



Cloud: SOA, Semantics and Data Science

Semantics in the Mainstream – Process Modeling and Design Center (PMDC) for the Department of Veterans Affairs

9/11/2013



Bringing the Legacy to Reality

2009 - 2013



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PMDC Technical Achievements

Demonstrated the value of Process-Based Enterprise Service Design Patterns

- IAM/MVI Service Consumption
- VLER Gateway Pattern
- Resolving proprietary process patterns into standards-described patterns, i.e. IBM “pseudo-synchronous”

Demonstrated the method and value of End-to-End (E2E) Veteran Service Processes

- Compensation Process Narrative/Compensation Service (CS)
- Education/Outreach CS Integration

Demonstrated the applicability and flexibility to broad application of BPMN to OIT Process Engineering

- Enterprise Service Pattern (MVI, D2D)
- System Development Process Modeling (FCMT, VIERS, iEHR)
- Business Process Reengineering (CHAMPVA)
- Case Management Pattern (VLER MAR)
- ESS SOA/AERB Governance
- Enable VA to get to executable specifications and increased reuse via BPMN and a OneVA EA Repository

There has never been a real challenge to the use of BPMN once a business stakeholder has participated in a session

Every PMDC Session has helped to flush out gaps and ambiguities that either knowingly or unknowingly have plagued the potential solution.

Characteristics of PMDC use of BPMN 2.0

Use a Core Set of well-defined Modeling Elements

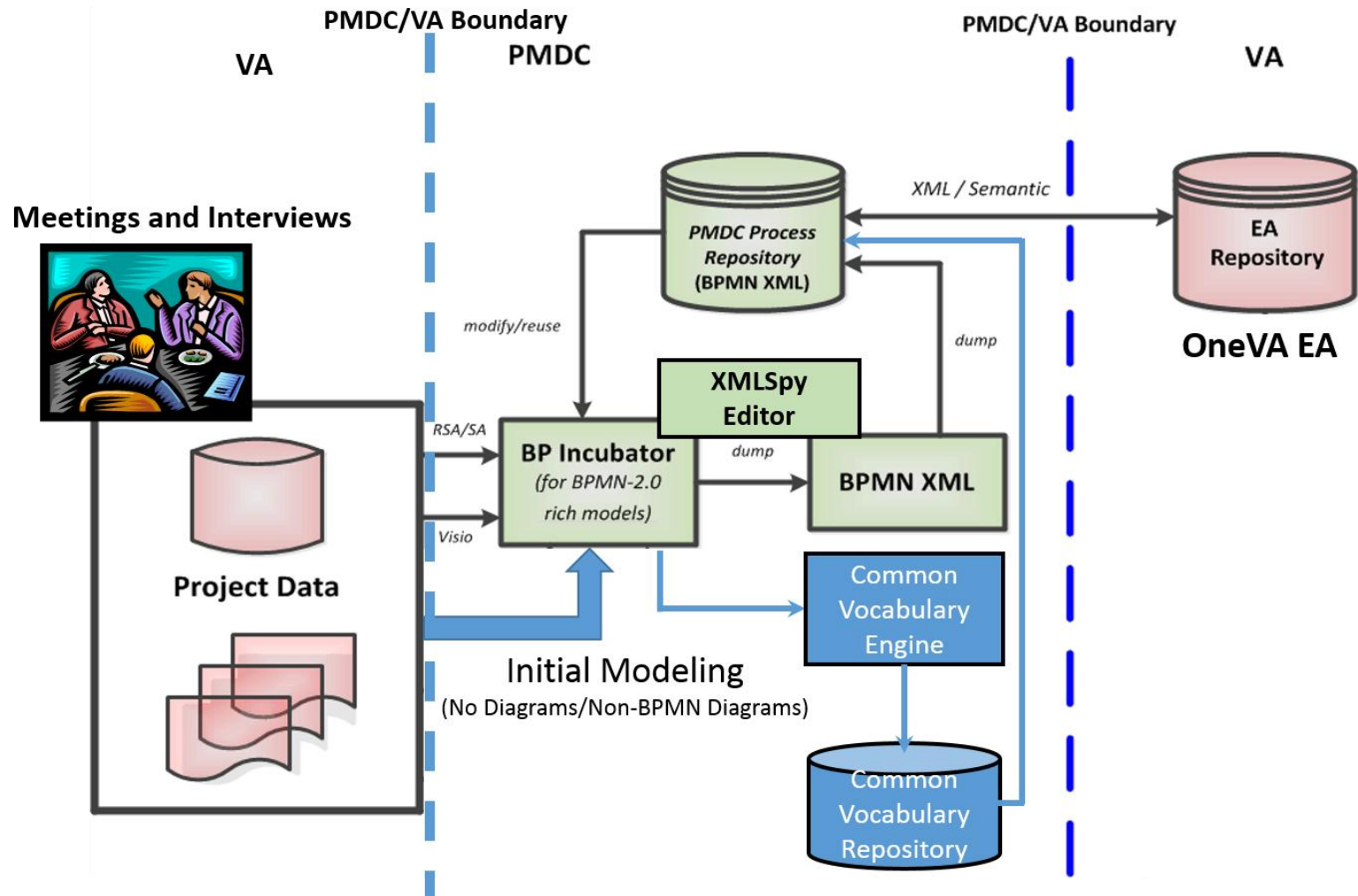
Specify Collaborations between Process Participants to Illustrate Process Orchestration (from Business Owner viewpoint) and Process Collaboration (from Enterprise viewpoint)

