have not been developed.

4 EDE BUSINESS PROCESSES

4.1 Maintenance Business Processes

A critical concept for MCPs is that DND will be committed to abide by the Contractor-provided maintenance program. The ISS Contractor will manage the agreed-to maintenance program on behalf of DND. Failure to follow the established program could result in undesirable contractual and financial consequences to DND.

DRMIS will provide the CPM with the means to record essential information to demonstrate DND compliance with the maintenance program (i.e. recording the completion of essential preventive maintenance, recording materiel ordered, etc). DRMIS must also provide DND and the Contractor the required information to determine instances of non-compliance.

DRMIS, combined with the procedural rules imposed on the maintenance units, will enforce compliance with the maintenance program, and record instances of non-compliance. The balance between the uses of DRMIS versus the use of procedural rules will need to be further discussed. As an example, DRMIS deadline monitoring could be used to flag a Platform/system/equipment as unserviceable if a specific preventive maintenance action has not been completed within the required time or usage.

DRMIS will perform deadline monitoring for preventive maintenance actions. The required preventive maintenance advance notice will be set accordingly by the delegated technical authority.

Annex D provides flow diagrams of the RCN corrective and preventive maintenance planning and maintenance execution processes, showing the data exchange requirements with the ISS Contractor.

4.1.1 Data Exchange as a Result of DND-Performed Maintenance

DND will conduct 1st, and some 2nd and potentially some 3rd level maintenance, including operator maintenance, using DRMIS. DRMIS will provide the maintainer with task information, and the ability to record maintenance actions, order materiel and update the actual configuration of the Platform and equipment, as per current RCN maintenance policies and processes. RCN MCPs may require additional data entry from maintainers above the current RCN DRMIS processes, if essential to support the ISSC arrangements for new fleets.

It should be noted that most preventive maintenance will be triggered from calendar based plans or from cumulative usage recorded against counter measurement points. It is however possible that maintenance will need to be triggered from a condition measurement, such as the result from an oil sample, in accordance with the Oil and Coolant Condition Analysis Program (OCCAP) or the result of an on-equipment condition measuring device.

There will be periodic electronic exchange of DRMIS maintenance history records to provide the contractor sufficient information to derive the current actual or as-fit configuration. Although the as-maintained configuration will be held in DRMIS, the Contractor will be responsible for the configuration management of the fleet with visibility of the as-maintained configuration to ensure compliance with the allowed configuration.

4.1.2 Data Exchange as a Result of Industry-Performed Maintenance

The Contractor will conduct most 3rd level maintenance, which includes repair & overhaul of components as well as the major overhaul of equipment. The Contractor will use its own systems to perform and record 3rd level maintenance. Following maintenance by the Contractor, any information affecting the actual structure of the platform and its respective maintenance data will be passed on to the DND EMT via the EDE for update in DRMIS.

DND may perform some 3rd level maintenance at the Fleet Maintenance Facilities (FMFs). These maintenance actions will be recorded in DRMIS using the existing processes in DRMIS. Essential configuration management information will be updated into DRMIS through the Fleet Data Management Team (FDMT) based on information provided by the FMFs.

When maintenance activities that are performed by Industry result in a configuration change, the EDE will enable the required data exchange needed to update the as-maintained data in DRMIS.

4.2 Supply Business Processes

The Contractor will be responsible for the supply process up to the Point of Delivery. The Contractor will manage and deliver, to the specified Point of Delivery, all spares, consumables and Support and Test Equipment (S&TE) required to support the platform. The Contractor will not own, but may manage, all Government-Furnished Equipment and Government-Supplied Materiel.

Since the RCN platforms will be using the DND supply chain to issue and distribute materiel from onboard stores, all materiel/part demands triggered by Work Orders will be sent to the onboard stores office regardless of the materiel Source of Supply.

For the RCN, the materiel demand must also identify the criticality of the component being demanded, in order to support required performance calculations. This has to be transparent to the user.

Annex E provides flow diagrams of the RCN supply part demand, fulfillment, return and receipt processes, showing the data exchange requirements with the ISS Contractor.

4.3 Manage Configuration Business Processes

Configuration Management (CM) consists of a set of activities that identify, control, and report on the proposed, current or historical configuration (physical and functional) of all products used or produced to ensure that the end products meet acquisition project and in-service operational requirements.

DRMIS will hold the allowed structure for the RCN fleets. The EDE will support the required information exchange between the Industry Information Systems and DRMIS to maintain the configuration of all supported fleets.

Engineering support functions encompass the life cycle engineering work required to operate, maintain, modify and sustain the Platform, including technical and logistical analyses, and the conception, management, approval and embodiment of configuration changes.

The capability to control changes to the various aspects of the RCN MCP program is an important part of platform management. Both the Contractor and DND will have responsibilities for change control.

Annex F provides flow diagrams of the RCN Manage Configuration process, showing the data exchange requirements with the ISS Contractor.

4.3.1 Master Data Update

The Master Data initially set up in DRMIS to support the in-service phase, must be maintained throughout the life of the platforms to reflect any changes in the RCN maintenance policies and processes as well as any configuration changes approved by the CPM.

Guidelines for establishing the Master Data are found in “DRMIS Data Guidelines for the RCN Fleet, Rev 3, 26 August 2011”.

4.3.2 Materiel

During in-service, any new materiel required to support DND maintenance activities (as a result of engineering change, obsolescence management or other process) will need to be identified in DRMIS.

4.3.3 Allowed Configuration

The allowed configuration of the Platform will be recorded in DRMIS, and represented by the allowed structure (production baseline) of the platform and by the configuration items (serialised materiel) required to support the maintenance program. There is one allowed configuration per platform fleet, which may include various materiel variants and applicable dependencies as required. The ISS Contractor’s information management systems will be the system of record for the allowed configuration.

The allowed configuration is established in DRMIS using the RCN pre-defined standard platform structure, and configuration item data provided by the contractor. The allowed configuration is also referred to as the allowed technical structure and is stored in DRMIS as the Master Parts List (MPL).

Changes to the allowed configuration are managed by the ISS Contractor or the CPM (depending on the change or equipment), as a result of engineering changes, obsolescence management, or other triggers.

4.3.4 Actual Configuration

The actual platform configuration represents the actual structure and the fitted serialised equipment on the platform during its in-service use. During in-service of the platform, the actual configuration is also referred to as the “as-maintained configuration”. The actual configuration is initially set in DRMIS, during the initial data load, using the as-built/baseline configuration data provided by the Ship Build Contractor to the ISS Contractor.

DRMIS is the system of record for the actual configuration of the platform and stores this information as Master Equipment Record (MER), Functional Location (FLOC), and Equipment Master Record (EMR).

Change to the actual configuration is managed in DRMIS as a result of corrective or engineering change related maintenance actions. For instance, the replacement of serialised equipment (major assemblies, such as engines or transmissions) will trigger (by business process) an automatic data update to the actual structure in DRMIS.

4.4 Problem Reporting Business Processes

The purpose of the Problem Report (PR) process is to ensure that all activities required to initiate and resolve a PR are well defined, validated, monitored, tracked, and documented.

PRs can be initiated by DND as well as by the Contractor. DND personnel will initiate PRs in DRMIS which will be then transferred to the Contractor Technical Problem Management System (TPMS) via the EDE. The Contractor will then manage the PRs in the TPMS and provide status updates by updating the status of the PR in DRMIS via the EDE.

5 Information Flows

This section describes the information or data to be exchanged between DND and Contractor systems, the preferred exchange methods and modes of operation (frequency requirements).

5.1 Categories of Data

5.1.1 Transactional Data

Transactional data includes event-oriented data that is generated by any support staff to document the necessary particulars of an event in order to satisfy processing, financial, legal, contractual, or performance measurement requirements. Data required to substantiate certification requirements is also considered transactional data. Such transactional data includes records of serviceability and data captured within maintenance technical records, materiel demands, technical problem notifications and safety occurrence reports.

5.1.2 Usage Data

This includes platform data (e.g. system and equipment operating hours, fatigue cycles, rounds fired, etc.); and condition-related data generated by sensors that are used to monitor the Platform.

5.1.3 Technical Data

Technical data includes all of the data that is required to support and operate the Platform. Certification technical data includes records that identify the configuration of the Platform, historical data, and publication data. Technical data includes, as a minimum:

- (i) Logistic Support Analysis (LSA) data: Maintenance Program data (Maintenance Tasks, S&TE, and Manpower and Skills data), Materiel Identification data (Spare parts and Packaging, Transportability, Hazardous Material data);
- (ii) Configuration management data (Allowed and Actual Configuration) and documentation;
- (iii) Technical publications, including policy and instructions for the installation, operation, maintenance, inspection, and modification of the Platform presented in an interactive electronic technical manual format;
- (iv) Repair and overhaul tasking procedures;
- (v) Software data; and
- (vi) Documentation that includes, but not limited to:
 - a. Specifications;
 - b. Engineering drawings;

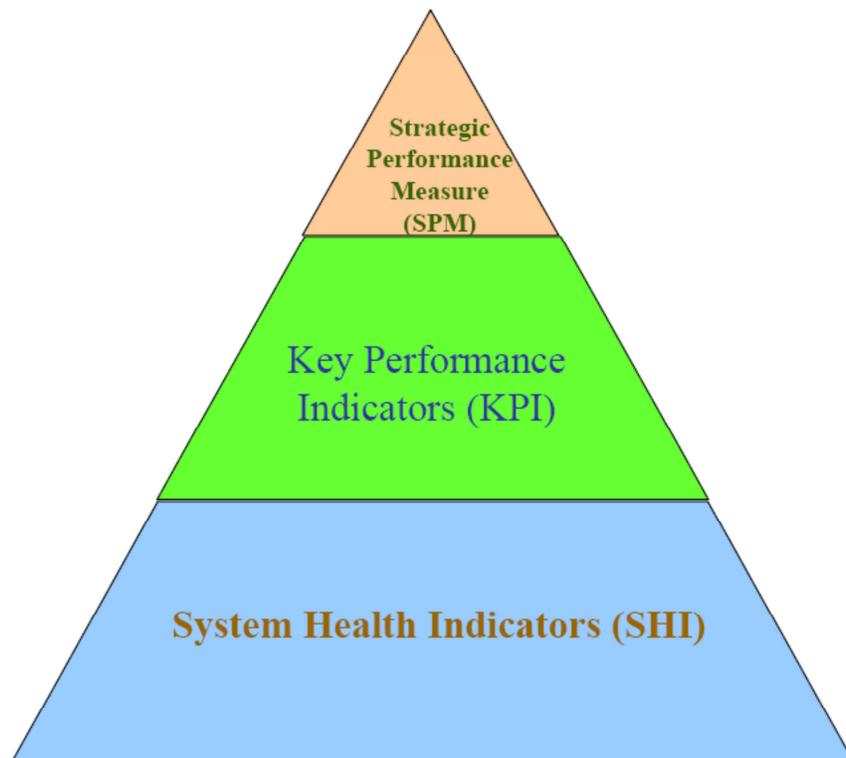
- c. Standards;
- d. Technical reports;
- e. Test plans, procedures, and reports;
- f. Inspection documentation; and
- g. Software documentation.

5.1.4 Calculated Performance Data

Performance data includes the data that is calculated from Transactional and/or Usage Data to quantify the level of a performance metric.

The primary link between services to be provided in the Performance Work Statement (PWS) and the payment for performance is the Performance Measure. This section describes the types of measures that may be applied to determine the effectiveness of the sustainment program.

Fleet performance is managed within a three tier framework as shown in the performance diagram below, which includes the following three tier hierarchy.



Strategic Performance Measures (SPMs). These are annually assessed performance measures typically used to reflect the long term behaviours against performance requirements. SPM are commonly linked to Contract tenure due to their subjectivity. The SPM are designed to focus on long-term behaviour, annual assessment and are non-payment related. A rating of 'Satisfactory' combined with acceptable Composite Performance Payment (CPP) entitles the Contractor to one or more contract option years in accordance with the terms and conditions of this contract.

Key Performance Indicators (KPIs). The KPIs are quantitative measures of performance. The KPIs are assigned a weighting factor by Canada and a single CPP is calculated. The CPP will be used to determine a performance payment in accordance with the terms and conditions of this contract. Each KPI includes a minimum specified level of performance that the contractor must achieve as described in each KPI specific sub-section.

System Health Indicators (SHIs). Some of the described SHIs are subjective (qualitative) while others are quantitative. They reflect a variety of lead and lag indicators that provide some assurance that the SPM and KPI required level of performance will be met.

Although the SPM and SHIs measures are not linked to the Performance Payment their results will be taken into account in the customer satisfaction survey and at the time for contract extension as described in the terms and conditions of the ISSC.

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6 CE Requirements

6.1 CE Purpose

The purpose of this section is to outline the Concept of Operations (ConOps) of the Collaboration Environment (CE) portion of the Electronic Information Environment (EIE) established to support the information exchange requirements of the Major Crown Projects (MCPs). To fulfill the electronic information exchange needs of the RCN whereby providing a cost effective and efficient information management solution to collaboratively interact, share and edit unstructured information with all stakeholders. This ConOps details the naval Platform support processes, the information required to conduct those processes, and the unstructured information exchange requirements to deliver the necessary information to the In-Service Support (ISS) Contractors. The information shared via the CE is supported by information held within the internal environments of Canada and Industry. Shared data is extracted from the Industry (or Canada) environment, placed in the CE and often is used to update the Canada (or Industry) environment.

6.2 CE Scope

This CONOPS will be limited to the definition, build and in service support phases for all RCN vessels and will not discuss capability deficiency, options analysis or disposal phases of the RCNs ships. It is understood that a MCP in options analysis and disposal phases will require the CE to collaboratively share their needs however will not be discussed in this CONOPS.

6.3 CE Functionality

The following are the functionalities of the CE:

- a. Access from workstations on the DND Wide Area Network to use applications hosted on the Contractor computer environment.
- b. Access from workstations on the Contractor's network to use applications hosted on the DND computer environment.
- c. The capability to transfer data files bi-directional between DND' and the Contractor's computer environments.

6.4 CE Challenges

The following are the challenges of establishing a common DND CE:

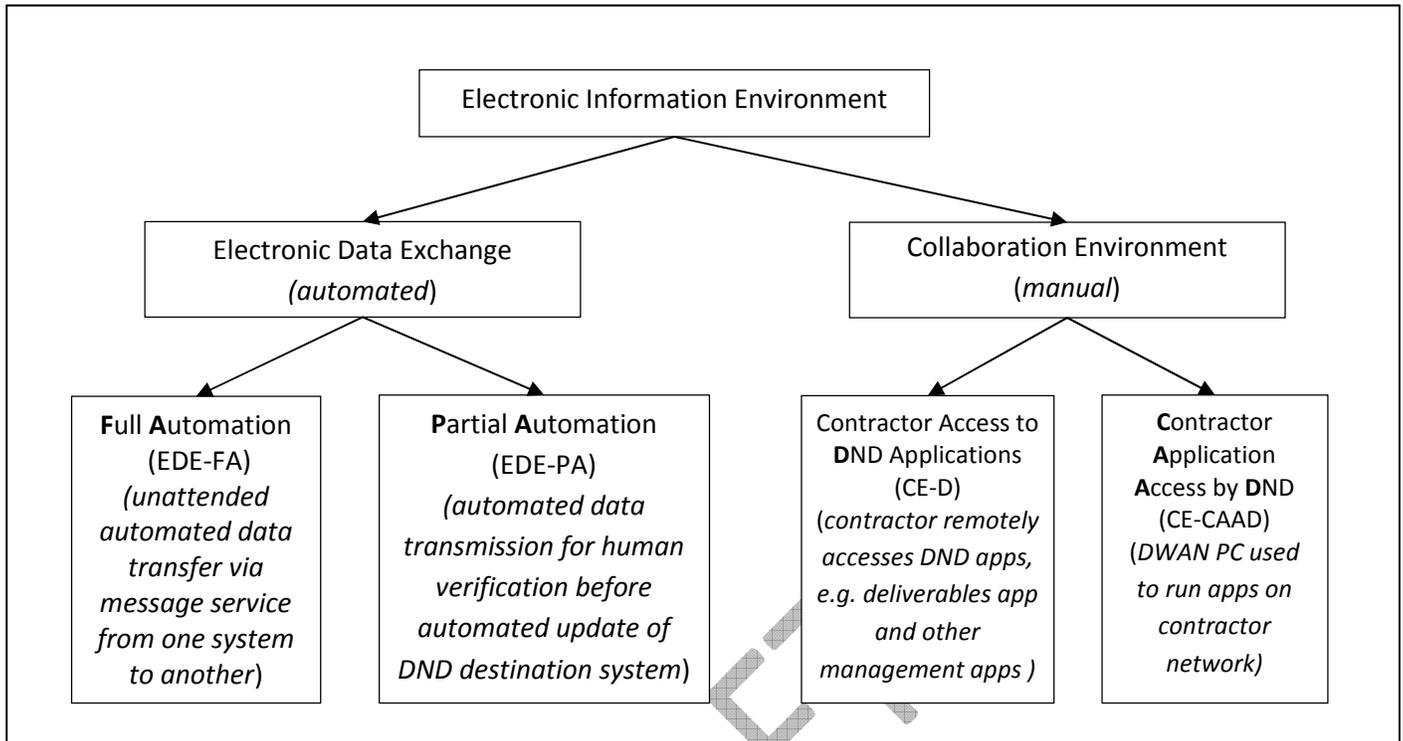
- a. Information Security. With the growing threat of cyber security issues, the CE architecture must be robust in order to prevent unauthorized access. At the same time, positive control of information must remain in the control of Canada.
- b. Information Classification. Most of the information being shared on the CE will be unclassified however there will be classified information being shared. The security

architecture must be developed in order to accommodate both unclassified and classified information.

- c. 3rd Party Applications. The CE architecture must remain flexible to accommodate current and unknown future 3rd party applications. For example, today IBM Rational DOORS 9.2® is being used by RCN MCP for requirements management however many alternative software applications provide the same function.
- d. Bandwidth. The scope for the CE is very large, as a result high bandwidth is required. Whether to support many users working on smaller files, such as MS Word® documents, or few users working on large files, such as a 3D models of the ship, the architecture must support a scalable system and grow with the needs of the CE.
- e. Shared Services Canada. The Government of Canada is consolidating and modernizing all data centres based on an analysis of the government's current and future requirements. DND is not an exception to this initiative and the solution for the RCN CE will migrate to SSC.

6.5 Collaboration Environment Background

In 2007 a memorandum was sent from ADM(Mat) to ADM(IM) identifying the high level requirements for information sharing between DND and Industry. The memorandum was based on the input from the Major Crown Projects that existed at that time. These requirements have been revalidated at the January 2015 EIE WG meeting [2]. The basic intent behind the EIE requirements was shifting more equipment life cycle support functions from DND to Industry for increased efficiency and availability and for Performance Based Accountability for the transferred responsibilities. In order for industry to assume these additional functions more information must be shared from DND to Industry and from Industry to DND. This sharing takes two basic forms: the automated (system to system) exchange of data and manual (human to system) exchange of data. These mechanisms are illustrated in the following diagram.



