

OFFICE OF INFORMATION AND TECHNOLOGY

OneVA EA Architecture Style Guide (ASG)

Pre-Decisional

APRIL 2014

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VA



U.S. Department of Veterans Affairs
Office of Information and Technology

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1 Introduction

1.1 Purpose and Scope

The OneVA EA Architecture Style Guide (ASG) is a reference document that describes how to define, create, and update models and products that comprise the Veterans Administration's (VA) architecture at the enterprise level. The ASG defines and describes each product, its purpose, the VA-specific conventions used, and each product's relationship to the other products in the OneVA EA.

The ASG is intended to explain what is to be included in each product. Its development is based on the VA methodology as defined in the Architecture Development Methodology (ADM) document.¹ The architecture data elements collected during the development of models and products must semantically conform to the OneVA EA meta-model.²

The ASG is intended for an audience that understands enterprise architecture, and how methodologies are used to build architectures.

Appendix C contains the list of sources used in the development of the ASG.

1.2 Relationship to Other Documents

The Architecture Style Guide provides supporting details on how to model relevant architecture models in accordance with the OneVA EA Architecture Development Methodology (ADM), which describes the overall process for developing the OneVA EA. It closely aligns to the Configuration Management Plan (CMP), which describes the processes used to manage models and to control changes to the architecture.³

2 Overview and Summary Information (OSI)

2.1 OSI Purpose and Description

The OSI document provides executive-level summary information in a consistent form to identify the purpose and viewpoint, context, scope and outcome of each OneVA EA release. In the early phases of the architecture release development, the OSI serves as a planning guide and addresses the architecture view point and models constructed the key assumptions and constraints, as well as the tools and formats used in the development of the architecture. Upon the development and completion of an architecture release, the OSI provides summary findings, recommendations and lessons learned concerning the architecture.

¹ The ADM is currently under development and is scheduled for release April 2014.

² While the meta-model is not finalized, once available, meta-model sections relative to each product will be included in the product descriptions.

³ The Configuration Management Plan is currently under development and will be released after April 2014.

2.2 OSI Relationship to Other Models

Table 1: Overview and Summary Information Relationship to Other Models

Model	Relationship
All models	All models must stay within the context, scope, and purpose specified in the OSI.
Data Dictionary	All terms and acronyms are defined in the data dictionary.

2.3 OSI Conventions

The OSI is a text document and does not follow specific conventions.

3 Business Concept Graphic (BCG)

3.1 BCG Purpose

The Business Concept Graphic (BCG) is a description of the mission of the enterprise. It illustrates and describes the main operational concepts and any interesting or unique aspects of the operational characteristics of the enterprise.

The BCG provides a graphical depiction of the context of the business that is the subject of the architecture, and provides a description of the performers and operations involved. It also provides a high-level description of what objectives the architecture is supposed to achieve and how it proposes to meet these objectives.

The intended uses of the BCG include:

- Providing context to operational situations or scenarios
- Providing a tool for discussion and presentation of the scope of the architecture
- Providing an aggregate illustration of the details within the high-level organization

3.2 BCG Description

The Business Concept Graphic consists of a graphical executive summary and accompanying expository text for the graphic. The content of a BCG depends on the scope and intent of the architecture, but it generally describes the business functions, high-level operations, organizations, and geographical distribution of assets. As other models in the architecture are developed, multiple versions of the BCG may be produced to reflect adjustments identified in the architecture purpose and scope. A version used to summarize and present findings to decision makers as well.

3.3 BCG Relationship to other Models

Table 2: Business Concept Graphic Relationships to Other Models

Model	Relationship
Overview and Summary Information	The scope presented in the OSI should be depicted in the BCG.
System Interface Model	The SIM should contain the systems, applications, and services that are included in the scope presented in the BCG.

Business Reference Model	The BRM should include the high level business functions performed within the operational scope.
Conceptual Data Model and the Enterprise Logical Data Model	The CDM and the ELDM should describe data supporting the operations depicted in the BCG.
Data Dictionary	All terms and acronyms should be defined in the Data Dictionary

3.4 BCG Conventions

The Business Concept Graphic is a freeform graphical model that does not have specific modeling conventions.

4 Functional Organization Model (FOM)

4.1 FOM Purpose

The Functional Organization Model (FOM) describes the relationships that exist between internal and external organizations of the VA. It illustrates the command and reporting structures among human roles, organizations, or organization types that are key performers in the OneVA EA. The FOM does not depict relationships relative to business process flows.