Describe a SOA Perspective (Service Interfaces and operations that match WSDL and XSD schema, BPMN Service Tasks, Rule Tasks and associated Message Flow)

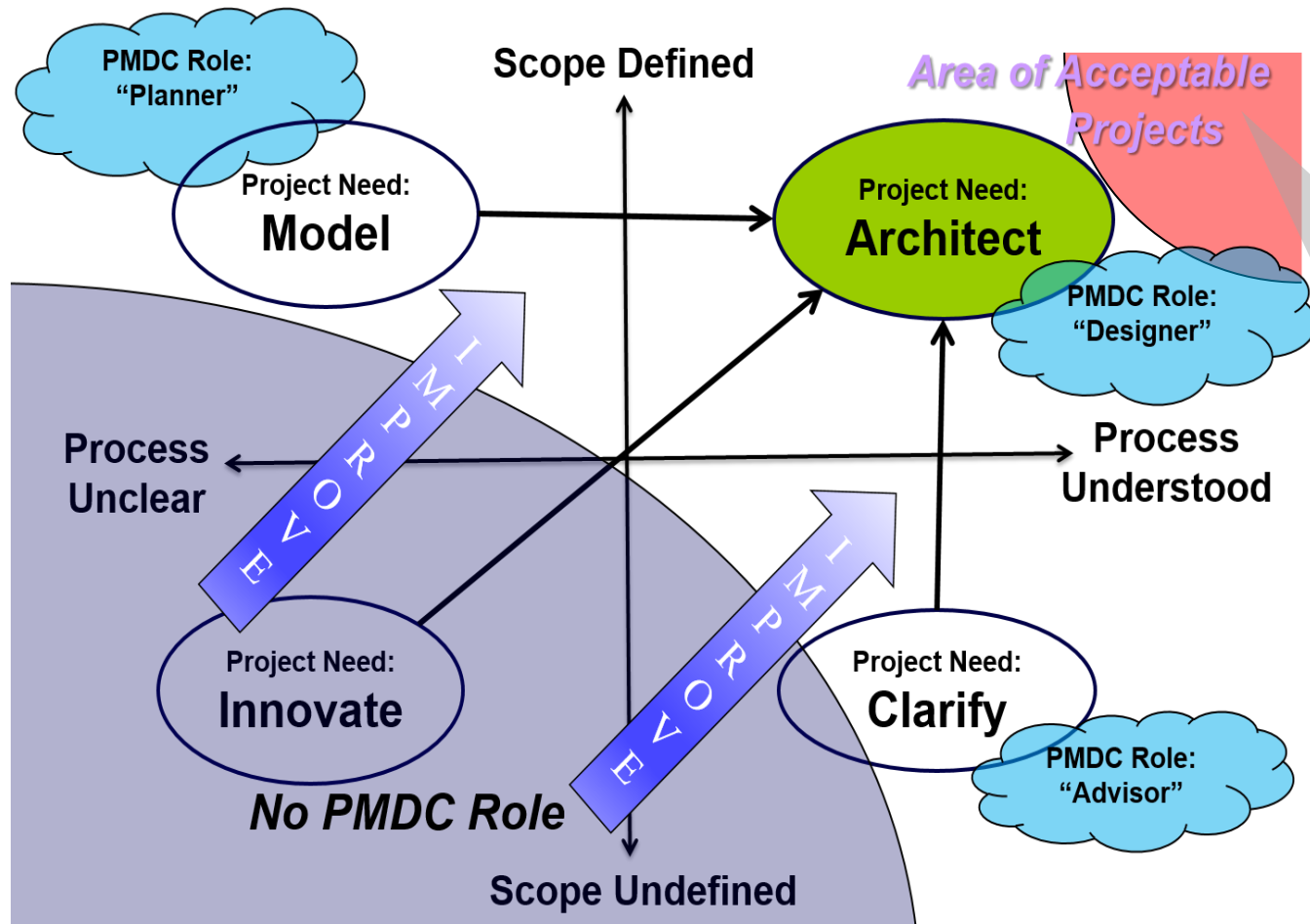
Describe data objects, data stores, and messages to exchange data in a standard way