Since the 2007 EIE requirements were prepared, enhanced and new technologies useful to collaboration have evolved. These new technologies and exiting 2007 technologies should be fundamental tools available in a CE. These technologies are:

- a. E-mail
- b. Instant messaging
- c. Application sharing
- d. Video conferencing
- e. Collaborative workspace, document management and version control system
- f. Task and workflow management
- g. Wiki group or community effort to edit wiki pages. (e.g. wiki pages describing concepts to enable a common understanding within a group or community)
- h. Blogging where entries are categorized by groups or communities or other concepts supporting collaboration.

6.5.1 Descriptions:

EDE-FA (Full Automation): To support maintenance, supply and problem reporting transactional data sharing, fully automated system-to-system near real-time data sharing transactions were needed to transfer data between DRMIS and Industry back end applications. The Electronic

Data Exchange, EDE, message exchange services were created to address these transactional data transfers. .

EDE-PA (Partial Automation): The second type system-to-system transfer, known as EDE-PA, is initiated by the creation of a data file that is intended as an update to a system; either started by DND for an Industry system or started by Industry for a DND system. The data file is transferred between DND and Industry. The file is then used to update a system, usually after a review and manual release of the update. To date no system-to-system exchanges of this second type have been deployed.

The Collaboration Environment was established to address both directions of human to system access: DND to access contractor applications and contractor to access the repository used for DND routing, review and acceptance of deliverables.

CE-CAAD (Contractor Application Access by DND): In many instances, DND is giving responsibility to contractors for an equipment support function and needs access to the contractor's data for oversight and verification purposes. In this case, a person on the DND internal network needs access to an application on the contractor's computer environment.

CE-D (Contractor Access to DND Hosted Applications): When the contractor is submitting deliverable documentation and files such as CDRLs, the contractor needs access from their internal workstation to post the data in the DND repository for review and acceptance. The current ISSCF contracts require Industry to host the document library to be used by DND to receive deliverables. DND accesses the Industry's document library for review and acceptance processing. In addition to the documentation review and acceptance system, the existing ISSCF contracts specify that the Contractor hosts applications for the management of the project activities: requirements management, risk & issue management, action log management, and project management control (e.g. plans and schedules). The preferred CE functionality moving forward is for a DND to host these common project management capabilities.

6.5.2 Defects to Avoid from Current CE Deficiencies

The accessibility to Contractor hosted Collaboration Environment functionality (CE-CAAD) is not meeting the requirements stated in the 27 Aug 2007 Memorandum to COS ADM(IM) from DGMSSC. The CE requirements have been re-validated by the current major capital project teams through a series of meetings held in 2014 led by DMSPR culminating in the requirements outlined herein. The three main problems are:

- A. The access to Contractor applications is not allowing DND users to make use of the full application functionality. The functionality is often limited or all access to the application is blocked.
- B. Information file exchanges (data file transfers) require manual intervention using removable media across separated networks instead of being directly sharable electronic copies between the Contractor's site and DND user's DWAN workstation.

- C. Documentation routing and review functionality is not working directly from the DWAN to a single copy of a document *in the contractor's CE site*. Documents have to be manually transferred via removal media back and forth between the contractors' sites and DND. The existence of multiple documents on two systems without a single point of control is causing significant workload and high risk of potential error for the approval and acceptance of contractually mandate deliverables. (Note that the ISSCF contracts established to date require the contractor to host a service for the review of contractor deliverables vice having the deliverables posted to the DND network.)

6.5.3 Contractor Application Access by DND Requirements (CE-CAAD)

To resolve the CE defect identified in Defects para 6.5.2 A, the following paragraphs identify the business level requirements for DND access to Contractor hosted applications.

- The solution must preserve DND/CF network security and data integrity.
- The applications access is required from DWAN workstations.
- The PMO, EPM staff, and other DND subject matter authorities must have the ability to access and use the functionality of Contractor hosted internet-based system specific applications as required by DND to manage the acquisition and the ISS. The access must support:
 - using the Contractor application's functionality as if the access is happening from a workstation with full internet functionality, i.e. allowing all forms of web site coding to execute;
 - installations of Contractor supplied software on the DND workstation by the user;
 - the Contractor's use of Man-In-The-Middle detection software; and
 - compliance with any future security software/services used to protect the contractor's applications and communications path.

6.5.4 Information File Exchange (EDE-PA)

To resolve the CE defect identified in Defects para 6.5.2 B, the following paragraphs identify the business level requirements for data file exchange.

- The solution must preserve DND/CF network security and data integrity
- The access to execute the data file transfers is required from DWAN workstations
- Data file transfers are required to be exchanged bi-directionally between DND and the contractor networks. Samples of the information required to be exchanged between DND and the contractor:

- Data load files for import into DRMIS or other DND applications
- Electronic technical publications
- Updates to Electronic technical publications
- Logistic Support Analysis Records (LSAR) data to feed the Maintenance Management System
- LSAR updates (equipment structure, allowed configuration, tech drawings, material ID, hazmat data, bill of material (including tools & test equipment)) to feed the Maintenance Management System
- Engineering design changes
- Courseware in DND Learn
- Updates to courseware in DND Learn
- Documents (project and contract related)

Note that a potential solution may be available via the SSC secure file transfer service.

6.5.5 Contractor Access to DND Hosted Applications (CE-D)

During the acquisition phases of an equipment's life cycle, all procurement projects have deliverable review and acceptance requirements for contractor generated information files, e.g. documents, spreadsheets, lists, etc. During the ISS stages of an equipment's life cycle, the Contractors will also be delivering proposals, studies and data updates that must be reviewed and accepted by DND SMEs. Although the current RFPs and ISSCF contracts specify the deliverable review and acceptance application to be hosted by the Contractor, a better long term solution would host the functionality on DND networks with Contractor access to post new versions of the deliverables. The review and acceptance of documents is not limited to acquisition. As the Contractor assumes more of the support functions traditionally performed by DND, there is a requirement for review and acceptance of Contractor documentation during the In-Service Support and disposal phases of a weapon systems life cycle.

In addition to deliverable review and acceptance capability, there are other acquisition and in-service support management functions that are common across all weapons systems. These common weapons systems functions are requirements management, risk & issue management, action log management, and project management control (e.g. plans and schedules). The Contractor will need access from their work locations to the use the full functionality of these DND hosted management applications. The requirements for this remote Contractor access are similar to the requirements for a DND hosted document review and acceptance application.

A DND hosted deliverable review and acceptance functionality accessible to Contractors would resolve the defect identified in Defects para 6.5.2 C. The requirements for a DND hosted document review and acceptance application are included below.

The following are the original requirements for documentation acceptance and review based on DND hosting the documentation repository:

- Secure common data store for the exchange of information between all stakeholders (both internal and external to DND);
- Service for a secure data store held within DND, accessible via DWAN, and the Internet for external partners;
- Connectivity for data transfers between DND, Industry, PWGSC, Industry Canada (via Internet or secure channel);
- Connectivity for access from Industry embedded Detachments to DWAN (DVPNI or DWAN Extension);
- System shall allow Industry to transfer data packages to the data store, via the Internet, which is held within DND (Industry offices to be identified);
- System shall allow for the creation of segregated hierarchical work areas for specific users (accessible via DWAN and Internet);
- System shall allow designated DND users to modify the work area hierarchy;
- System shall allow authorized DND users to post documents in designated work areas;
- System shall provide a means to segregate documents and information for access (via DWAN and Internet) by specific groups and users;
- System must provide for secure transactions from the Internet and DWAN;
- System must be able to securely store sensitive content (Protected A and Industry proprietary content), uploaded via DWAN and Internet;
- System must be available to all users 24/7 (peak hours 0600 – 1800 EST);
- System must ensure integrity of data and content, data loss due to failure must be minimized;
- System must be capable of managing, transferring and storing all forms of electronic data including, but not limited to video, technical documentation and CAD drawings regardless of file size;
- System shall supply Standard Project Management tools (MS Office, MS Project);
- System shall provide Document Control and Workflow Management; and

- System shall allow DND users to create, modify, delete, manage and control workflow processes.

6.5.6 EIE CE Sample Detailed Requirements

For a sample of more detailed information on the CE functionality refer to project specific Performance Work Statement (PWS) sections. The following is a list of typical functionalities that are accessed via the CE:

- a. Virtual Meeting Functionality
- b. Auto Generated Notice
- c. Secure Data File Exchange
- d. Secure Common Data Store
- e. Workflow and Document Management
- f. Project Management Control
- g. Risk and Issue Management
- h. Requirements Management
- i. Technical Problem Management
- j. Configuration Management
- k. Logistics Support Analysis Record (LSAR)
- l. Initial Provisioning Data
- m. Inventory Management Data
- n. Technical Document Management
- o. Performance Management

6.6 EIE CE Generic Requirements

This section defines the generic requirements of the EIE Collaborative Environment for Royal Canadian Navy Electronic Information Environment.

6.6.1 Support to PMO, MEPM CPM and DMMS FDM

The CE must provide access to the personnel in Navy Project Management Offices, Director General Equipment program management – Class Program Management and Director Maritime Management Systems – Fleet Data Management, and all others organizations supporting a Navy fleet that uses EIE.

6.6.1.1 INTEGRATED DISPLAY

The CE must provide access to all the contractor hosted services using a single point of access for single log-in.

6.6.1.2 WEB-Browser Based Access

The CE must provide users with access to the CE features, tools, and data, through the use of Canada's military standard internet browser application, or Contractor-proposed and Canada-approved alternative(s).

6.6.1.3 User-Computer Interface

The CE must comply with user-computer interface standards established in MIL-STD-1472G, paragraph 5.14 or Contractor-proposed and Canada-approved alternatives.

6.6.1.4 Access Control

The CE must authenticate users to control access and comply with DND Operational Security Standard for Information Systems A-SJ-100-002/AS-001, Chapter 3, Section 2, Security Controls regarding access and audit functions. Access Control must be by a single log-in password.

6.6.1.5 Guidance on Use of the EIE CE

The CE must provide access to on-line help and/or a demonstration that guides the user through the use of the EIE CE.

6.6.1.6 Printing Capability

The CE must allow a user to print or plot EIE data and content in standard size, formats and color.

6.6.1.7 User Accounts

The Contractor hosted services of the CE must be accessed through Contractor provided and maintained user accounts management services.

6.6.1.8 CE Access

The CE must be accessible to authorized users from the Defence Wide Area Network (DWAN) with network security and data integrity.

The Contractor's EIE CE must be able to operate on the DWAN allowing DND users to have access to all files and information available on the EIE CE.

The Contractor EIE CE must be able to operate on DWAN allowing DND users to have access and use the full functionalities of Contractor applications as required by DND to manage the acquisition and ISS.

The Contractor shall be responsible to ensure proper measures are in place to restrict access to authorized users only including any Subcontractor users. DND will be responsible to ensure measures are in place to restrict access to authorized DND designated users only. The Contractor shall provide all required users of the CE with Login ID and passwords and maintain a log of all registered users.

The Contractor shall make the CE available and accessible in read only, through the Internet Browsers of all identified DND users. These DND users will reside on the DND Defence Wide Area Network (DWAN) and access the CE by using specifically assigned credentials and upon successful login, be able to view authorized information.

The Contractor shall provide Edit access to the CE to DND designated users. The Edit capability shall require users to log onto the CE using specifically assigned credentials and upon successful login, enable Edit privileges.

The Contractor shall provide DND designated users with the capability to conduct the following activities through the CE, using Canada's standard office workstations and automation toolset (i.e. Microsoft Office, Microsoft Project):

- a. view documents;
- b. print documents;
- c. download files (Contractor to DND);
- d. make electronic annotations (DND Environment);
- e. make upload of files (DND to Contractor);
- f. access and display the ship related drawings; and
- g. video conferencing.

6.6.1.9 Delivery Format

The Contractor must use Microsoft Office version for all Microsoft Office documents posted on the CE.

The Contractor must ensure that Canada has the ability to view, edit, download, and save Contractor provided documents on the CE.

If Canada does not have the software required to access Contractor information, the Contractor must provide the software to Canada in a number of copies established by Canada.

The CE must provide access from DWAN workstation to deliverable review and acceptance functionalities for document management application hosted on the Contractor's network:

- a. DND stakeholders are required to view, edit, exchange documents and share comments from for documents on the Contractor's document management application;

- b. Perform document management functions for version tracking, check-in/out, workflow, routing, and publishing; and
- c. PMO and EPM ISS staffs require the ability to modify the document routing to enable collaboration with other DND organizations and to share weapon system information.

6.6.1.10 Data Sensitivity

The Collaborative Environment shall be utilized in the transfer of Unclassified and Protected A information only between DND's DWAN and In-Service Support Contractor's Corporate Network. Any information classified beyond Unclassified and/or Protected A shall be delivered through the appropriate means.

The Collaborative Environment shall also be utilized in the transfer of Controlled Goods identified under the Schedule to the Defence Production Act (DPA) Export Control List (ECL) Category 2, Article 5504 or Category 6. Access to Controlled Goods shall be in accordance with the Canadian Controlled Goods Regulations and any applicable foreign regulatory regimes.

6.6.1.11 Data Currency, History and Audit Trail

The CE must provide access to the latest available technical data.

The CE must maintain, track and administer a complete history and audit trail of data in order to maintain data integrity.

The Contractor shall ensure the CE includes the capability to display version history and provide access to all versions, based upon selection of available parameters by the user, to support Canada in the management and administration of contractual deliverables and activities.

The Contractor shall ensure the CE allows users to search for key attributes of documents available on the CE including at a minimum, title, key word, date, author, and subject.

6.6.1.12 Auto Generated Notice

The Contractor CE must have an auto generated notice feature notifying Canada when a document is placed on the CE.

The Contractor shall ensure the CE provides notification to relevant users upon the login, for the availability of new data or reports, on the CE.

6.6.1.13 Secure Data File Exchange

The EIE CE must provide the capability for secured data file exchange to be transferred bi-directionally between DND and the contractor networks from DWAN workstations. Samples of the information required to be exchanged between DND and the Contractor:

- a. data load files for import into DRMIS or other DND applications;
- b. electronic technical publications;

- c. updates to Electronic technical publications;
- d. Logistics Support Analysis Records (LSAR) data to feed the Maintenance Management System;
- e. LSAR updates (equipment structure, allowed configuration, tech drawings, material ID, hazmat data, bill of material (including tools & test equipment) to feed the Maintenance Management System;
- f. engineering design changes;
- g. courseware;
- h. updates to courseware;
- i. documents (project and contract related); and
- j. others.

6.6.1.14 Virtual Meeting Functionality

The Collaborative Environment must provide the ability to perform virtual meetings (web meeting) between the MEPM CPM, DMMS FDM and ISSC.

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7 EIE Organizational Overview

7.1 Stakeholders

7.1.1 Major Crown Projects (MCP)

MCPs are responsible to identify EIE requirements for their individual projects with the support of the PMSO and forward those requirements to the DMSPR EIE Requirements Manager.

7.1.2 Project Management Support Office (PMSO)

The PMSO provides project management and engineering support to the MCPs related to EIE within Director General Major Project Delivery (DGMPD). The PMSO also consolidates MCPs' EIE requirements and forwards those requirements to DMSPR.

7.1.3 Directorate of Materiel Systems Plans and Requirements (DMSPR)

The DMSPR EIE Requirements Manager receives EIE requirements from PMSO and then works with ADM(IM) DDRMIS to develop the EIE solution. The EIE Requirements Manager ensures that the requirements are harmonized across multiple projects and standardizes the EIE requirements.

7.1.4 ADM(IM) DDRMIS

ADM(IM) DDRMIS is responsible to provide Subject Matter Experts to DGMPD as required to support EIE requirements development and to be the service provider and support organization for the DND elements of the EIE.

7.2 Users

There are a variety of different classes of users that are anticipated to have interactions with the Contractor and DND-provided elements of the EIE. The users are expected to require access from a variety of locations and for different purposes, as described below but not limited to the capabilities enumerated. System security will be ensured by the specification and enforcement of appropriate user types and privileges.

7.2.1 Fleet Data Management Team (FDMT)

The RCN FDMT operates within DGMEPM and provides general support to the equipment/system Life Cycle Materiel Managers (LCMMs) and to the Navy CPMs. A large portion of that support relates to the setting up and upkeep of DRMIS master data, ensuring:

- (i) Navy maintenance policies & processes are respected,

- (ii) DRMIS data is standardised across all Navy fleets, legacy and new, and
- (iii) DRMIS data is usable by the Navy users.

The Navy FDMT functions include:

- (i) Develop DRMIS data load files for Initial Data Load (IDL) and bulk update based on DRMIS Data Load Programs' requirements;
- (ii) Create and maintain master data in DRMIS, including
 - a. Master Equipment Record (MER)
 - b. FLOC,
 - c. EMR,
 - d. Material Master Record (MMR),
 - e. Master Parts List (MPL),
 - f. Preventive Maintenance Plans,
 - g. Bills of Material (BOMs), and
 - h. Task Lists.
- (iii) Manage DRMIS configuration profiles;
- (iv) Identify structure gaps and work with LCMMS to maintain structure;
- (v) Support equipment transfer;
- (vi) Identify and work with Material Planning Objects and Provision Packages;
- (vii) Create and maintain Engineering Change Numbers (ECNs); and
- (viii) Research, integrate and support new maintenance solutions into DRMIS to support Navy requirements.

7.2.2 Class Program Manager and Project Management Office Staff

DGMEPM CPM and PMO staffs are responsible for Program Management. They are the Design Authority and are involved in the administration and management of the Contracts. During the acquisition phase of the Platform life cycle, the activities related to reviewing, commenting on and approving the deliverables will represent the majority of this contract management work. DND will have limited engineering support staff employed at the PMO, and subsequently at the CPM. Engineering support personnel are dependent on the analytical and reporting features within the EIE, and will require data aggregated to various levels, depending on their role and responsibility. The engineering support personnel will have the ability to do such things as initiate, receive, validate, implement and provide feedback on configuration changes, view and redline engineering drawings and annotate/mark-up technical documentation in support of the engineering change process.

7.2.3 Maintenance Personnel

DND maintenance personnel are those individuals who will perform maintenance tasks. The technicians will access the Interactive Electronic Technical Manual (IETMs) and record maintenance actions in DRMIS. The maintenance managers are those individuals who coordinate, plan, assign and supervise maintenance activities. Personnel such as the 1st/2nd line maintenance supervisors execute these activities. The EIE/DRMIS will provide maintenance managers with the capability to assign priorities (for equipment/tasks), authorize maintenance tasks on equipment/tasks, update and view personnel training and authorization records and other related tasks.