4.2 FOM Description

The Functional Organization Model is depicted as a hierarchical decomposition illustrating reporting relationships among organizations or organizational performers in the Veterans Administration.

Organizations/organizational units are represented by rectangular boxes and relationships between organizations are represented by lines connecting the related organizations. An organization is an entity that is responsible for a discrete set of processes aimed at achieving a goal. A relationship is a connecting line between two organizations that defines reporting, command, command-subordination or coordination.

Figure 1 depicts an example of objects used in the Functional Organizational Model.

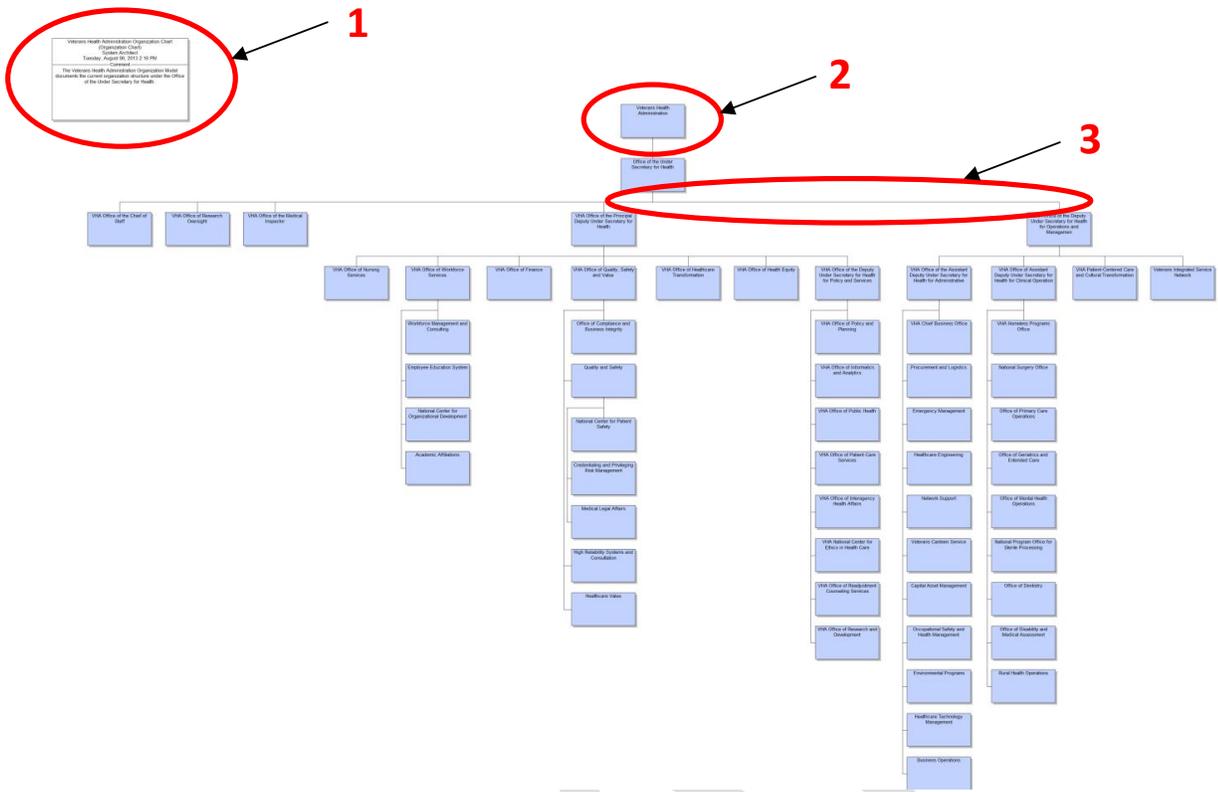


Figure 1: Functional Organization Model Example

Object definitions:

- (1) **Documentation Block** - located in the upper left corner of the diagram. The document block contains the model name, model type, model description and last modification date and time.
- (2) **Organizational Units** - boxes in the model that contain the name of each organization comprising the VA.
- (3) **Structural Relationships** - the connecting lines between each of the Organizational Units. These represent the decomposition or command structure within the organization. Each of the lower level, or child organizations, reports to the organizations that appear above them.