PMDC Operational Framework

High Level Architecture



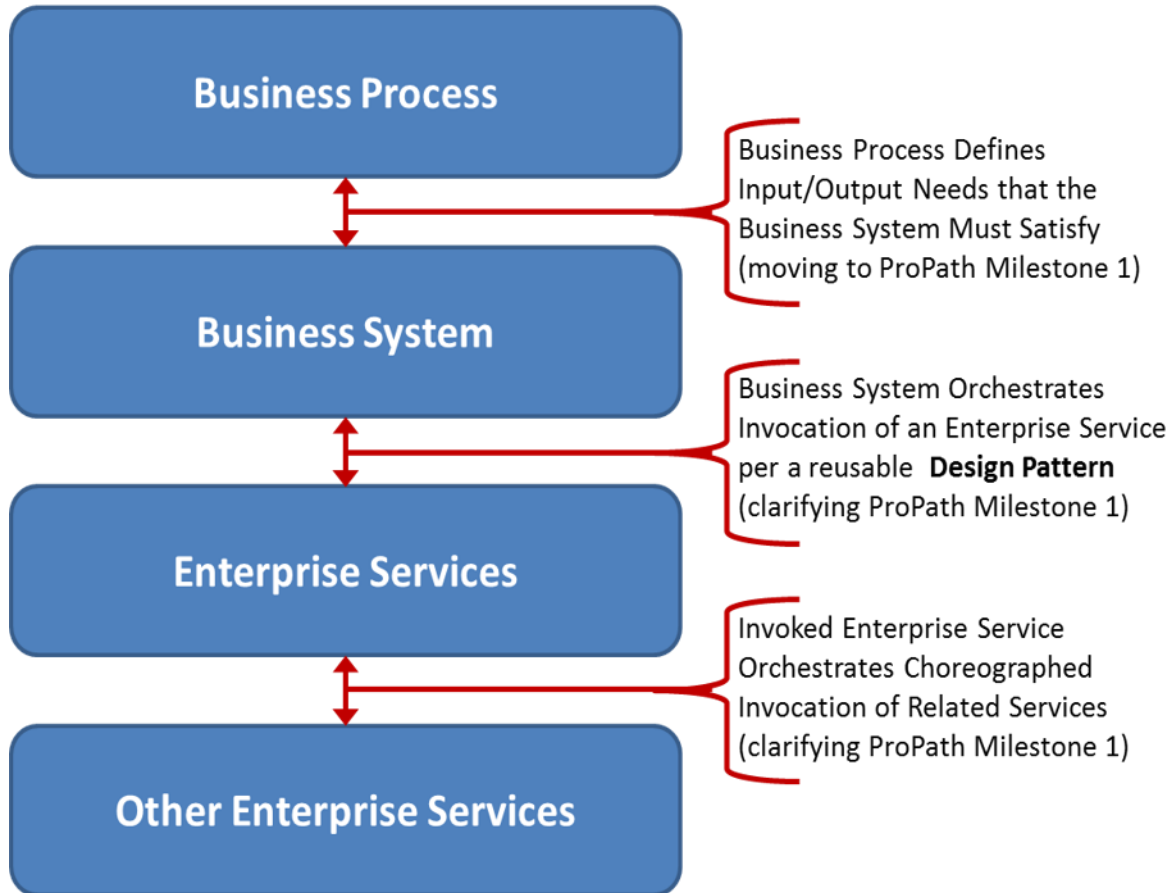
PMDC Operational Framework Quadrant Assessment Chart



Potential business solution candidates for the PMDC that are well beyond Milestone 1 or are very mature in the articulation of the technical solution may be at a point in the very upper right of the quadrant that the effort of the PMDC may not be well received and may potentially be duplicative to the technical development already accomplished.