7.2.4 Maintenance Training Staff and Students

Maintenance training staff is involved in the development, planning, scheduling and delivery of maintenance training. Training Staff will be able to develop, review, comment on and approve coursework content.

Trainees are students who are undergoing formal training. Trainees will be able to access the features and data of the EIE/DRMIS for maintenance training, without the ability to modify actual platform system of record data.

7.2.5 Supply & Traffic Technicians

The Contractor will be accountable and responsible for most of the functions associated with materiel support. Contractors and CF personnel will have responsibilities involving the management and control of inventories and the distribution of the components in support of maintenance tasks.

7.2.6 Contractor Management Office (CMO)

As the key Contractor focal point for ISS management activities, the CMO will act as a single point of contact for ISS program management, in-service maintenance support, engineering support and materiel support functions. The CMO will be responsive to the CPM and will be empowered by the Contractor to manage the work necessary to meet ISS needs for the Platform. The CMO will perform continuing certification functions for the Platform and will be required to achieve and maintain accreditations by the Technical Authority (TA).

7.2.7 Contractor Field Office (CFO)

The CFO will focus on management and delivery of services and resources to provide effective ISS at the field unit level. CFO personnel will provide maintenance, engineering, training, and materiel support.

ANNEX A: Glossary

Acronym	Definition
ADM(IM)	Assistant Deputy Minister (Information Management)
ADM(Mat)	Assistant Deputy Minister (Materiel)
AJISS	AOPS JSS In Service Support
AOPS	Arctic / Offshore Patrol Ship
API	Application Programming Interface
BO	Business Objective
BOM	Bill of Material
C&A	Certification & Accreditation
CA	Canadian Army
CAD	Computer Aided Design
CBM	Condition-Based Maintenance
CE	Collaboration Environment
CE-CAAD	Collaboration Environment -Contractor Application Access by DND
CE-D	Collaboration Environment -Contractor Access to DND Hosted Applications
CF	Canadian Forces
CFDS	Canada First Defence Strategy
CFO	Contractor Field Office
CM	Configuration Management
CMO	Contractor Management Office
CMS	Configuration Management System
ConOps	Concept of Operations
COS ADM(IM)	Chief Of Staff ADM(IM)
CPM	Class Program Manager
CPP	Composite Performance Payment
CDRL	Contract Data Requirement List
CSC	Canadian Surface Combatant

Appendix M – Navy Electronic Information Environment Concept of Operations

Acronym	Definition
DDRMIS	Director Defence Resource Management Information System
DGMEPM	Director General Maritime Equipment Program Management
DGMPD	Director General Major Project Delivery
DGMPD(L&S)	Director General Major Project Delivery (Land & Sea)
DGMSSC	Director General Materiel Systems and Supply Chain
DMFM	Director Maritime Fleet Management (now DNSM Director Naval Strategic Management)
DMSPR	Director Materiel Systems Plans and Requirements
DND	Department of National Defence
DR	Defence Renewal
DRMIS	Defence Resource Management Information System
DVPNI	Defence Virtual Private Network Infrastructure
DWAN	Defence Wide Area Network
ECN	Engineering Change Numbers
EDE	Electronic Data Exchange
EDE-FA	EDE – Full Automation of transactions from/to DRMIS
EDE-PA	EDE – Partial Automation information file exchange
EDTS	Engineering Document Tracking System
EHM	Equipment Health Monitoring
EIE	Electronic Information Environment
EMR	Equipment Master Record
EMSEC	Emission Security
EMT	Equipment Management Team (?? FDMT in this context ??)
ERP	Enterprise Resource Planning
EST	Eastern Standard Time
FDMT	Fleet Data Management Team
FISS	Future In-Service Support
FLOC	Functional Location
FMF	Fleet Maintenance Facility

Appendix M – Navy Electronic Information Environment Concept of Operations

Acronym	Definition
GOCO	Government Owned/Contractor Operated
HLMR	High Level Mandatory Requirement
HR	Human Resource(s)
ID	Identification
IDL	Initial Data Load
IETM	Interactive Electronic Technical Manual
IMD	Inventory Management Data
IPD	Initial Provisioning Data
ISS	In-Service Support
ISSC	In-Service Support Contract
ISSCF	In-Service Support Contract Framework
ITSEC	Information Ichnology Security
IT	Information Technology
IT&E	Integrated Test & Evaluation ???
JSS	Joint Support Ship
KPI	Key Performance Indicator
LCMM	Life Cycle Materiel Managers
LSA	Logistic Support Analysis
LSAR	Logistic Support Analysis Records
LSAS	Logistic Support Analysis System
MA&S	Materiel, Acquisition and Support
MCP	Major Capital Project / Major Crown Project
MEPM	Maritime Equipment Program Management
MER	Master Equipment Record
MIS	Maintenance Information System
MMR	Material Master Record
MoD	Ministry of Defence (United Kingdom)
MPL	Master Parts List
N4NEMS	N4 Navel Engineering Maintenance System (??)

Appendix M – Navy Electronic Information Environment Concept of Operations

Acronym	Definition
NaMMS	Navel Materiel Management System
NaMMS MB	NaMMS Management Board
NSPS	National Shipbuilding Procurement Strategy
OCCAP	Oil and Coolant Condition Analysis Program
PfMS	Performance Management System
PIF	Pre-Installation Failure
PMCS	Project Management Control System
PMO	Project Management Office
PMSO	Project Management Support Office
PR	Problem Report
PWGSC	Public Works & Government Services Canada
PWS	Performance Work Statement
RCAF	Royal Canadian Air Force
RCN	Royal Canadian Navy
RIMS	Risk and Issue Management System
RMS	Requirements Management System
S&TE	Support and Test Equipment
SA&A	Security Assessment and Authorization
SHI	System Health Indicator
SAP	Systems, Applications, Products
SAP ECC	SAP ERP Central Component
SME	Subject Matter Expert
SPM	Strategic Performance Measure
SSBN	Ship, Submersible, Ballistic, Nuclear (submarine)
SSC	Shared Services Canada
SSN	Ship, Submersible, Nuclear (submarine)
TA	Technical Authority
TAPV	Tactical Armoured Patrol Vehicle
TPMS	Technical Problem Management System

Appendix M – Navy Electronic Information Environment Concept of Operations

Acronym	Definition
UK	United Kingdom
WBS	Work Breakdown Structure
WDDMS	Workflow and Decision Data Management System
WG	Working Group

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ANNEX B: Navy EIE Interface Control Documents (ICDs)

Business Process Specifications

- Annex L - Navy Maintenance Process Model
- Annex M - Navy Supply Process Model
- Annex N - Navy Technical Problem Management Process Model
- Annex O - Navy Configuration Management Process Model
- Annex P - Navy CMMS Data Initialization

Business Use Cases

Navy Maintenance BUC's

- BUC 4.21 Navy Maintenance Notification
- BUC 4.22 Navy Maintenance Work Order
- BUC 4.23 Navy Maintenance EMR Install Uninstall
- BUC 4.24 Navy Maintenance Measurement Documents
- BUC 4.25 Navy Maintenance Service Request
- BUC 4.26 Navy Maintenance Notification ISSC
- BUC 4.27 Navy Maintenance Work Order ISSC
- BUC 4.28 Navy Maintenance EMR Install Uninstall ISSC
- BUC 4.29 Navy Maintenance Measurement Document ISSC

Navy Supply BUC's

- BUC 3.41 Navy Part Demand
- BUC 3.42 Navy Part Demand Response
- BUC 3.43 Navy Part Issue
- BUC 3.44 Navy Part Receipt
- BUC 3.46 Navy Part Return Receipt v2
- BUC 3.47 Navy PackUp Kit Issue
- BUC 3.48 Navy Inventory Replenishment
- BUC 3.49 Navy Usage Report

BUC 3.50 Navy Inventory Report

BUC 3.51 Navy Part Request Report

BUC 3.52 Navy Supply EMR

Navy Technical Problem Management

BUC 5.21 Navy - Exchange Technical Problem Data

Navy Configuration Management BUC's

BUC 7.1 Navy Eng Change Notification

BUC 7.2 Navy Eng Change Work Order

BUC 7.3 Navy Eng Change Notification ISSC

Navy CMMS Data BUC's

BUC 2.1 Master Data Outbound

BUC 2.2 Master Data Inbound

BUC 2.3 EMR ID Change

Operational Models

Industry Maintenance Operational Model

Maintenance History Operational Model

Master Data Engineering Change Operational Model

Master Data To ISSC Operating Model Industry

Materiel Management Service Operational Model

Service Specifications

Navy Maintenance Service Spec's

Navy Process EMR Specification

Navy Process Industry Notification Specification-External

Navy Process Industry Work Order Specification-External

Navy Process Maintenance Measurement Records-External

Navy Process Maintenance Notification Specification-External

Navy Process Maintenance Work Order Specification-External

Navy Service Request Service Specification-External

Navy Supply Service Spec's

Navy Inventory Replenishment Service Specification - External
Navy Inventory Report Service Specification - External
Navy Pack-Up Kit Issue Service Specification - External
Navy Part Demand Response Service Specification
Navy Part Demand Service Specification - External
Navy Part Issue Service Specification - External
Navy Part Receipt Service Specification - External
Navy Part Request Report Service Specification - External
Navy Part Return Receipt Service Specification - External
Navy Part Return Service Specification - External
Navy Usage Report Service Specification - External

Navy Technical Problem Management Service Spec's

Technical Problem Management Specification-External

Navy CMMS Data Initialization & Configuration Management Service Spec's

Navy Bill Of Materiel Specification-External
Navy Equipment Master Record Specification-External
Navy Form Fit Function Class Specification-External
Navy Functional Location Specification-External
Navy Industry Bill Of Materiel Specification
Navy Industry Change EMR Specification
Navy Industry Equipment Master Record Specification
Navy Industry Form Fit Function Class Specification
Navy Industry Functional Location Specification
Navy Industry Maintenance Plan Specification
Navy Industry Maintenance Task List Specification
Navy Industry Master Parts List Specification
Navy Industry Materiel Master Record Specification

Navy Industry Measurement Document Specification
Navy Industry Measurement Point Specification
Navy Maintenance Plan Specification-External
Navy Maintenance Task List Specification-External
Navy Master Parts List Specification-External
Navy Materiel Master Record Specification-External
Navy Measurement Document Specification-External
Navy Measurement Point Specification-External

Navy Cross Domain Service Spec's

Data Package Specification-External
EDE-Operational Model-Landscape
Error Model
Navy Industry Data Package Specification
Navy Industry Unit Of Work Specification
Service Interaction Model
Unit Of Work Specification-External
Dead Message Specification-External

Reference Documents

DRMIS Data Guidelines for the Royal Canadian Navy Fleet

ANNEX C: EDE Business Requirements

Business Activity		DRMIS
General		The ISS Contractor's interface with the EDE shall comply with DND's Information Technology Security policy iaw DOAD 3003-0 and DAOD 6003-0.
		The EDE shall have a secondary mode of operation in the event of a failure of the primary mode.
		The ISS Contractor shall, when required, support regression testing of future DRMIS releases.
		The EDE shall provide an audit capability of all user performed actions, including the facilitation of a complete audit of all events.
		Any changes to the EDE design shall be fully documented with the appropriate information accessible on the CE.
Maintenance	Preventive Maintenance Planning	DRMIS shall initiate Preventive Maintenance notifications by deadline monitoring.
		Where applicable, EHM systems shall cause Preventive Maintenance notifications to be initiated in DRMIS.
		DRMIS work flow shall determine the maintenance organization that should conduct the work.
		For Preventive Maintenance that is to be conducted by the third line maintenance organization/ISS Contractor, DRMIS shall pass Preventive Maintenance notifications through the EDE.
		Preventive Maintenance notifications shall be passed through the EDE to be accepted or rejected by the third line maintenance organization/ISS Contractor.
		Preventive Maintenance notifications that are rejected by a maintenance organization shall be passed to the Originator through the EDE for resolution.
		Preventive Maintenance notifications that are accepted by a maintenance organization shall be linked to respective work orders in that organization's MIS.

Business Activity		DRMIS
Maintenance	Corrective Maintenance Planning	Corrective Maintenance notifications shall be created in DRMIS by a maintenance organization.
		For Corrective Maintenance that is to be conducted by the third line maintenance organization/ISS Contractor, DRMIS shall pass the Corrective Maintenance notification through the EDE.
		Corrective Maintenance notifications shall be passed through the EDE to be accepted or rejected by the third line maintenance organization/ISS Contractor.
		Corrective Maintenance notifications that are rejected by a maintenance organization shall be passed to the Originator through the EDE for resolution.
		Corrective Maintenance notifications that are accepted by a maintenance organization shall initiate work orders in the organization's MIS which are linked to respective notification.
Maintenance	Execute Maintenance	The maintenance organization that is designated to conduct Preventive or Corrective Maintenance shall conduct any associated trials.
		If the maintenance requires an EMR transfer, the maintenance organization shall follow an agreed upon equipment transfer process. This process may vary depending on whether the equipment has a DND or ISS Contractor source of supply.
		The maintenance organization that conducted the work shall return all materiel iaw the Part return & receipt process.
		Work orders that are not approved for completion are passed to the Originator for resolution.
		The status of all maintenance shall reside in DRMIS through DRMIS notifications.
		Third line maintenance organization/ISS Contractor work orders and associated hours shall be recorded in the ISS Contractor's MIS.
		First line maintenance organization work orders and

Business Activity		DRMIS
		associated material shall be recorded in DRMIS.
		The Integrated Master Schedule required to execute maintenance shall require the exchange of pertinent work order information to enable the development and execution of the schedule.
Supply Chain Management	Supply Part Demand & Fulfillment	All materiel required to complete a DRMIS work order shall be ordered in DRMIS.
		DRMIS work orders shall initiate the Supply Part Demand & Fulfillment process.
		A part demand for materiel that is supplied by the third line maintenance organisation shall be passed through the EDE.
		DRMIS shall initiate the ISS Contractor's supply chain via a purchase order through the EDE.
		All non-DND owned parts shall be acquired by the ISS Contractor.
		The ISS Contractor shall advise DND regarding any back order statuses through the EDE.
		The ISS Contractor shall advise DND regarding the delivery status of all parts demands.
		The ISS Contractor shall perform a pre-delivery inspection of all ordered parts.
Supply Chain Management	Supply Part Return & Receipt	All parts from the ship shall be transferred to the ISS Contractor at the handover point.
		DRMIS shall generate part return notifications with associated part maintenance history information through the EDE.
		The ISS Contractor shall submit parts return receipt notification through the EDE.
Manage Configuration		The EFT structure shall be maintained by the ISS Contractor.

Business Activity		DRMIS
		Any changes to the EFT structure, based on approved change requests and triggers, shall be forwarded through the EDE in order to make the appropriate changes in DRMIS.
		The Master Data to support the allowed/actual structure in DRMIS shall be maintained through the EDE. Structure updates to the ship De-Centralized DRMIS instances are updated from the Central DRMIS instance.
		The ISS Contractor shall manage the EFT structure within its MIS.
		Configuration Change Requests (CCRs) shall be raised in the ISS Contractor's MIS or in DRMIS.
		The ISS Contractor shall support, as required, all analysis on proposed change to configuration.
		The ISS Contractor shall use its own CMS to manage CCRs.
		The Class Program Manager (CPM) shall review all CCRs and provide an impact assessment.
		The ISS Contractor shall maintain current the actual and allowed structure in its MIS.
		DND shall be responsible to validate, verify and update all DRMIS configuration changes. Note that consideration should be given to automating this requirement.
		DND shall be responsible for final disposition of all CCRs.
		The CE shall be used to show the status of all CCRs.
Problem Report Management		PR notifications shall be generated in DRMIS or the ISS Contractor's problem reporting system.
		The PIF-type PR notification shall be a trigger for the Navy Supply Process.
		Other type PR notifications shall be a trigger for Navy Manage Configuration Process.

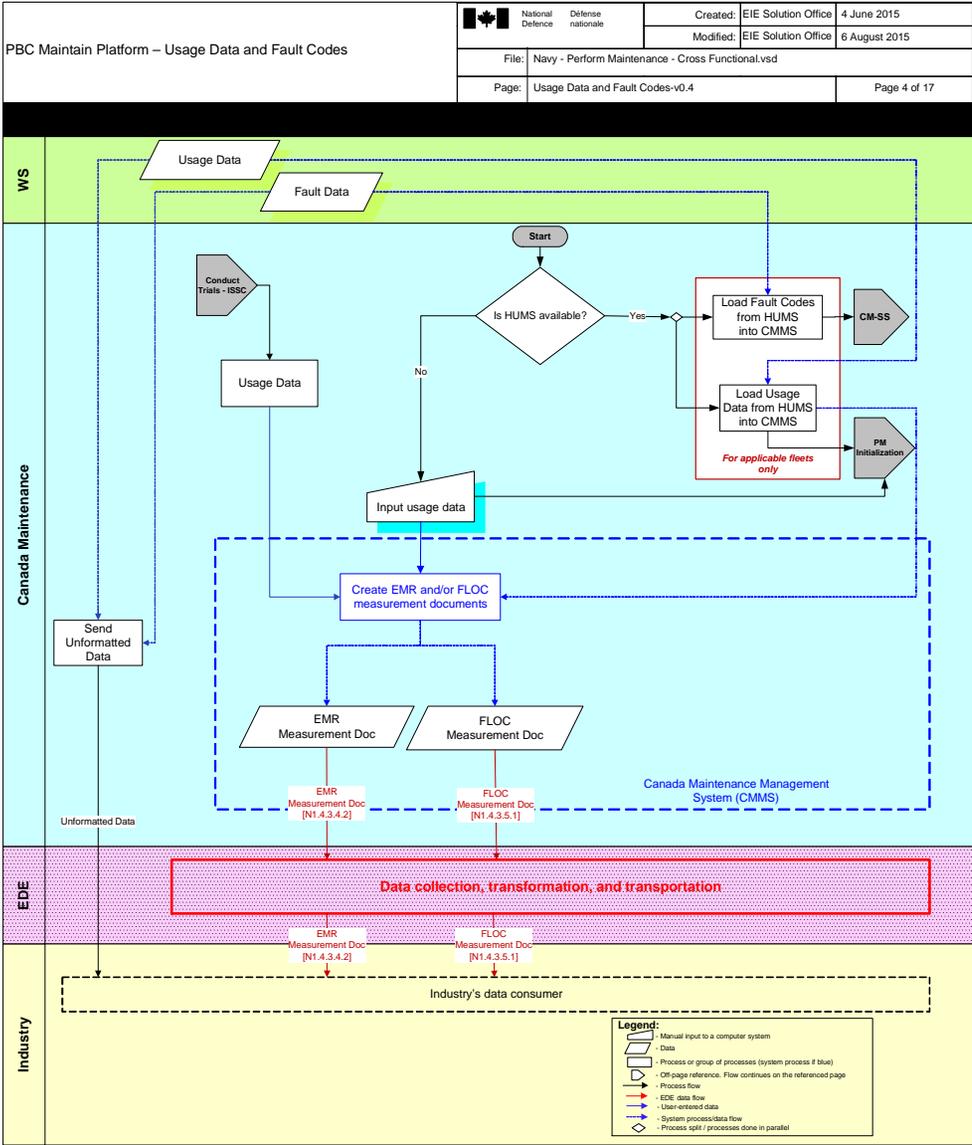
Business Activity		DRMIS
		DND shall triage all PR notifications for subsequent resolution.
		The ISS Contractor may use their own TPMS to manage PR notifications for which they are responsible.
		DND shall provide all Problem Report Management oversight.
		The CE shall be used to display the status of all Problem Reports.
		DND shall be responsible for final disposition of all Problem Reports.
		DND shall be responsible for approving proposed Problem Report resolutions.
		DND shall be responsible to raise the necessary notifications to resolve Problem Reports.