4.3 FOM Relationship to Other Models

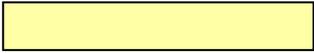
Table 3: Functional Organization Model Relationships to Other Models

Model	Relationship
Overview and Summary Information	The FOM must stay within the context, scope, and purpose specified in the OSI.
Business Reference Model	Organizations in the FOM provide the capabilities and perform the business functions depicted in the Business Reference Model.
Business Process Model	Organizations in the FOM execute business processes depicted in the Business Process Model.
Data Dictionary	All terms and acronyms are defined in the Data Dictionary.

4.4 FOM Conventions

The following table lists modeling conventions used to create a Functional Organization Model:

Table 4: Conventions Used in the Functional Organization Model

Element	Symbol	Format
Documentation Block	Text Box 	Position: Upper Left Corner Border: Solid Black Fill: None Text: Color: Black Font: Arial Size: Default
VA Corporate Organization	Rectangle 	Border: Solid Black Fill: Yellow boxes with a black border The custom color settings are: Red/Green/Blue – 255/255/166 Text: Color: Black Font: Arial Size: Default
VBA Organization	Rectangle 	Border: Solid Black Fill: Green boxes with a black border The custom color settings are: Red/Green/Blue – 182/227/166 Text: Color: Black Font: Arial Size: Default
VHA Organization	Rectangle 	Border: Solid Black Fill: Blue boxes with a black border The custom color settings are: Red/Green/Blue – 194/210/254 Text: Color: Black Font: Arial Size: Default
NCA Organization	Rectangle 	Border: Solid Black Fill: Pink boxes with a black border The custom color settings are: Red/Green/Blue – 255/213/213 Text: Color: Black Font: Arial Size: Default

Element	Symbol	Format
Structural Relationship	Connector 	Border: Solid Black Fill: N/A Text: Color: Black Font: N/A Size: N/A

The following guidelines are used to create or modify the Functional Organization Model:

- Documentation Block - located in the upper left corner of the diagram. The document block contains the model name, model type, model description and last modification date and time
- Modeling objects shall not have truncated names on the diagram.
- All Organizational Unit labels shall be centered at the top of the Organizational Unit rectangle and the label should not fall outside the boundary of the rectangle.
- Each Organizational Unit name shall be title-case, use only approved acronyms, be non-plural and use no special characters except “-”.

5 Business Reference Model (BRM)

5.1 BRM Purpose

The OneVA EA Business Reference Model provides a framework that facilitates a functional view of the Veterans Administration. It is a hierarchy that relates categories of business operations, capabilities the VA possesses, and the lines of business in which the department engage.

5.2 BRM Description

The Business Reference Model is structured as a tiered hierarchy representing the business functions of the Veterans Administration. As a hierarchy, it does not reflect business process order.

At the first level of decomposition, business operations are classified into high-level categories relating to the purpose of the VA, the support functions necessary to conduct VA operations, and the resource management functions that support all areas of the VA’s business. Defined categories conform to the Federal Enterprise Architecture Framework (FEAF) Business Reference Model and represent a grouping of related capabilities that provide the following high-level business functions: Services for Veterans and Eligible Beneficiaries; Support Delivery of Services; and Management of Government Resources.

Each category is decomposed into a set of capabilities that provide realistic, tangible, measurable, and performance dependent outcomes. A capability describes what service an organization can provide or what product it can produce.

Capabilities are the lowest level of decomposition in the BRM and represent the various lines-of-business that support each of the capabilities. A line-of-business is a collection of related business functions and sub-functions that support a particular business area and enable a capability.

The OneVA Enterprise Architecture Business Reference Model consists of one level of decomposition each for the category, capability, and line-of-business levels. Segment architectures developed by the VA Administrations depict a functional decomposition of their respective operations in a set of Business Function Models (BFM). The OneVA Enterprise Architecture and the Business Function Models from each Administration and Corporate will be federated at the line-of-business level.

Figure 2 below depicts an example of a BRM and definitions of the modeling objects:

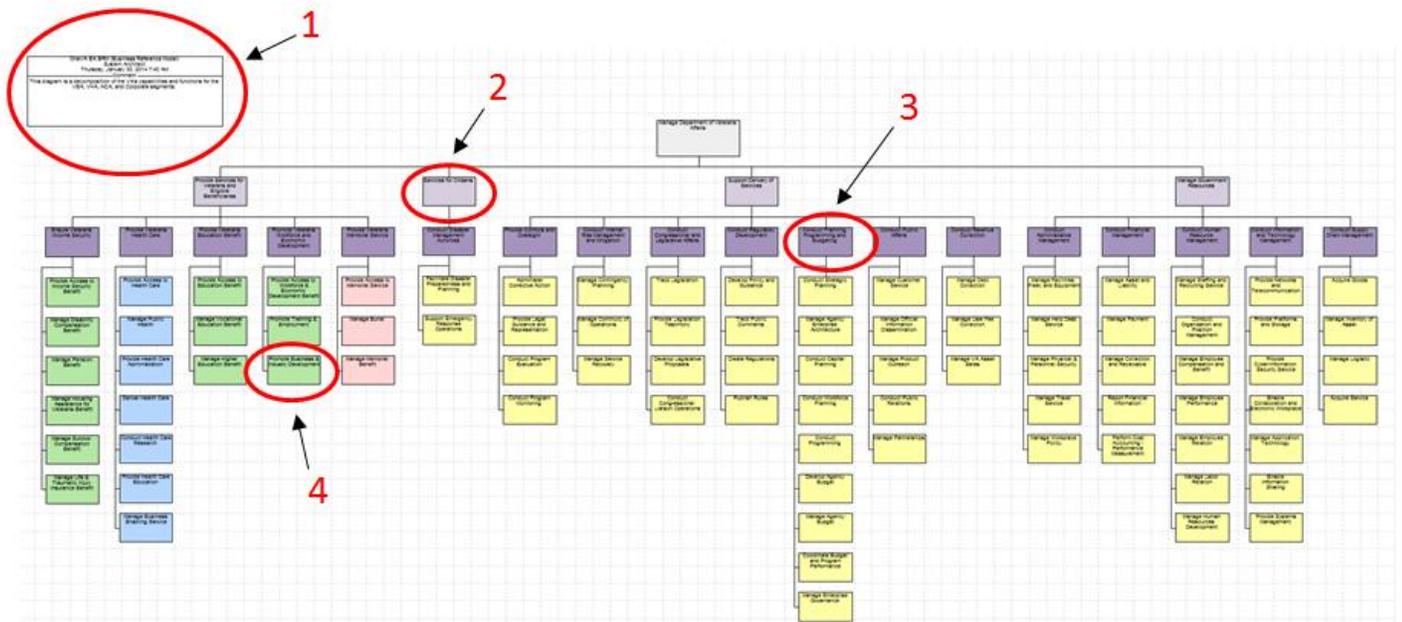


Figure 2: Business Reference Model Example

Object definitions:

- (1) **Documentation Block** - located in the upper left corner of the diagram. The document block contains the model name, model type, model description and last modification date and time.
- (2) **Category** – the highest level business functions supporting VA operations.
- (3) **Capability** - decomposition of a category into its various lines-of-business.
- (4) **Line-of-business** - the lowest level of decomposition in the BRM, representing related business functions that enable a capability.

Figure 3 below depicts the OneVA EA federation technique. Lines-of-business are the explicit linking objects between the architectures that form the federation. Lines-of-business in the OneVA EA and the Segment EA should have the same name. Segment lines-of-business decompose into business functions. All other enterprise objects are implicitly linked through the lines-of-business. For example, a OneVA EA line-of-business may be mapped to a OneVA EA data subject area. That OneVA EA line-of-business may have a federation link to a business function in a segment architecture. The business function in the segment architecture may be mapped to entities. Thus, the OneVA EA subject area is implicitly linked to the segment architecture entities.

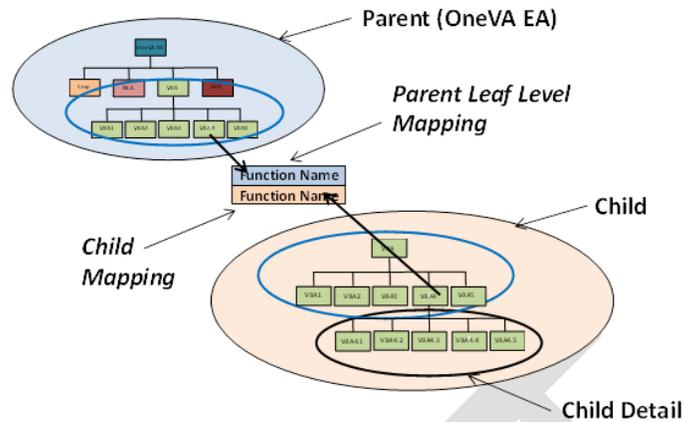


Figure 3: OneVA EA Meta Model and Federation Technique

5.3 BRM Relationship to Other Models

Table 5: Business Reference Model Relationships to Other Models

Model	Relationship
Overview and Summary Information	The scope described in the OSI defines the functionality depicted in the BRM.
Business Concept Graphic	The scope depicted in the BCG must agree with the scope of the BRM.
Business Process Model	The BPM business processes provide detail about functionality described in the BRM.
Data Dictionary	All terms and acronyms must be defined in the Data Dictionary.
System Interface Model	Systems depicted in the SIM support business functions included in the BRM.