PMDC View of Enterprise Services at VA

Areas Where PMDC
Provides Assistance
Using BPMN Modeling



PMDC helps in the Business System Design

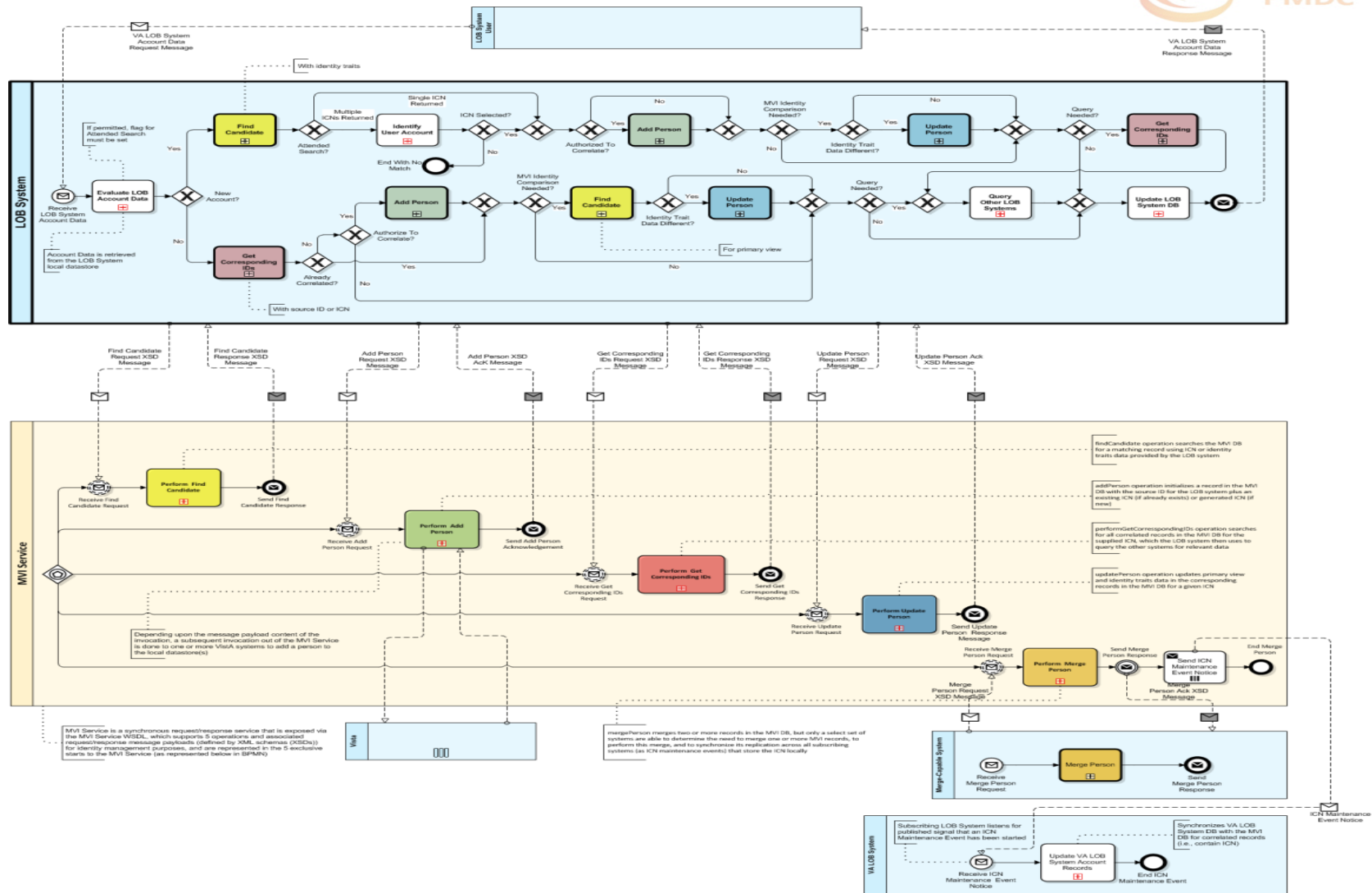


PMDC creates the **Enterprise Design Pattern**



PMDC helps in the Enterprise Service Design

MVI Services for Identification of VA LOB System Users



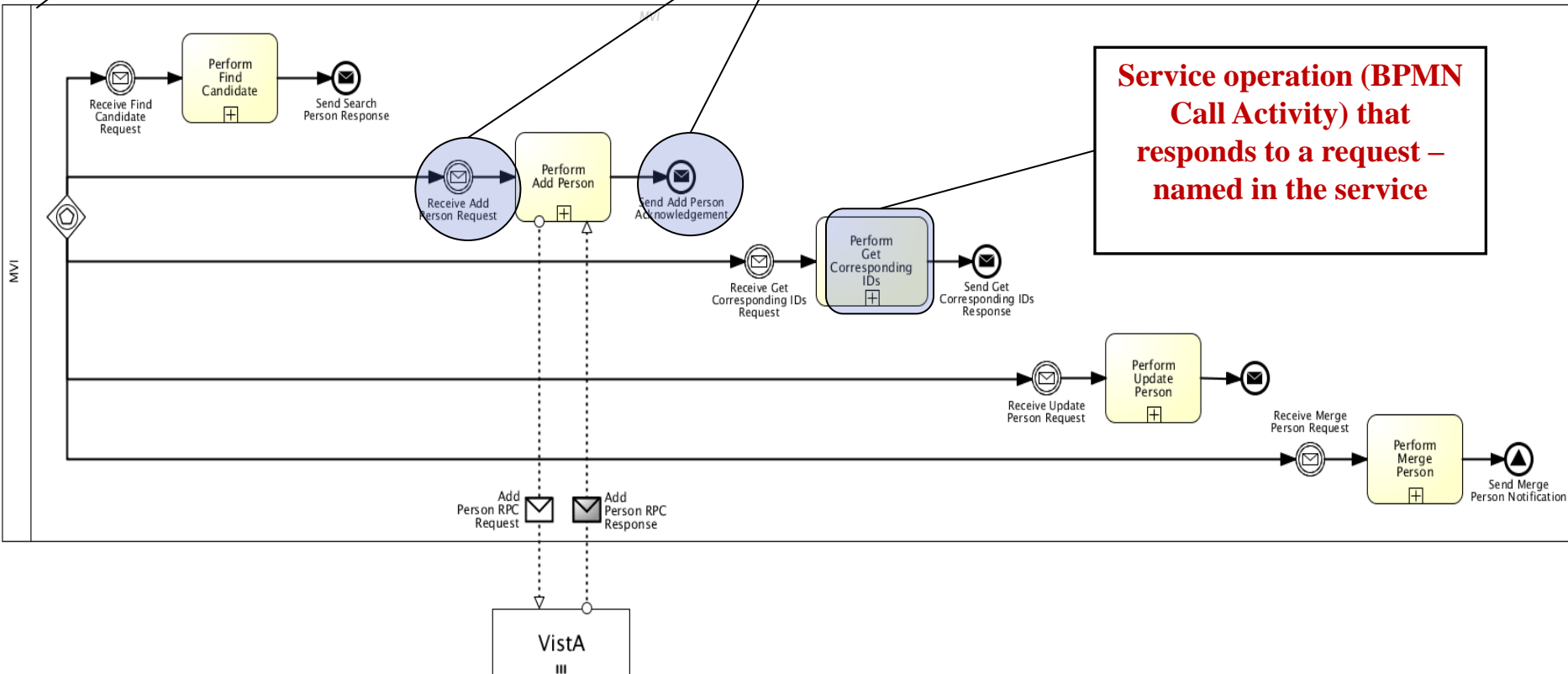
MVI Services for Identification of VA LOB System Users