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ANNEX D: Maintenance Planning and Execution Processes

(Note: The process diagrams in the Maintenance Process Model are the authoritative source.)

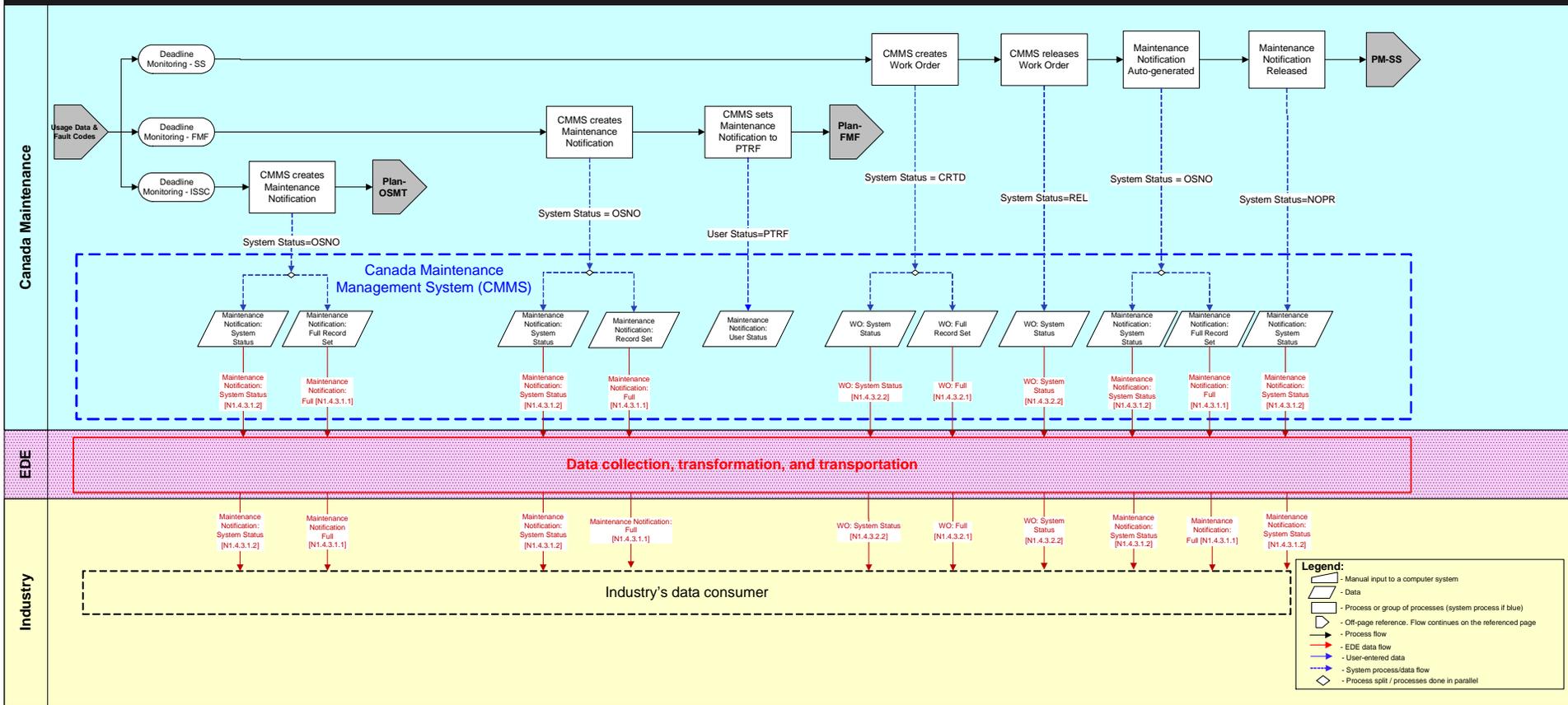
Record Platform Usage and Faults



Maintenance Initialization

PBC Maintain Platform – Preventive Maintenance – Initialization

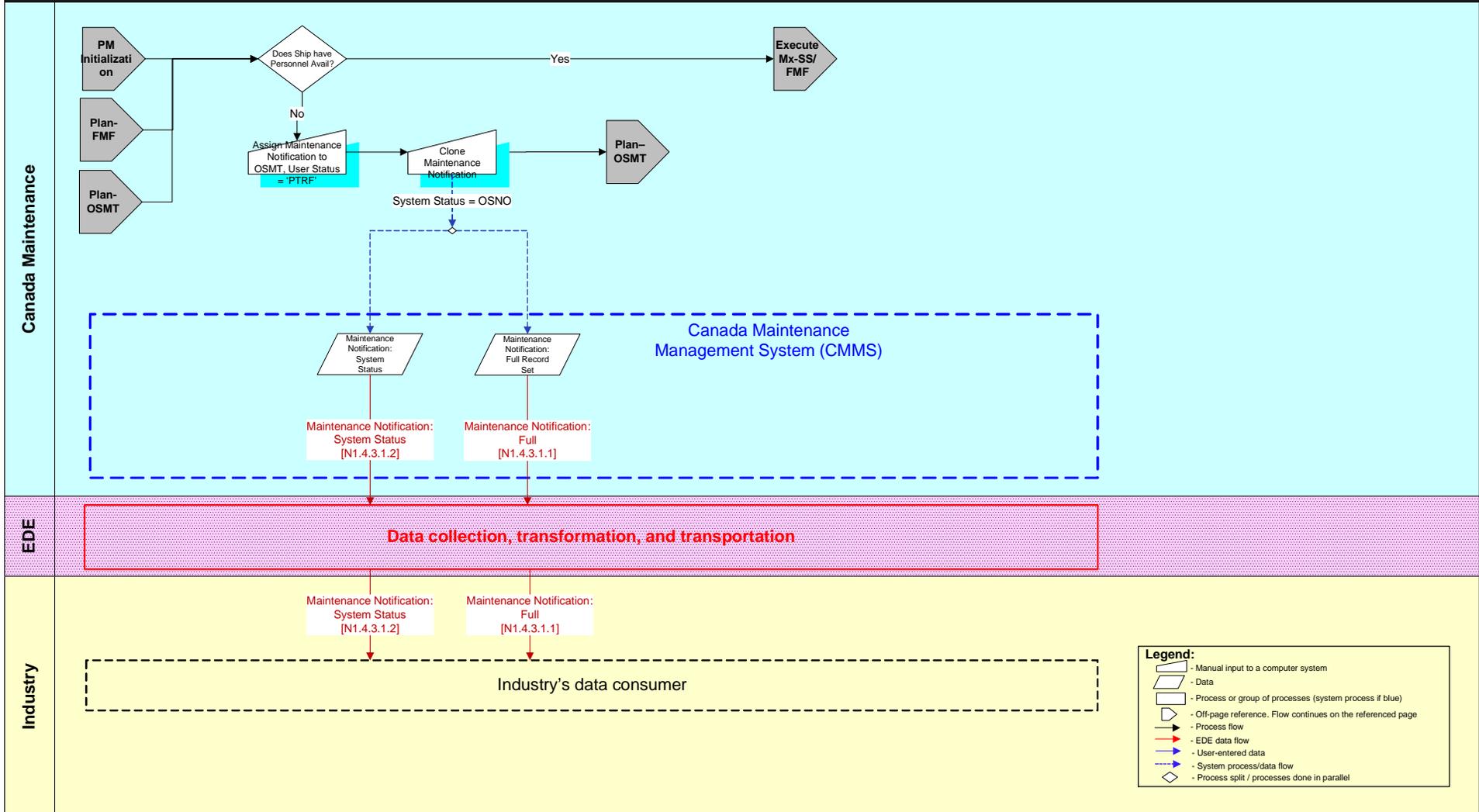
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Page:	PM Initialization-v0.1	Page 5 of 17



Maintenance Planning - Ship Staff

PBC Maintain Platform – Maintenance Planning – Ship Staff (SS)

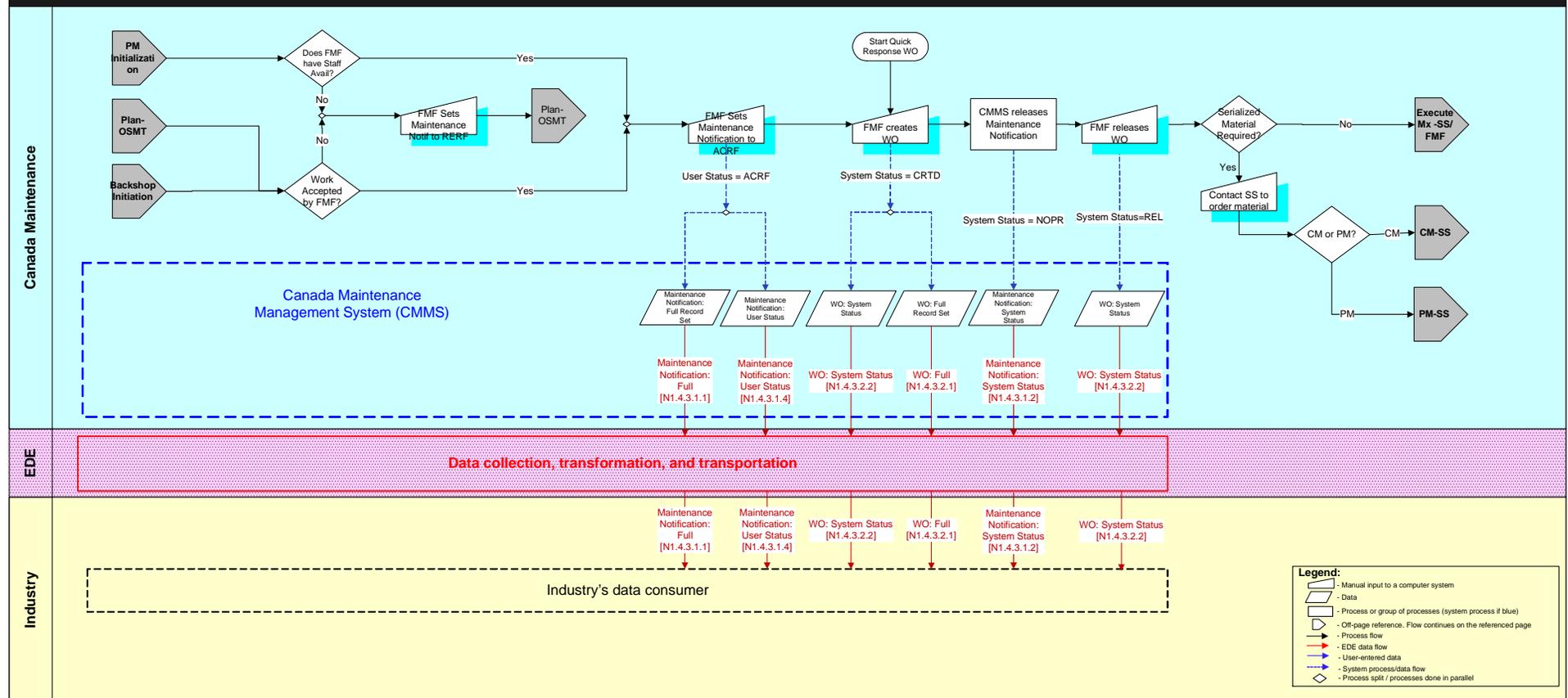
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Maintenance Planning - Fleet Maintenance Facility

PBC Maintain Platform – Maintenance Planning– Fleet Maintenance Facility (FMF)

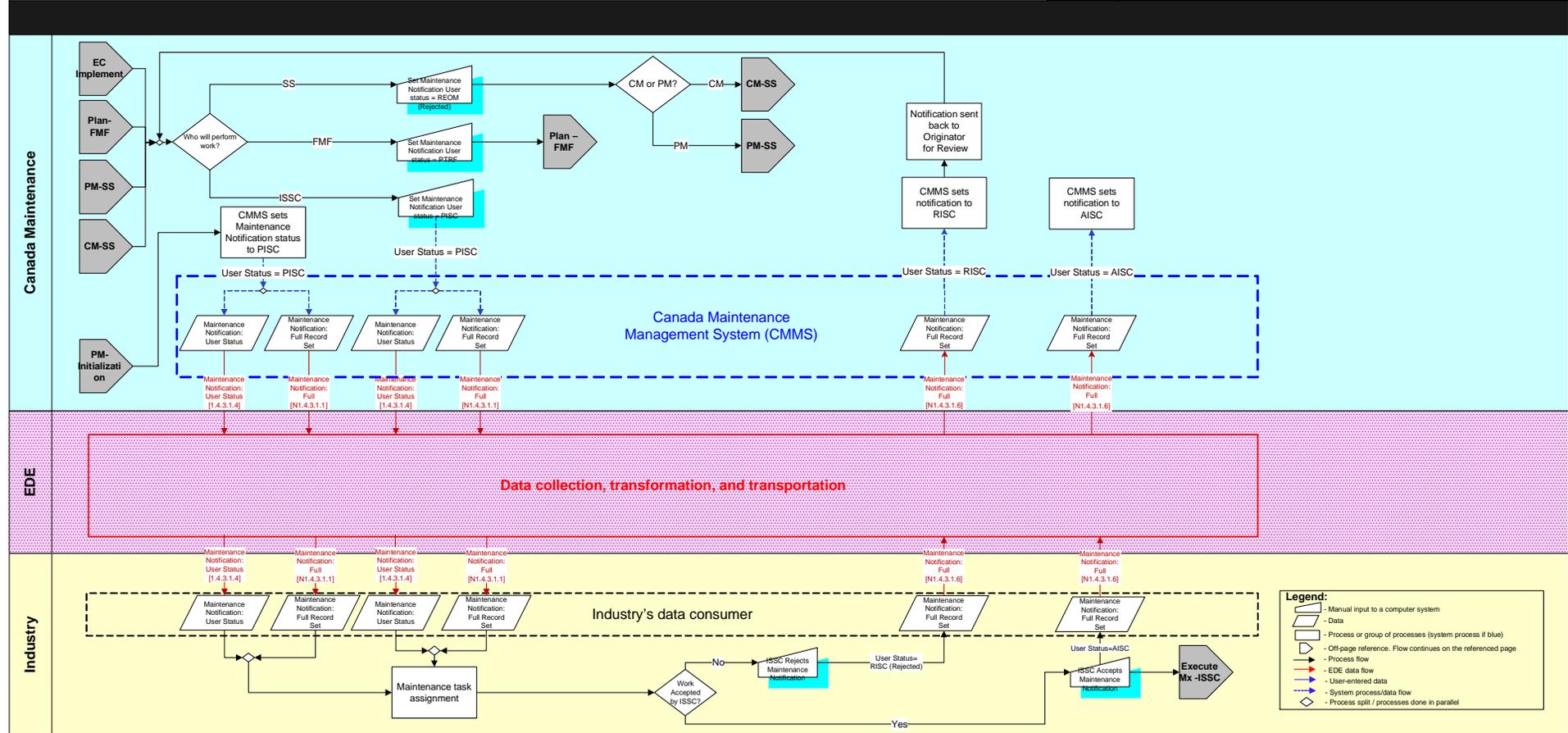
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Maintenance Planning - On-Site Management Team

PBC Maintain Platform – Maintenance Planning – On Site Management Team (OSMT)

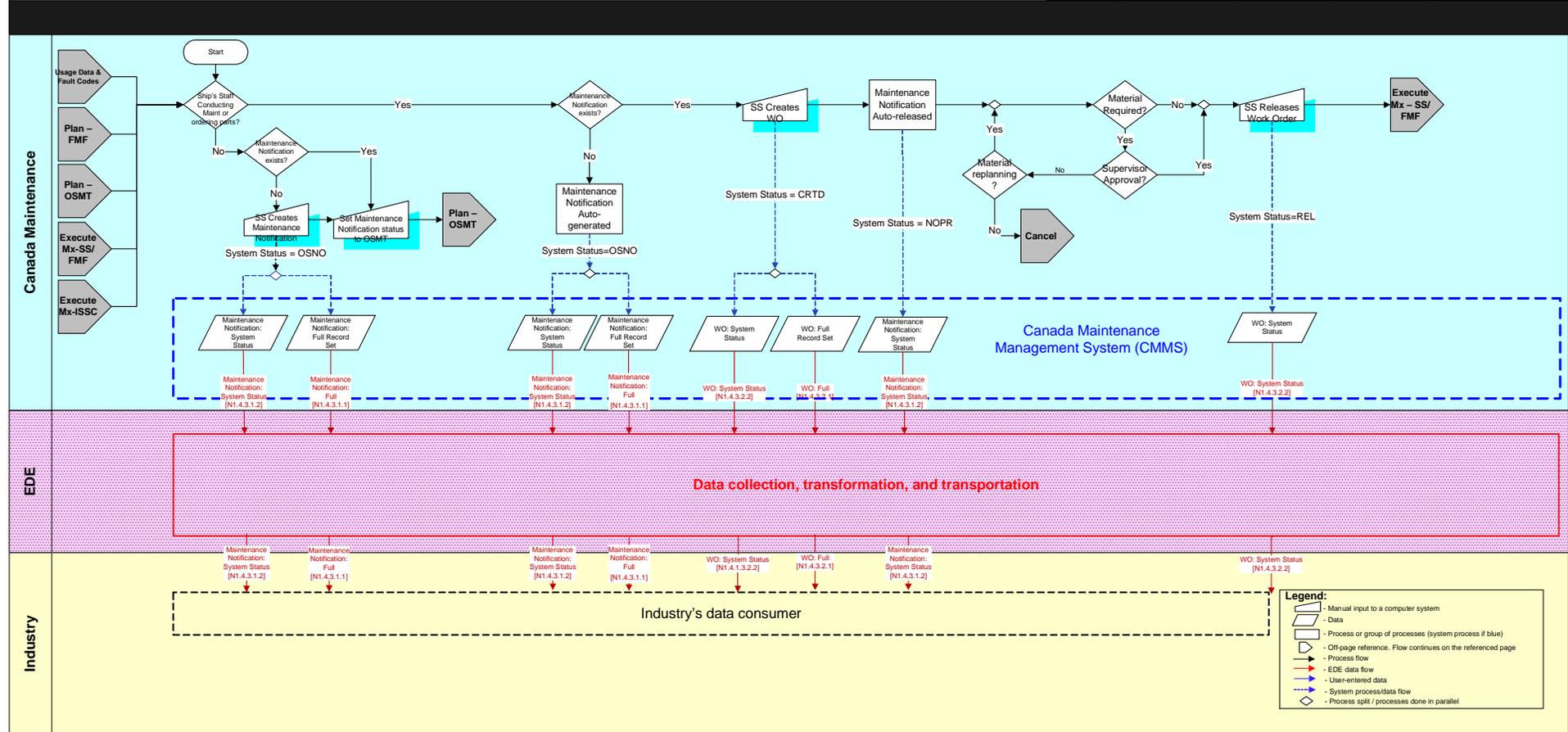
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Page:	Plan-OSMT-v0.5	Page 8 of 17