(MVI Pool Only – Shows Service Endpoints/Operations)

MVI process orchestrates the MVI WSDL service operations for the identity management services

Service endpoints for requesting an operation to be performed and receiving a response in return – defined by schema

Service operation (BPMN Call Activity) that responds to a request – named in the service



BPMN XML Sample for MVI Services

The BPMN Models (Start & End events) each contain the name of the XSD file used for each Service Operations

The XSD messages used by the MVI Service Operations are stored in the BPMN file

```
1 |<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
2 |<semantic:definitions id="_1355763180013" name="MVI Service Orchestration (Passive EIP) - Rev3" targetNamespace="
   |http://www.trisotech.com/definitions/_1355763180013" xmlns:dc="http://www.omg.org/spec/DD/20100524/DC" xmlns:di="
   |http://www.omg.org/spec/DD/20100524/DI" xmlns:semantic="http://www.omg.org/spec/BPMN/20100524/MODEL" xmlns:bpmndi="
   |http://www.omg.org/spec/BPMN/20100524/DI" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
3 |  <semantic:message name="PRPA_IN201309UV02.xsd" id="_1355763180155"/>
4 |  <semantic:message name="MCCI_IN000002UV01.xsd" id="_1355763180158"/>
5 |  <semantic:message name="MCCI_IN000002UV01.xsd" id="_1355763180280"/>
6 |  <semantic:message name="PRPA_IN201305UV02.xsd" id="_1355763180294"/>
7 |  <semantic:message name="PRPA_IN201306UV02.xsd" id="_1355763180296"/>
8 |  <semantic:message name="PRPA_IN201310UV02.xsd" id="_1355763180298"/>
9 |  <semantic:message name="MCCI_IN000002UV01.xsd" id="_1355763180300"/>
10 | <semantic:message name="PRPA_IN201301UV02.xsd" id="_1355763180302"/>
11 | <semantic:message name="PRPA_IN201304UV02.xsd" id="_1355763180311"/>
12 | <semantic:message name="PRPA_IN201302UV02.xsd" id="_1355763180328"/>
13 | <semantic:process isExecutable="false" id="WFP-6-1">
14 |   <semantic:laneSet id="ls_cb6deb7e-f2ec-44d7-b5a7-8161bba9ee30">
15 |     <semantic:lane name="Lane" id="_06228c32-0c7c-48ab-96c2-a8d4df85d488">
16 |       <semantic:flowNodeRef>_8f588273-ea0b-40b5-b210-870b68442f69</semantic:flowNodeRef>
17 |       <semantic:flowNodeRef>_7018291c-2675-4cfd-94e1-13905d7de013</semantic:flowNodeRef>
18 |       <semantic:flowNodeRef>_20b1e968-a99e-4527-a633-49c766150194</semantic:flowNodeRef>
19 |       <semantic:flowNodeRef>_60e6d4d9-456a-40a6-863e-36ffebac01d</semantic:flowNodeRef>
20 |       <semantic:flowNodeRef>_61a5f949-a806-4d94-98c1-f8d808c2ba46</semantic:flowNodeRef>
21 |       <semantic:flowNodeRef>_7806f48a-2e7f-4b64-bdfb-aa562662f13e</semantic:flowNodeRef>
```

References for message payload schema for MVI Service operations

VBA Compensation Information Flow Diagram

Veterans Benefits Administration (VBA) - Compensation
Business Process Information Flows – Version 2.0

Information Flow Diagram

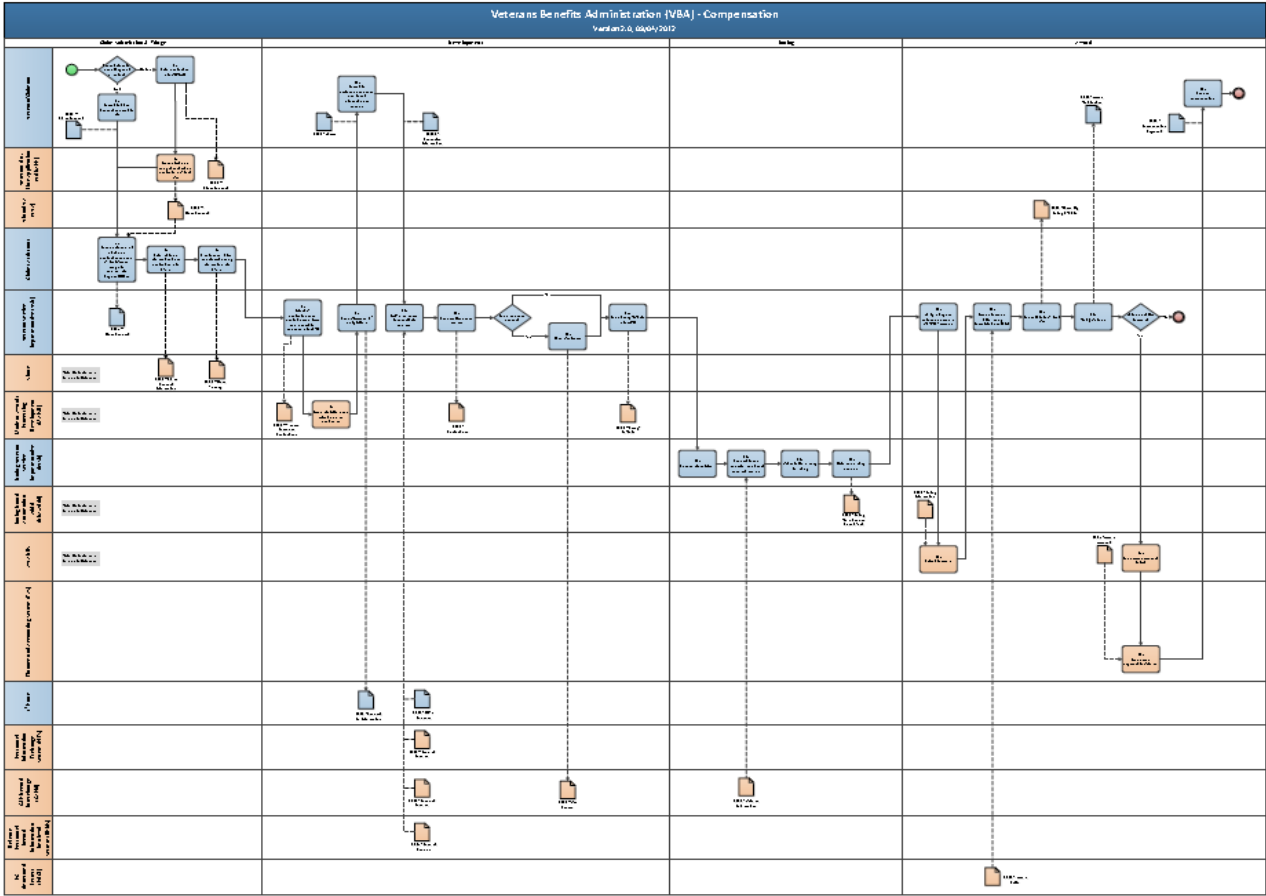


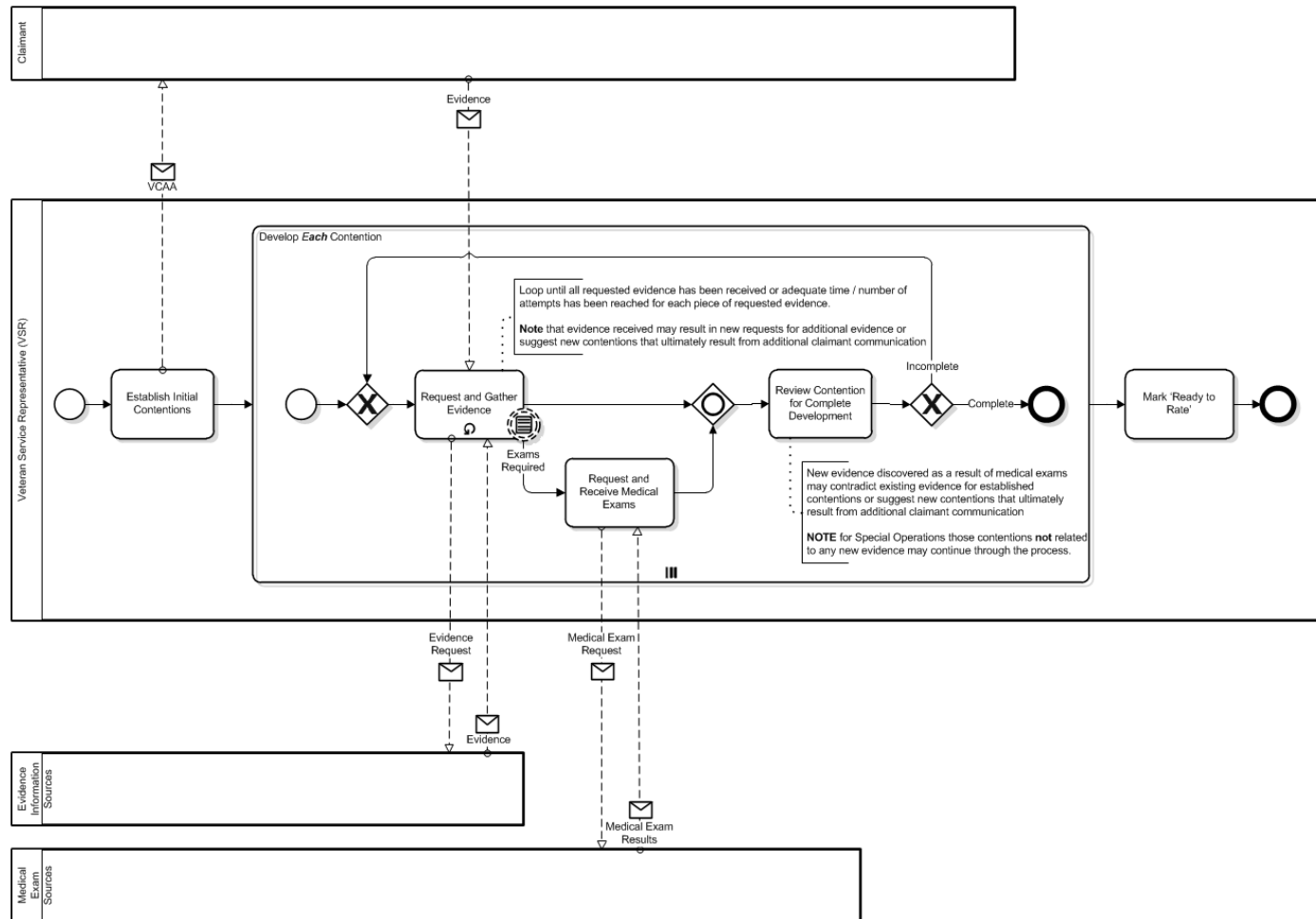
Figure 4: Veterans Benefits Administration (VBA) - Compensation Information Flow Diagram