Corrective Maintenance Planning

PBC Maintain Platform – Corrective Maintenance – Planning

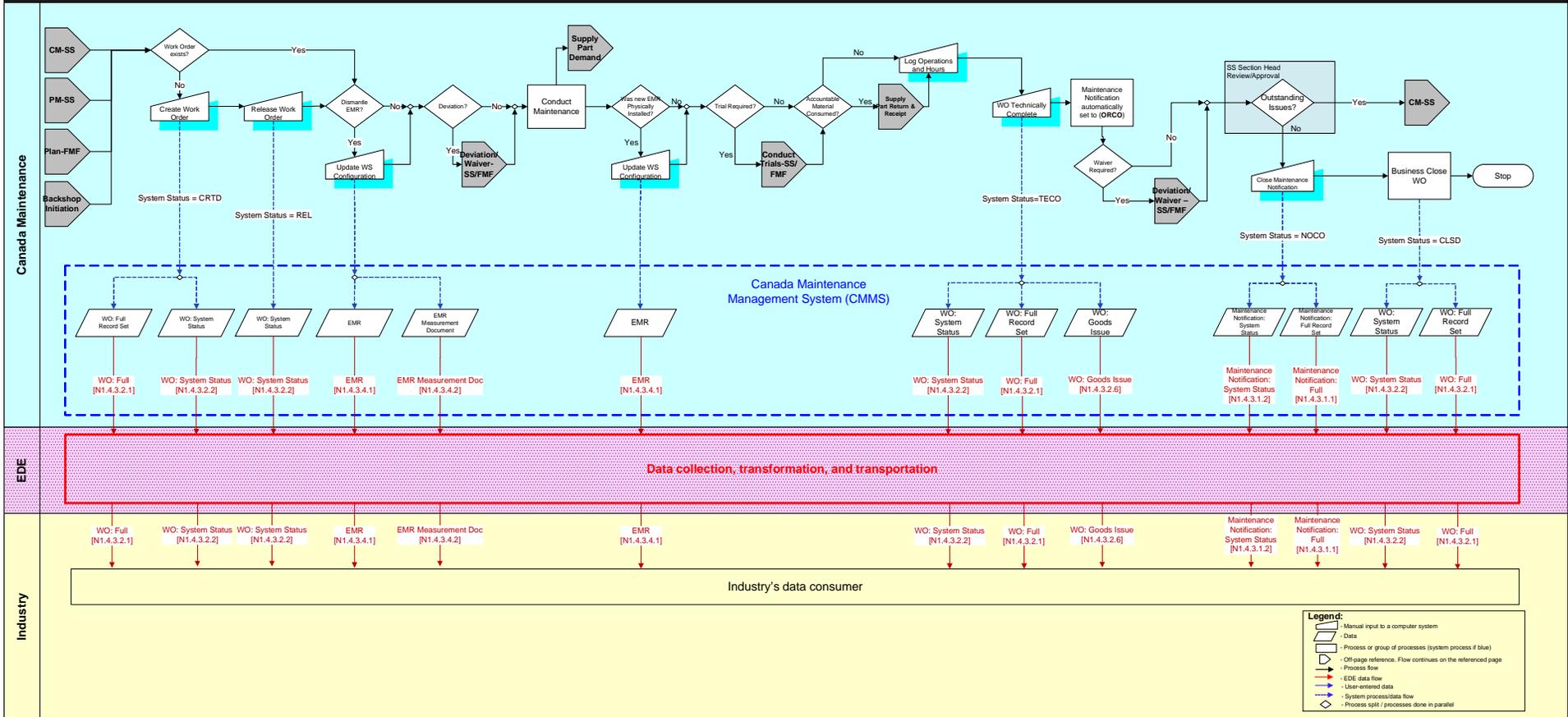
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Execute Maintenance - Navy

PBC Maintain Platform – Execute Maintenance – Ship Staff/FMF

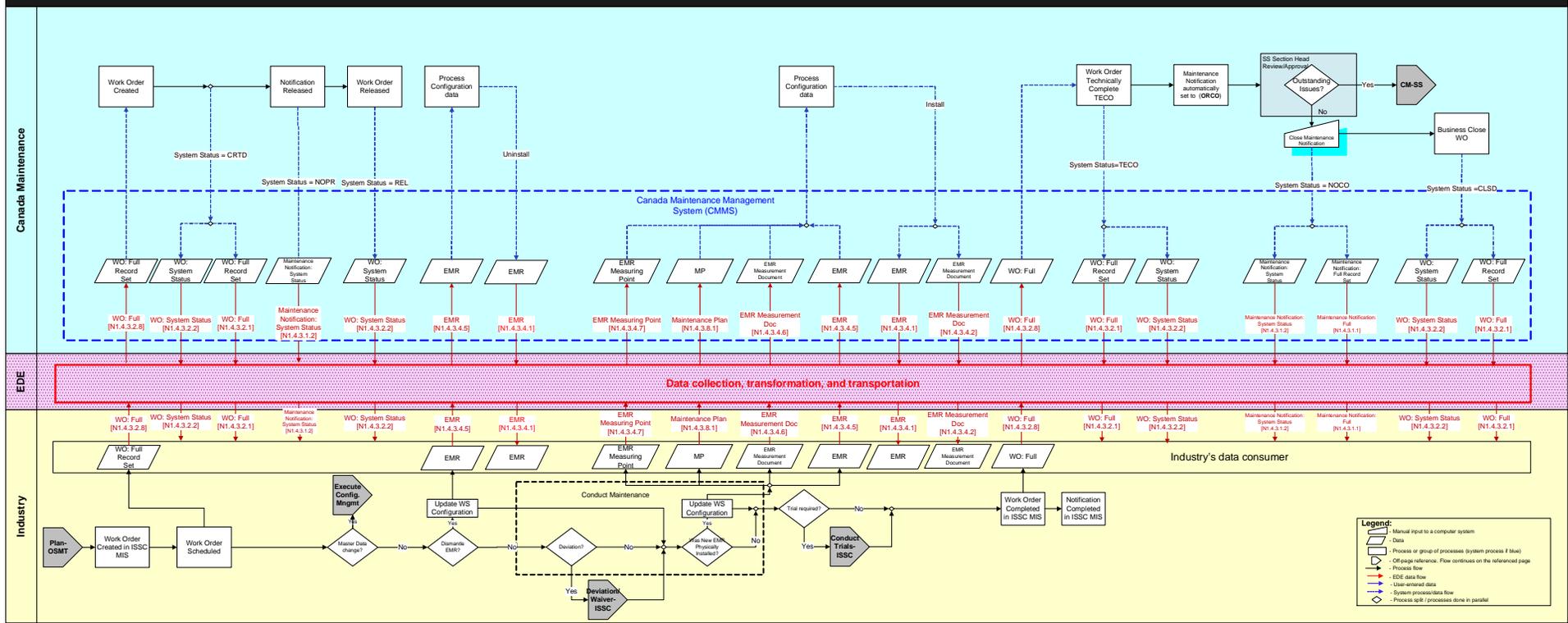
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Execute Maintenance - ISSC

PBC Maintain Platform – Execute Maintenance – ISS Contractor

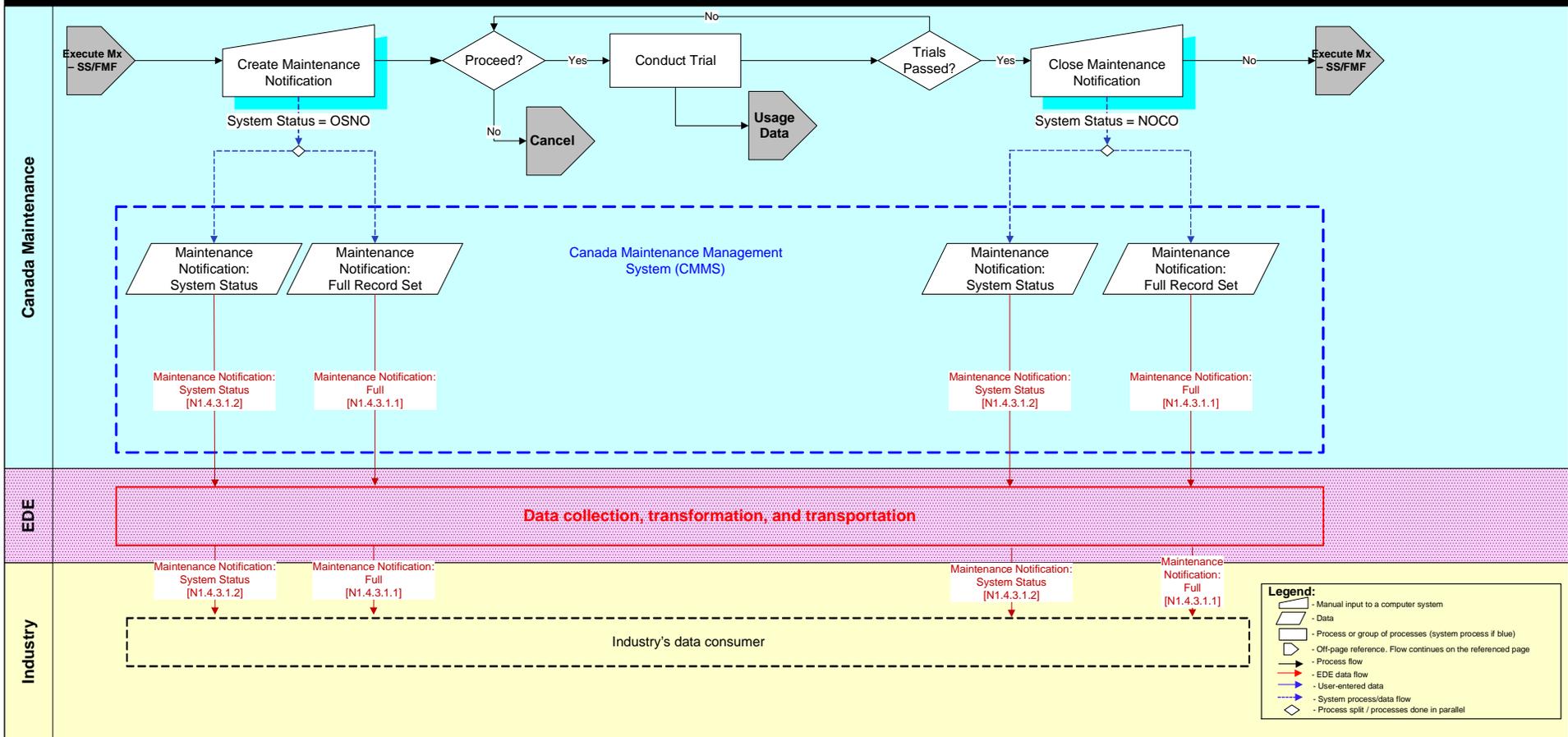
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Page:	Execute Maintenance - ISSC-v0.4	Page 11 of 17	



Conduct Trials - Navy

PBC Maintain Platform – Corrective or Preventive Maintenance –
Conduct Trials -Ship Staff/FMF

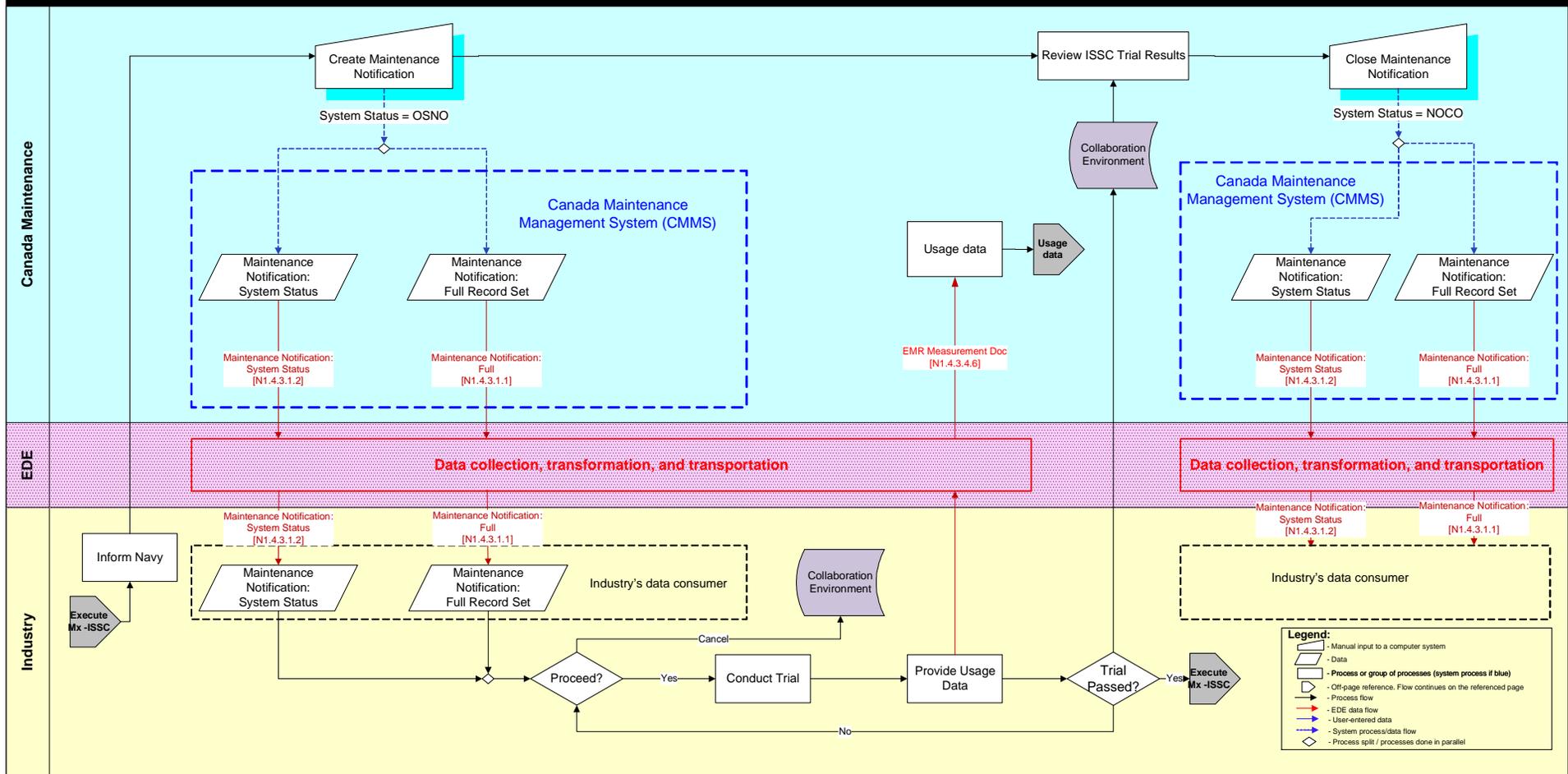
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Conduct Trials - ISSC

PBC Maintain Platform – Corrective or Preventive Maintenance –
Conduct Trials – ISS Contractor

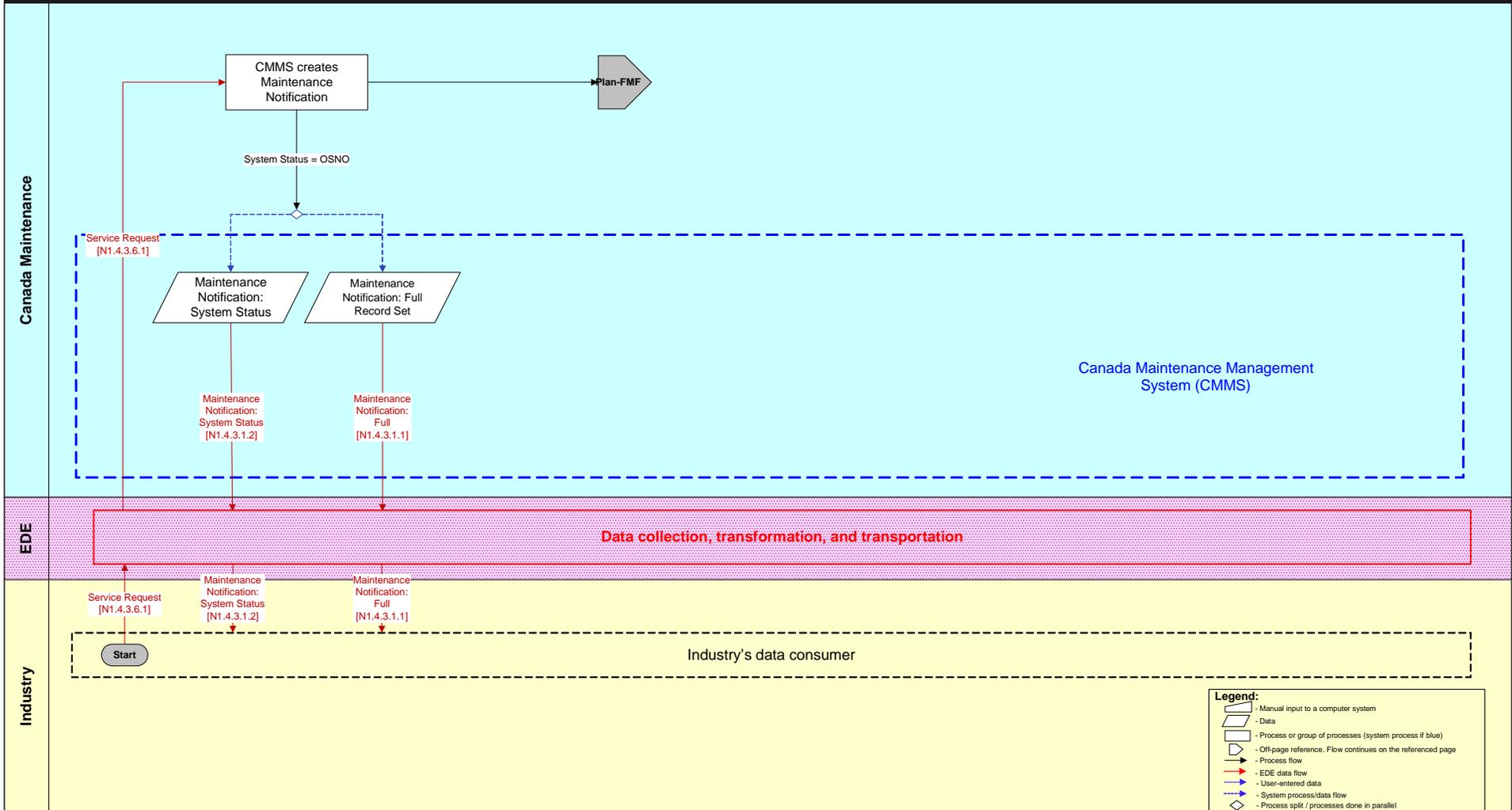
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Backshop Maintenance