Compensation Enterprise Process Description – Milestone View

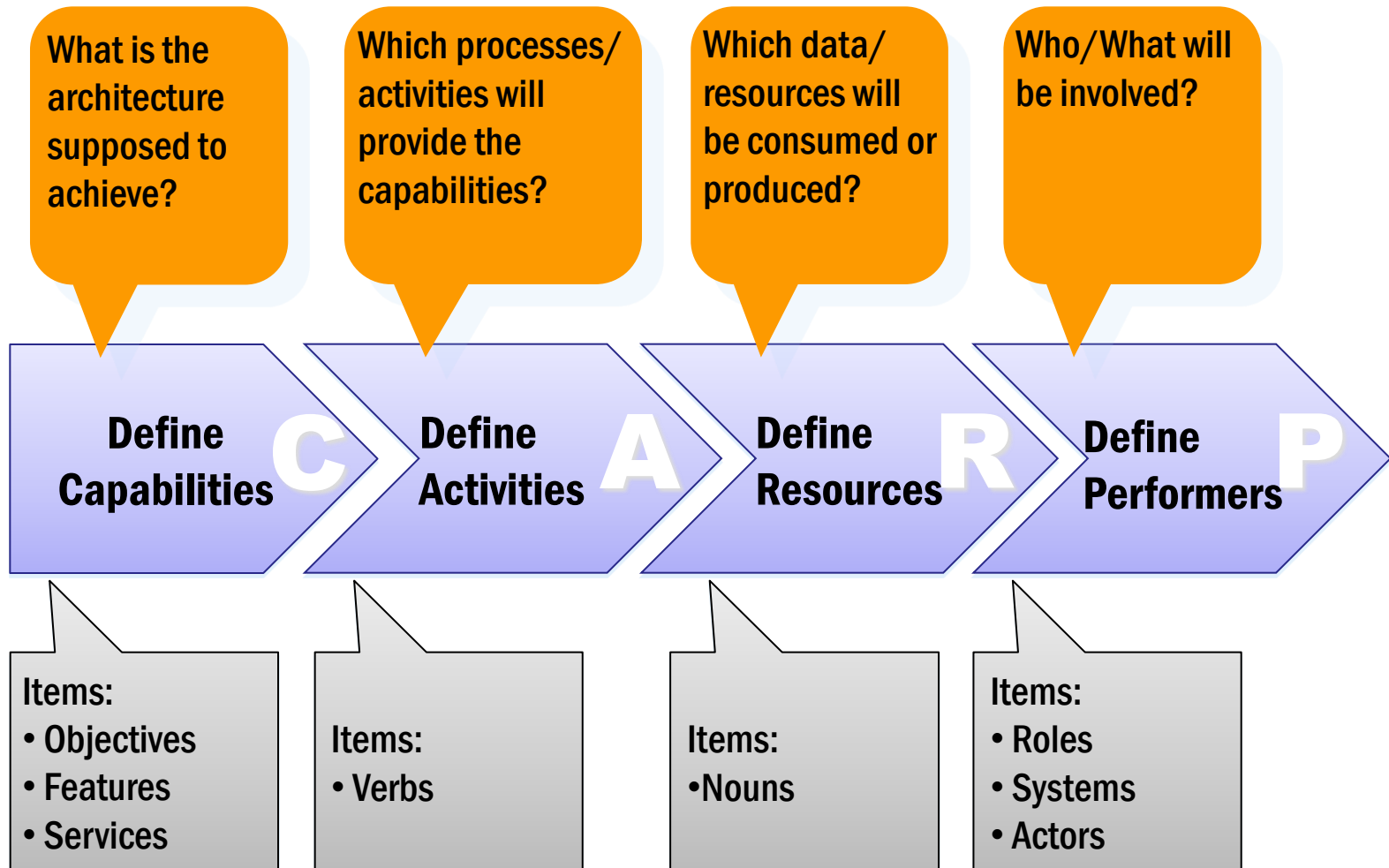
Compensation End-to-End (E2E)