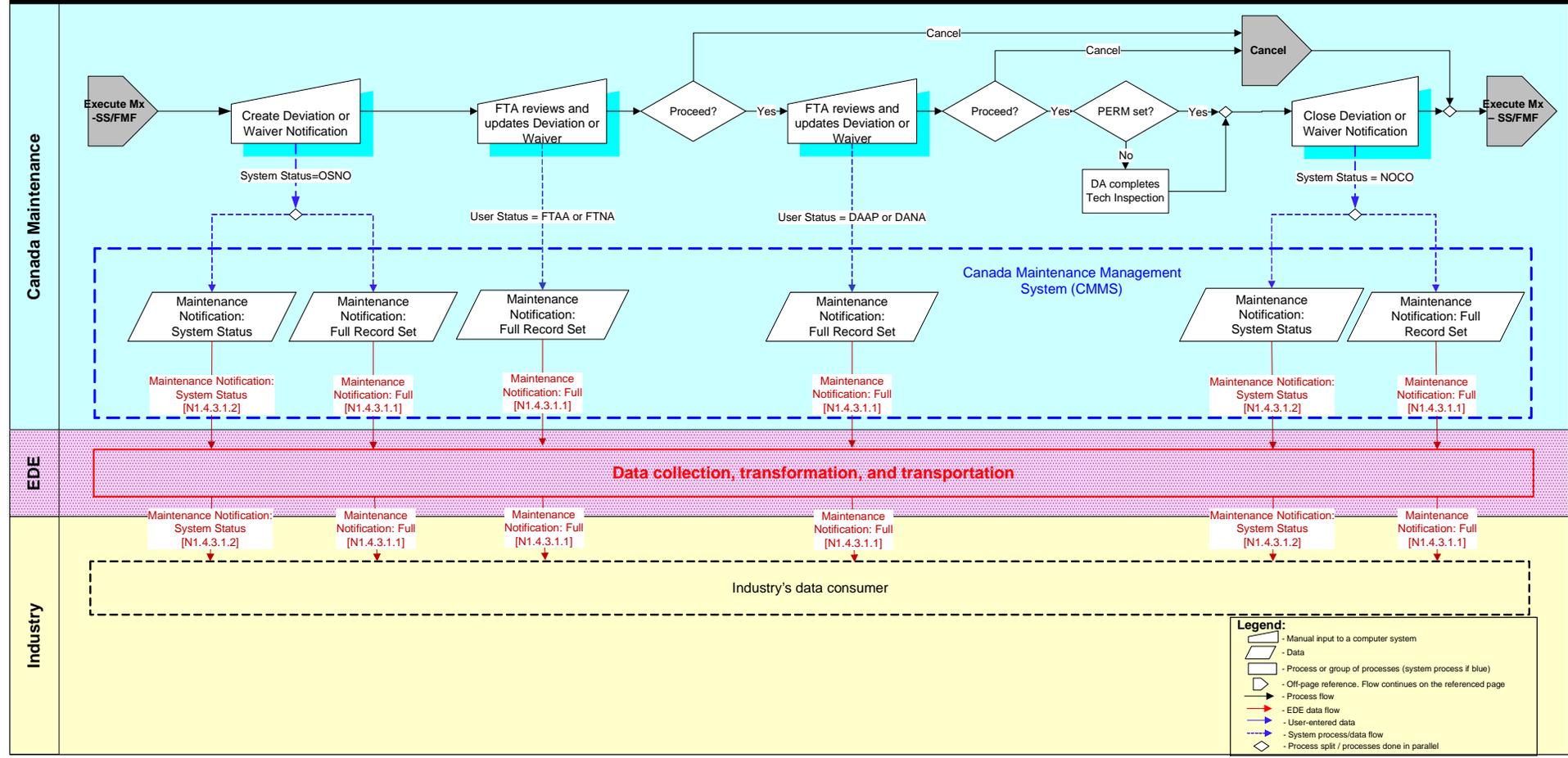
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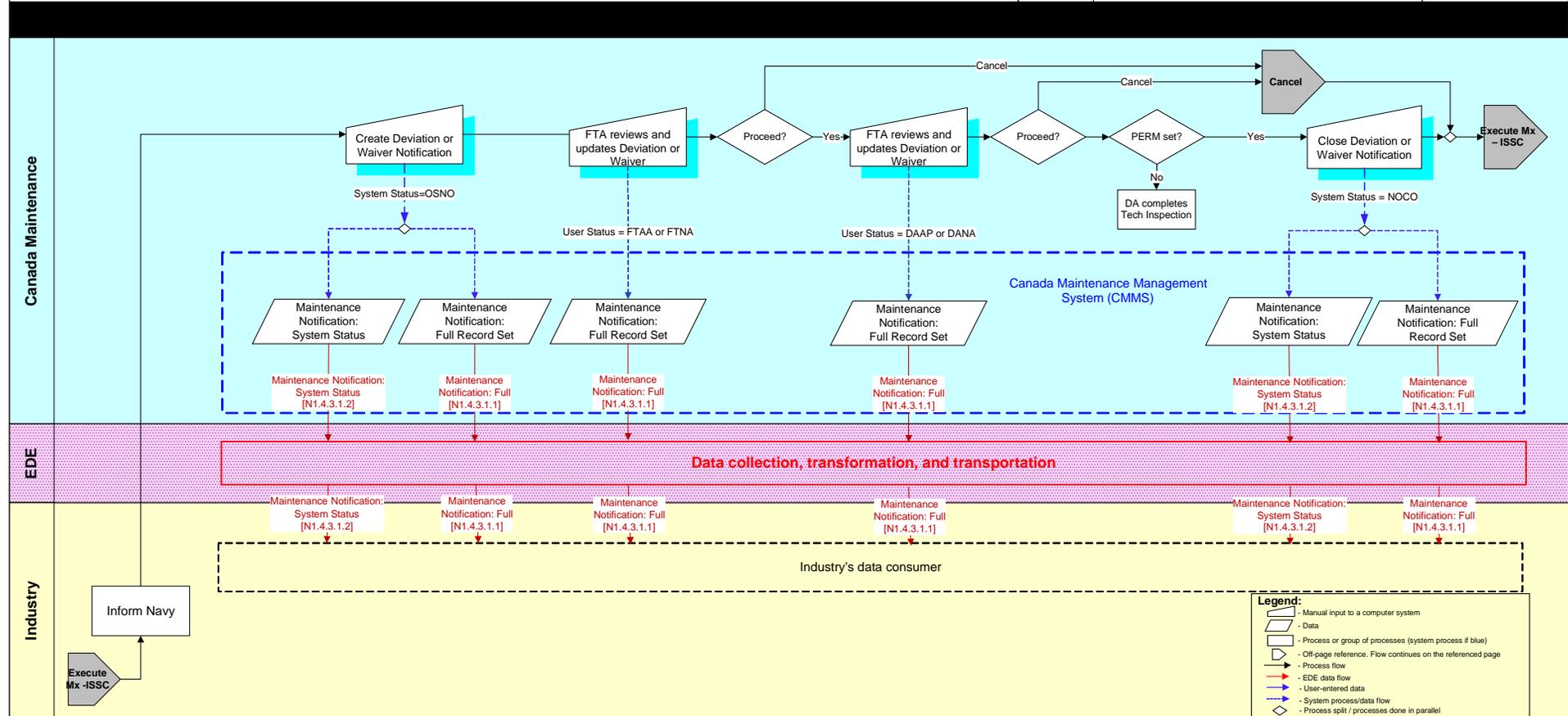
Deviation and Waiver - Navy

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Deviation and Waiver - ISSC

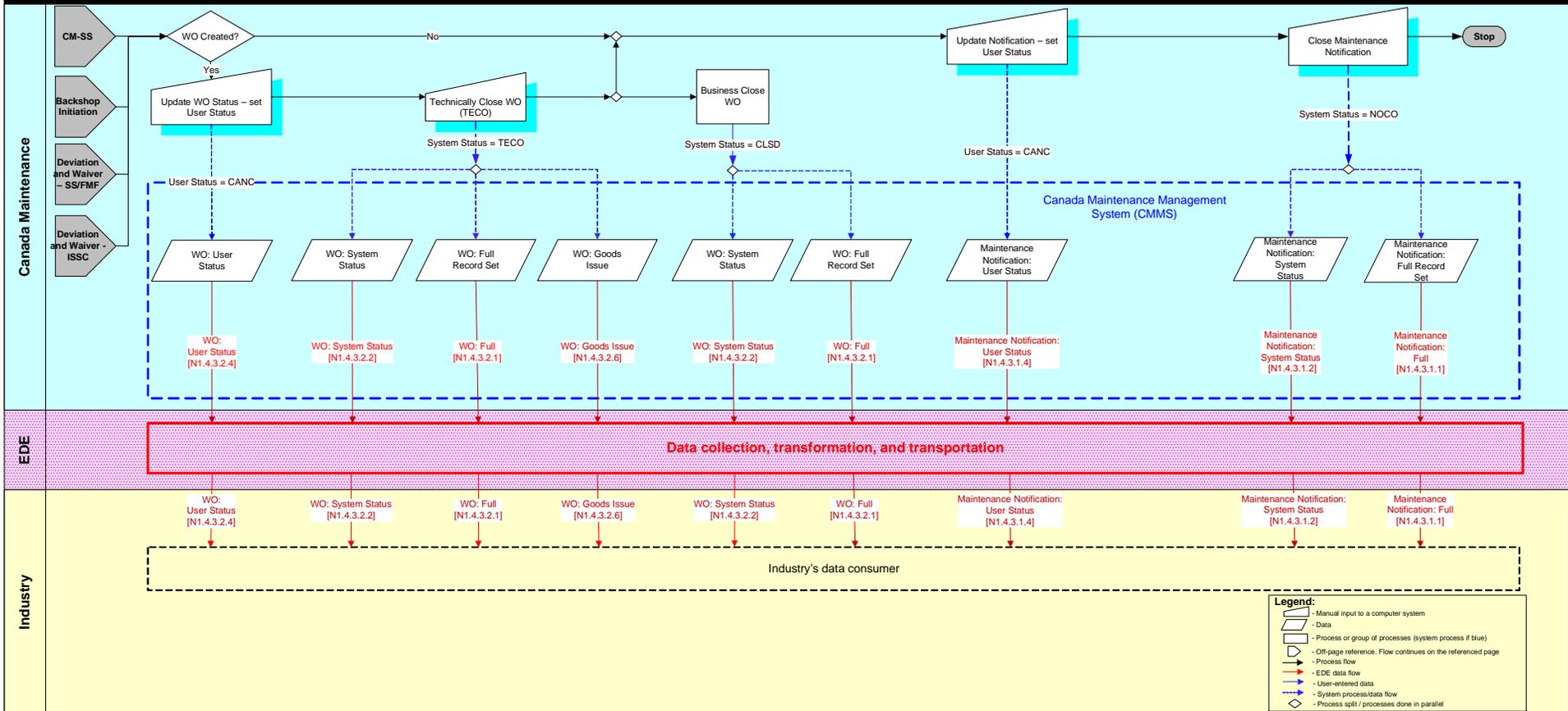
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Cancel

PBC Maintain Platform – Cancel

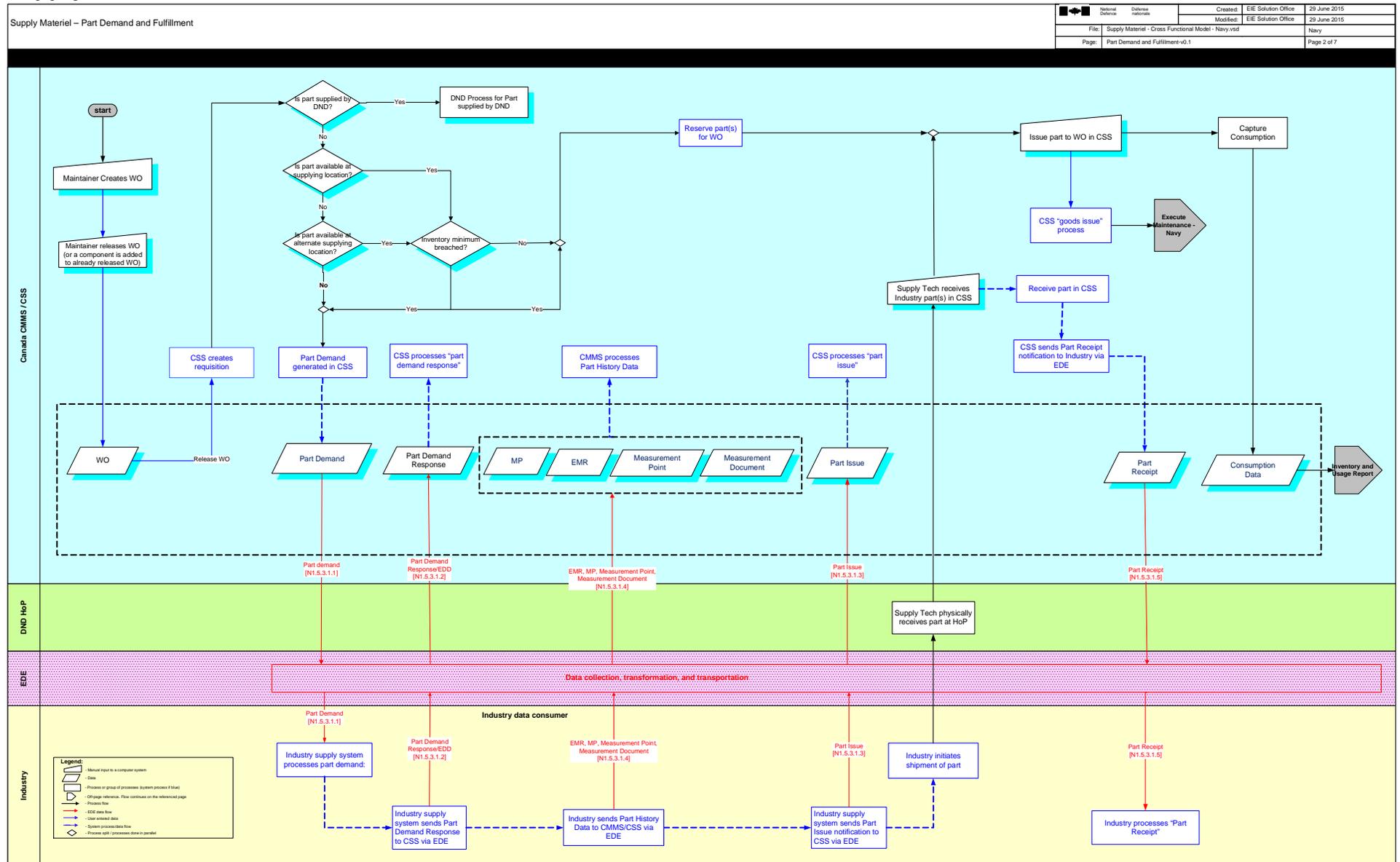
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ANNEX E: Supply Processes

(Note: The process diagrams in the Supply Process Model are the authoritative source.)

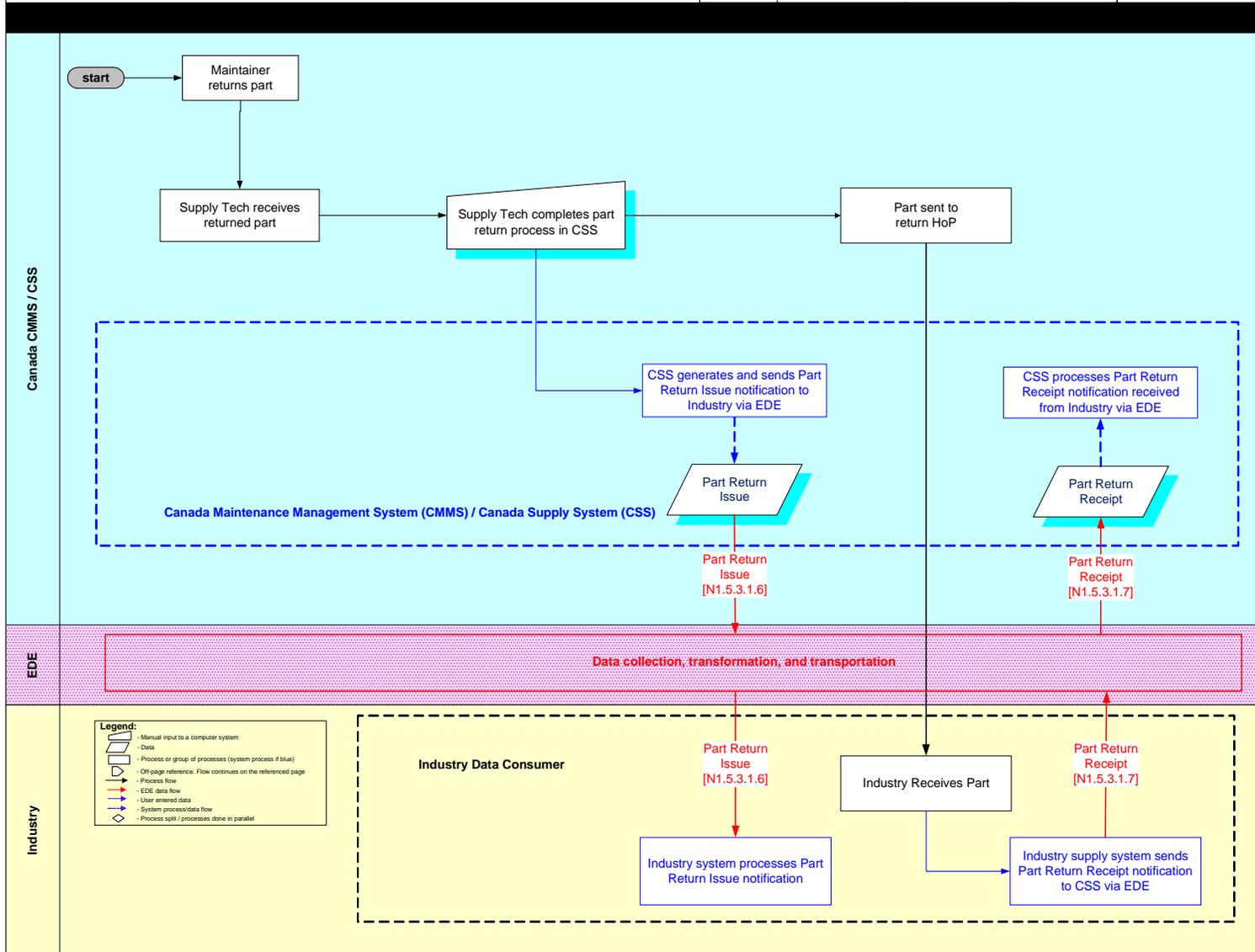
Supply Materiel – Part Demand and Fulfillment Process flow



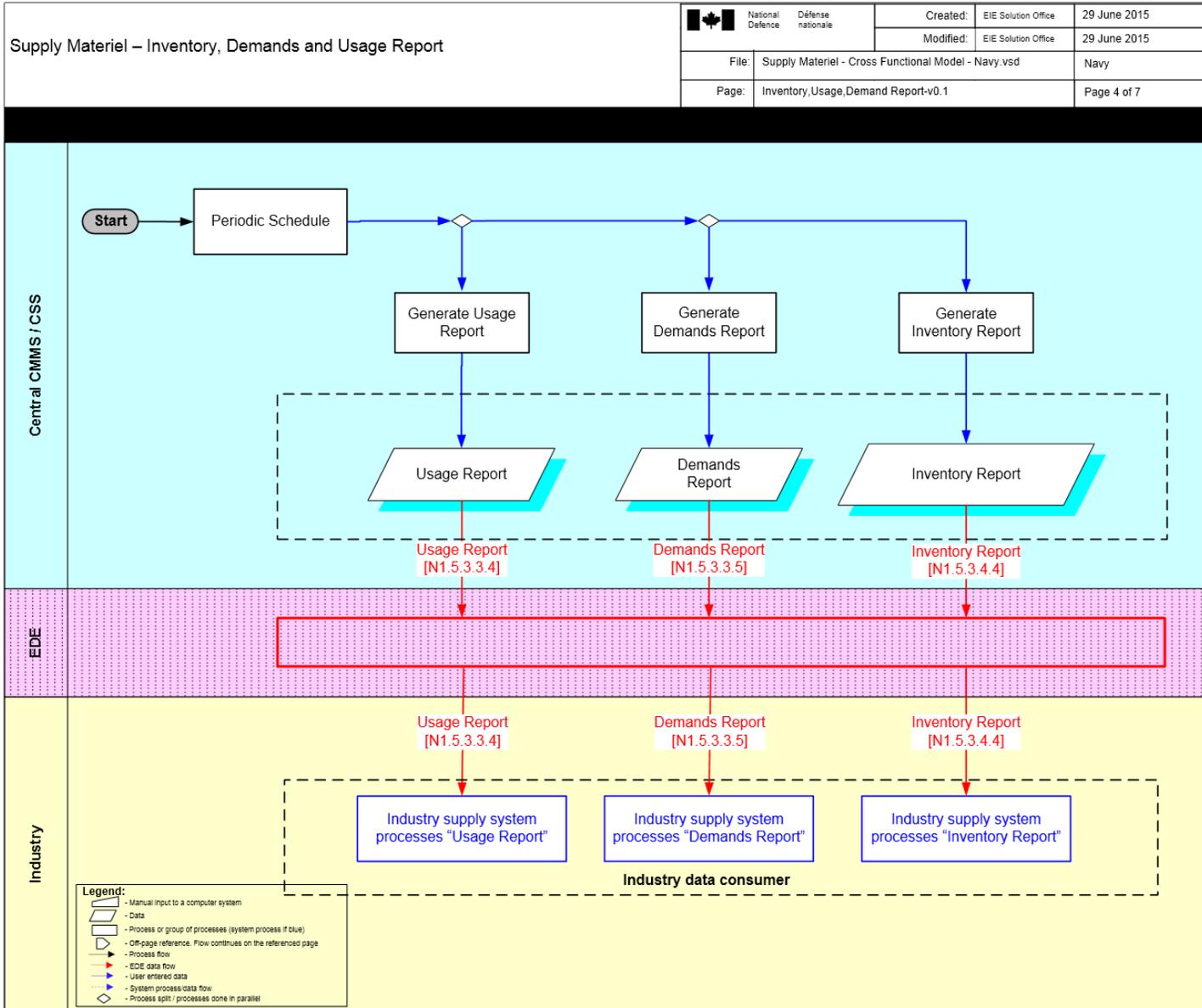
Supply Materiel – Part Return and Receipt Process Flow

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Supply Materiel – Part Return and Receipt



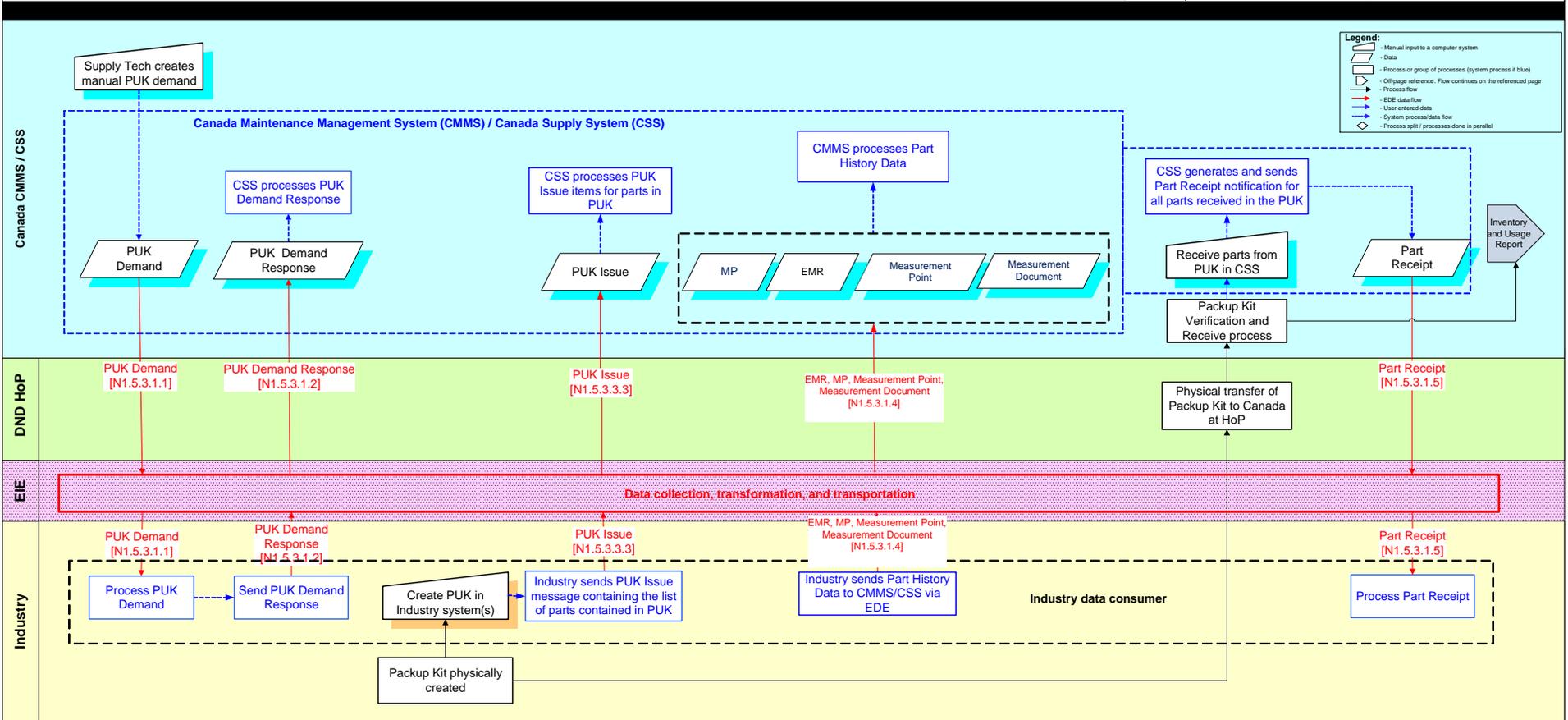
Supply Materiel – Inventory, Usage and Demand Reports Process Flow



Supply Materiel – PUK Demand and Fulfillment Process Flow

Supply Materiel – Packup Kit Demand and Fulfillment

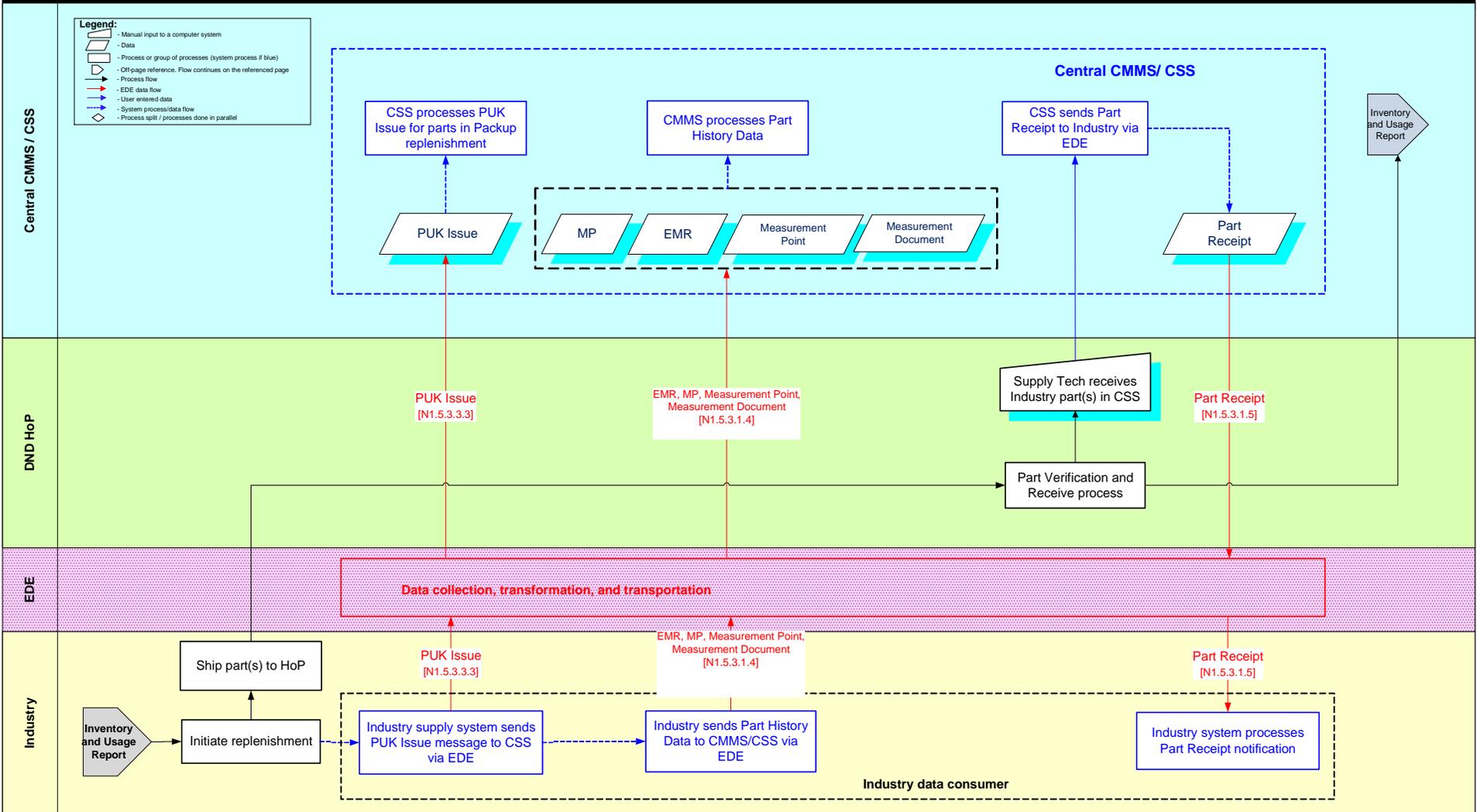
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Page:	Packup Kit Demand and Fulfillment -v0.1		Page 5 of 7



Supply Materiel - PUK Replenishment Process Flow

Supply Materiel – Pickup Kit Replenishment

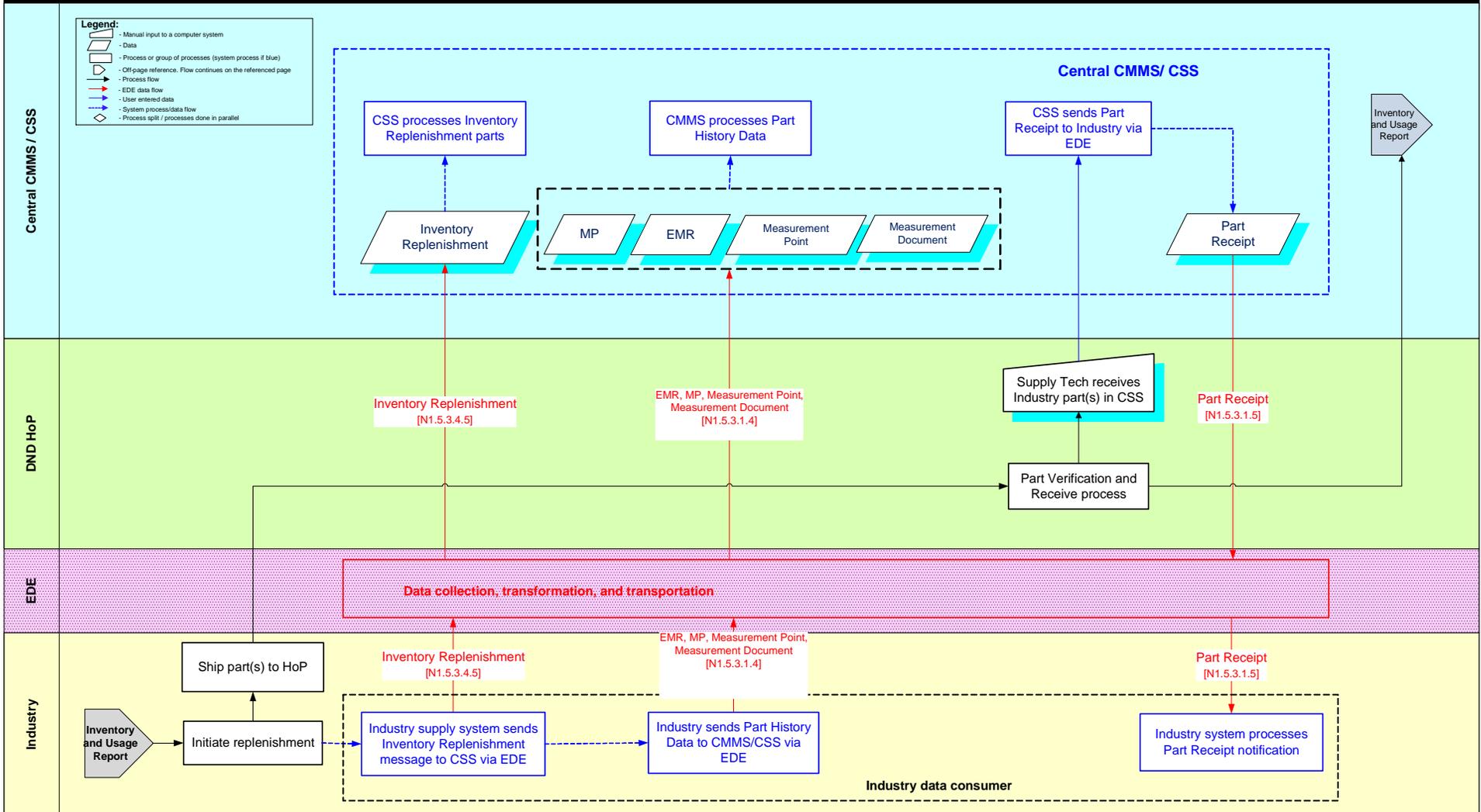
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File:	Supply Materiel - Cross Functional Model - Navy.vsd		Navy
Page:	PUK Replenishment – v0.1		Page 6 of 7



Supply Materiel - Inventory Replenishment Process Flow

Supply Materiel – Inventory Replenishment

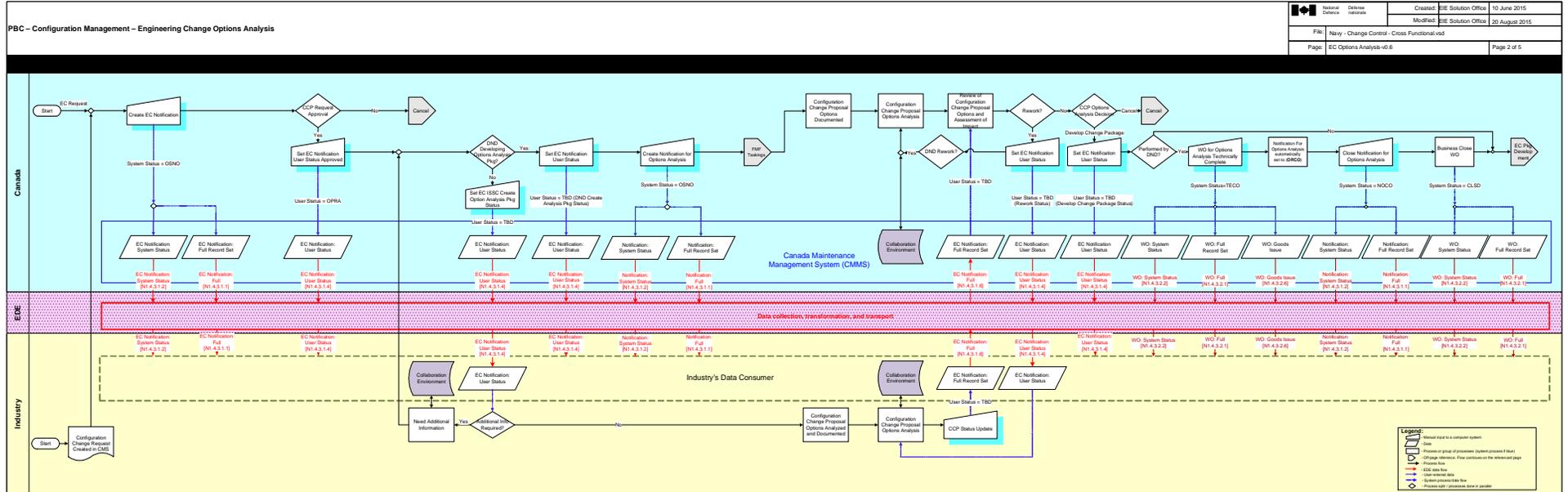
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Page:	Inventory Replenishment – v0.1		Page 7 of 7



ANNEX F: Manage Configuration

(Note: The process diagrams in the Navy Configuration Management Process Model and the Navy CMMS Data Initialization are the authoritative source.)