Claim Development

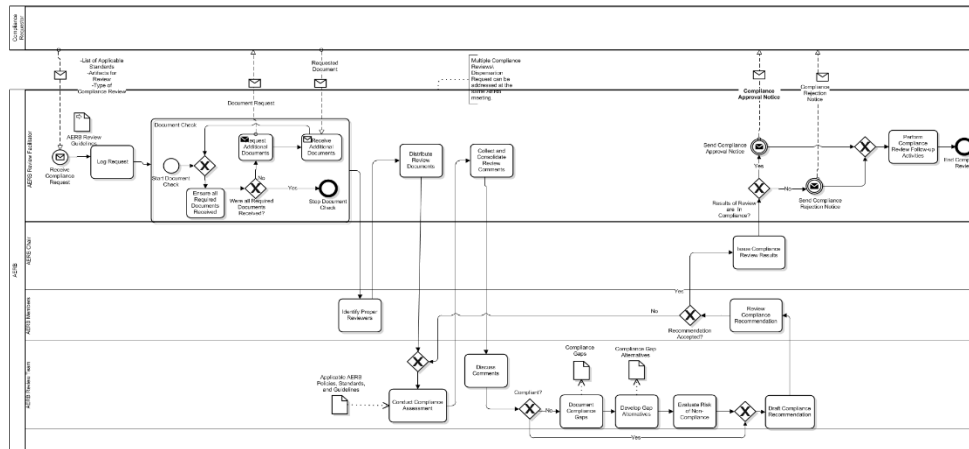


Controlled Vocabulary: Top-Down Analysis within a Business Architecture



ESS SOA Governance (AERB) Conversion to ProPath

Perform Compliance Review



Controlled Vocabulary

Term	Definition	Capability	Activity	Resource	Performer	Source of Term/ Definition	Creation Date	Modification Date	Deprecated Date	Editorial Note	Comments	Domain
Analyze Critical Business Issues	The activity of examining key business issues to identify new services or updates to existing services in the portfolio.	1				PMDC Collaboration Session	2013-06-03					
Analyze Service Capacity Needs	The activity of examining capacity needs to ensure service usage needs from the service contracts can be met.	1				PMDC Collaboration Session/The Open Group - SOA Governance Framework (Aug. 2009)	2013-06-03					
Analyze Service Change Request	The activity of examining the proposal for a change to or re-factoring of an existing service in the service portfolio.	1				PMDC Collaboration Session/The Open Group - SOA Governance Framework	2013-06-03					
Analyze Service Portfolio for Service Obsolescence	The activity of examining the need for the retirement of existing services in the service portfolio.	1				PMDC Collaboration Session/The Open Group - SOA Governance Framework (Aug. 2009)	2013-06-03					
Analyze Service Requests	The activity of examining new service needs and their business justification to identify new services or updates to existing services in the portfolio.	1				PMDC Collaboration Session/The Open Group - SOA Governance Framework (Aug. 2009)	2013-06-03					
Analyze Service Usage Patterns	The activity of examining emergent usage patterns to identify shortcomings or gaps in the current service portfolio.	1				PMDC Collaboration Session/The Open Group - SOA Governance Framework	2013-06-03					

2.1.2.15 Issue Compliance Review Results

	Architectural Concept	
Description	Activity	The AERB Chair sends the results of the Compliance Review back to the Requestor.
Artifacts Used	Resource	
Artifacts Created	Resource	Compliance Approval or Rejection Notice
Responsible Role	Performer	AERB Chair
Tools	Resource	
Standards	Resource	Applicable AERB Policies, Standards and Guidelines
More Info....	N/A	

ProPath Backslide

Controlled Vocabulary Data Model

Attribute	Definitions	Type	Format	Comments
Term		string		In Use
Definition		string		In Use
Author/Source		string		In Use - current Sessions
Session Name		string		File Name
Version	File Name	string	(Starts @ V 0.1 + 0.1 (increments)	File Level,will change with each change
Created date	Term Creation date	date	2013-05-13	Term Level
Modified date	Term Modification date	date	2013-05-14	
Depricated date	When ever a term is retired in CV while working on it . Should go away at time of final delivery.	date	2013-05-15	
Editorial Note	Written By Author of the CV- General comments by team and Should go away at time of final delivery.	string		Term Level
Comment		string		Term Level- this can also be used for showing relationships
Domain	Business segment,Portfolio,LOB eg- End to End -Compensation	ENUM	VBA,VHA,NCA	Business Segment, Portfolio, LOB eg- End to End -Compensation

PMDC Tipping Moments for VA:

Base year Lessons-Learned have exposed the moments that will achieve change through the use of the PMDC.



1. Use of E2E Milestone-Level Processes as the context for current and transformed Veteran support operations.
2. Linking PMDC with Pre-MS 0 and Product Development life-cycle efforts.
3. Acceptance of BPMN 2.0 and the Analytical Conformance Class as a VA process modeling standard.
4. Effectively integrating PMDC with Enterprise Architecture, business process reengineering and solution architecture mandates.
5. Linking the use and development of controlled vocabulary to the use and development of the Enterprise and Segment Conceptual and Logical Data Models.
6. Establishing a critical mass of BPMN conversant Product Engineering representation in PMDC staff.