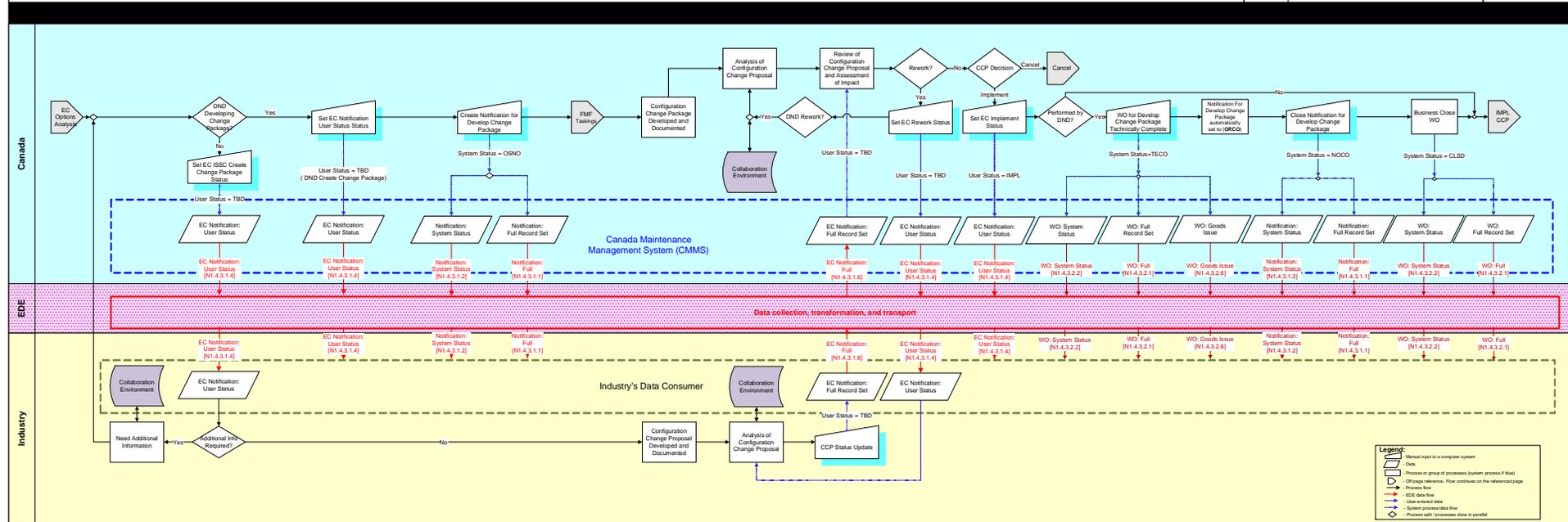
EC Options Analysis



EC Package Development

PBC - Configuration Management - Engineering Change Package Development

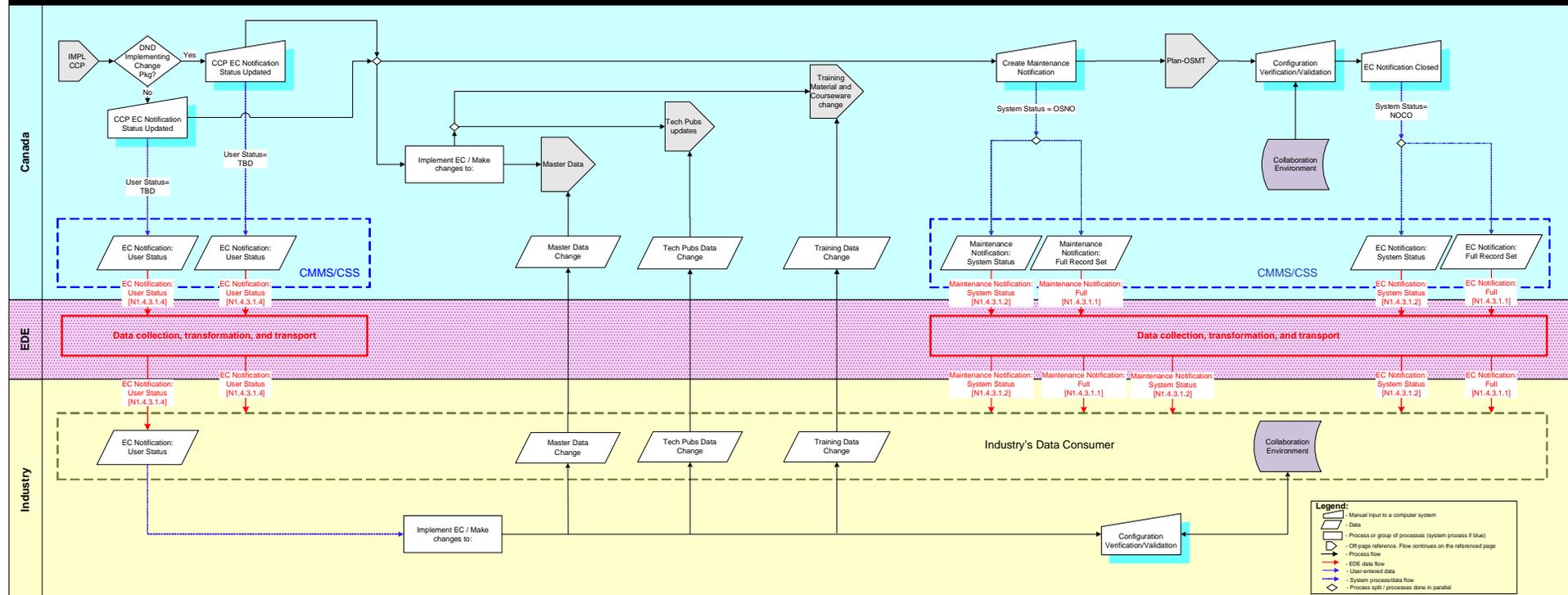
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	Defence nationale	Modified: EIE Solution Office	20 August 2015
File: Navy - Change Control - Cross Functional.vsd			
Page: EC Package Development-v0.6			Page 3 of 5



EC Implementation

PBC – Configuration Management – Engineering Change Implementation

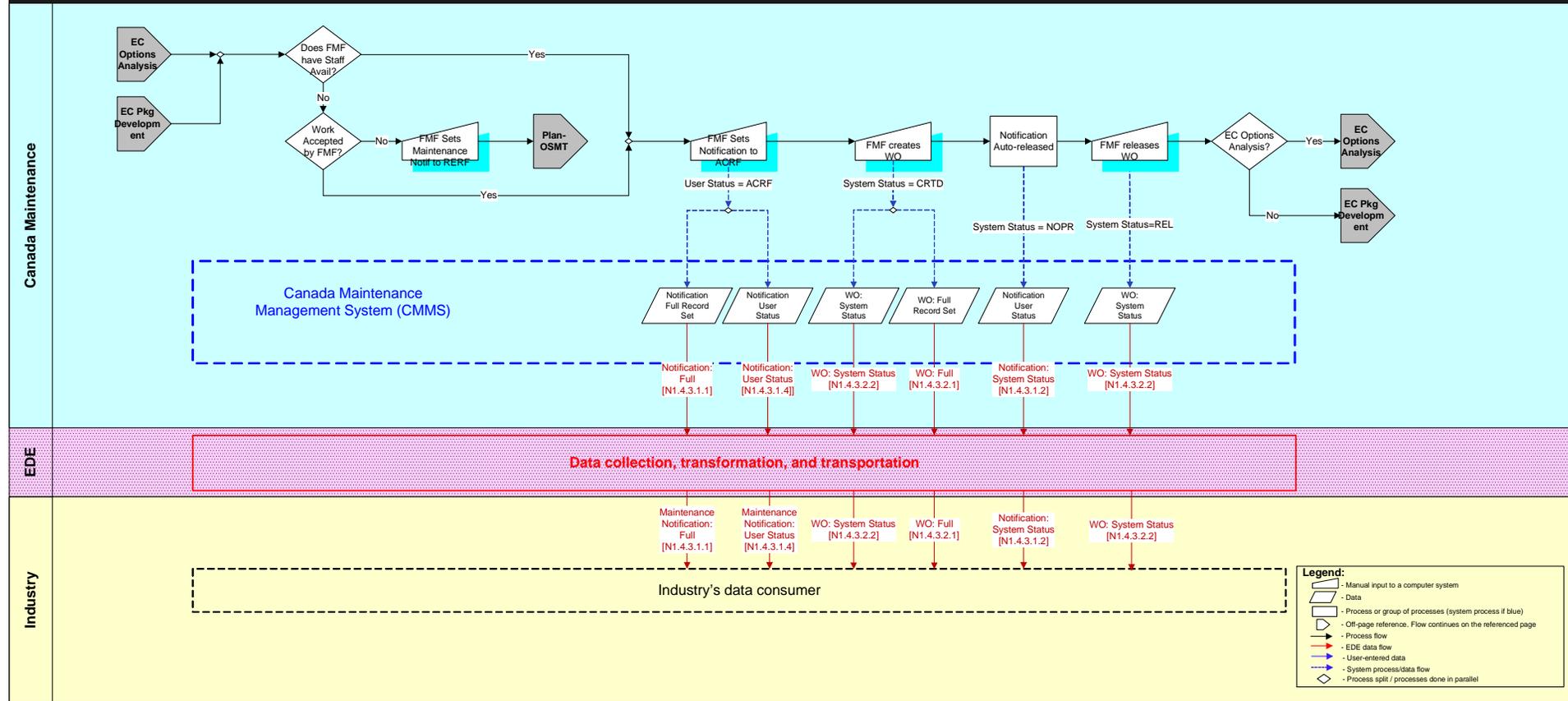
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	Modified:	EIE Solution Office	15 Sep 2015
File: Navy - Change Control - Cross Functional.vsd			
Page: EC Implement-v0.6		Page 4 of 5	



FMF Taskings

PBC Configuration Management – FMF Taskings

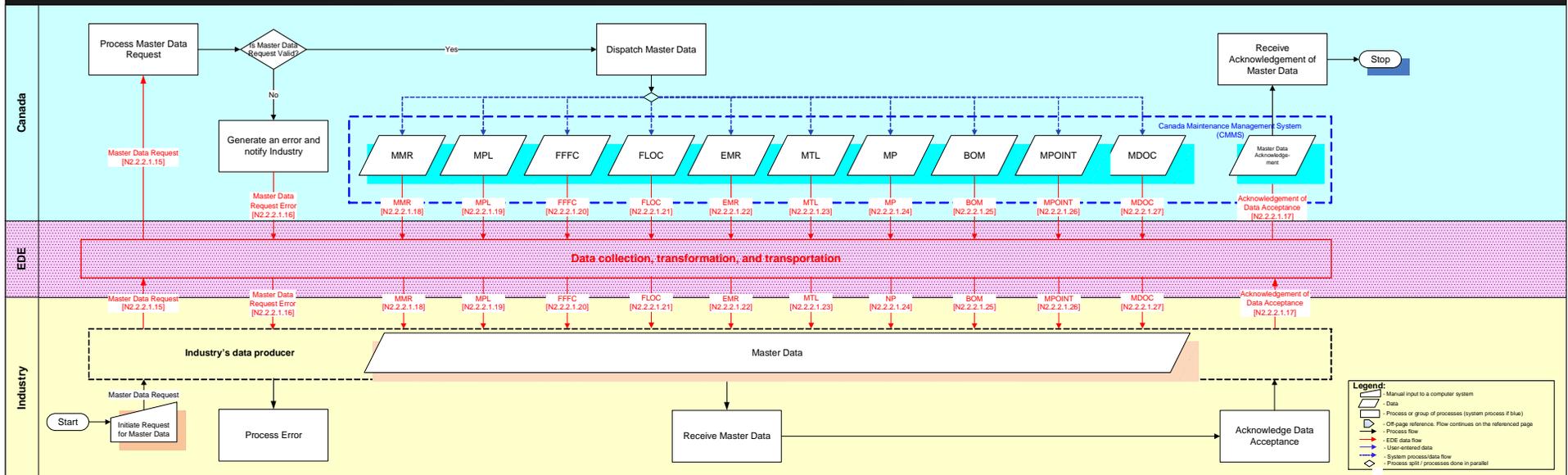
National Defence / Défense nationale	Created:	EIE Solution Office	10 June 2015
	Modified:	EIE Solution Office	31 July 2015
File:	Navy - Change Control - Cross Functional.vsd		
Page:	FMF Taskings-v0.4	Page 5 of 5	



Ship Initial Data Load

CMMS Data Initialization – Ship Initial Master Data Load

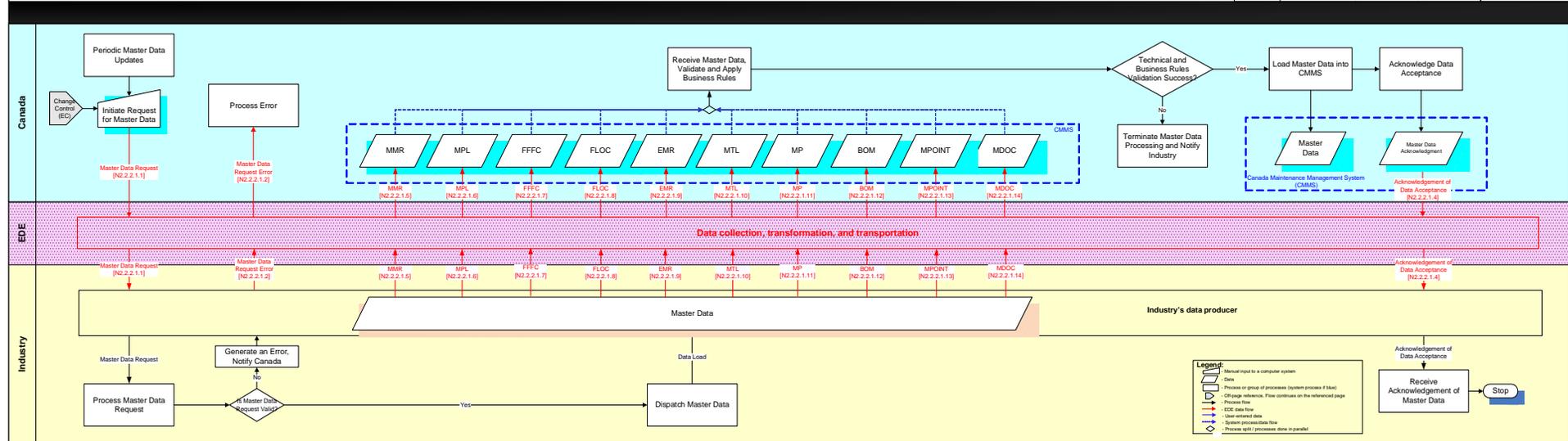
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	Modified: EIE EDE Solution Office	08 July 2015
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Page: Ship Initial Data Load -v0.1	Page 2 of 4	



Master Data Load

CMMS Data Initialization - Master Data Load

National Defence	Created: EDE EDE Solution Office	08 July 2015
	Modified: EDE EDE Solution Office	08 July 2015
File: Master Data Load - Cross Functional v01		
Page: Master Data Load -v0.1	Page 3 of 4	

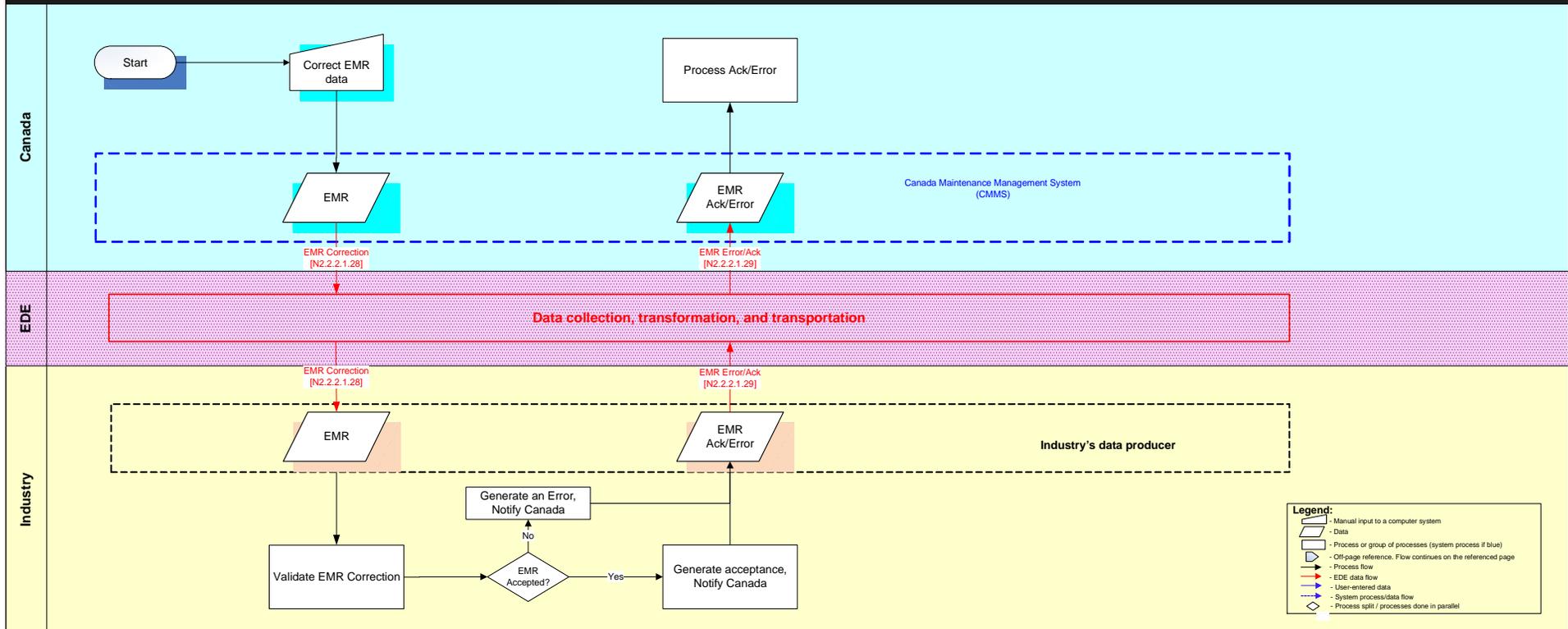


DRAFT

Correct EMR

CMMS Data Initialization – Correct EMR

	Created:	EIE EDE Solution Office	17 July 2015
	Modified:	EIE EDE Solution Office	31 August 2015
File:	Master Data Load - Cross Functional.vsd		
Page:	Correct EMR -v0.2	Page 4 of 4	



ANNEX G: Manage Problem Reporting

(Note: The process diagrams in the Technical Problem Management Process Model are the authoritative source. These diagrams are for understanding the basic concepts.)

3 TECHNICAL PROBLEM MANAGEMENT CROSS-FUNCTIONAL PROCESS FLOW