5.4 BRM Conventions

Table 6: Conventions Used in the BRM

Element	Symbol	Format
Documentation Block	Text Box 	Position: Upper Left Corner Border: Solid Black Fill: None Text: Color: Black Font: Arial Size: Default

Element	Symbol	Format
Business Categories, Capabilities, Lines-of-business	<p>Rectangle</p> 	<p>Border: Solid Black</p> <p>Fill: Color coded as shown in the figure below. R/G/B codes are as follows:</p> <p>VA level - 239/239/239</p> <p>Category - 210/201/222</p> <p>Capability - 167/150/190</p> <p>Lines-of-business</p> <p>VBA – 182/227/166</p> <p>VHA – 176/213/255</p> <p>NCR – 255/213/213</p> <p>Text: Color: Black</p> <p>Font: Arial</p> <p>Size: Default</p>
Relationships (Parent/Child)		<p>Border: Solid Black</p> <p>Fill: N/A</p> <p>Text: Color: Black</p> <p>Font: N/A</p> <p>Size: N/A</p>

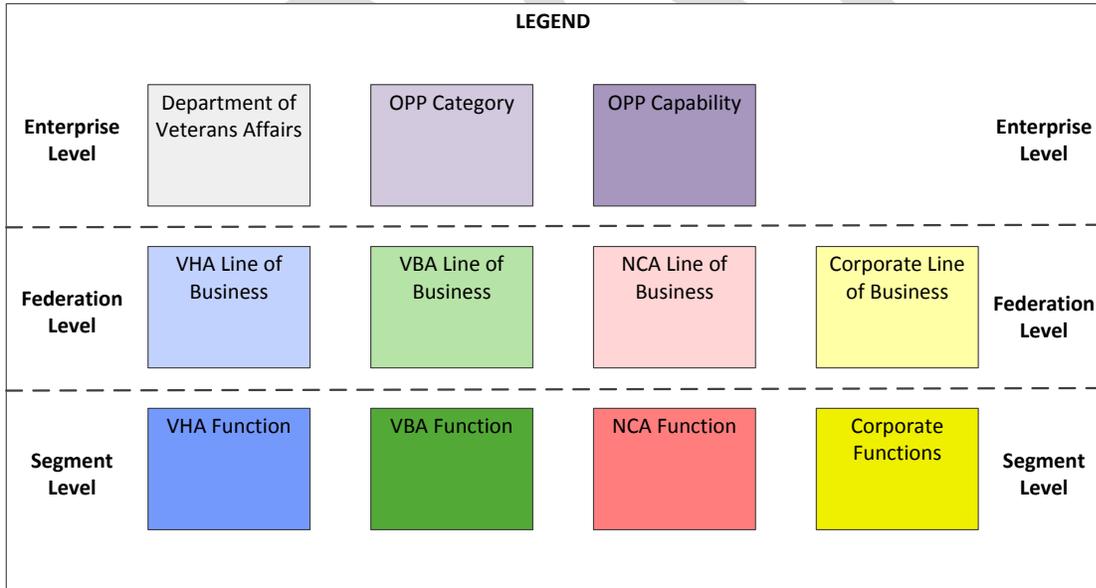


Figure 4: BRM Business Function Colors

The following guidelines are used to create or modify the Business Reference Model:

- Documentation Block - located in the upper left corner of the diagram. The document block contains the model name, model type, model description and last modification date and time.

- All business functions must be defined. Definitions should reflect the information transformation, creation and consumption actions performed by the business functions. Each definition must be clear, concise, use active voice, and comprise complete, grammatically correct sentences.
- The business functions label shall begin with a RETURN so that the label does not touch the upper border of the business function box.
- The business functions box label must fall within the Business Function box border when printed.
- The business functions box border shall be a solid black line.

6 Business Process Model (BPM)

6.1 BPM Purpose

A Business Process Model describes operational processes that are conducted in the course of achieving a business capability. It describes the operational processes conducted by the business, the relationships between processes (sequential/parallel), input and output flows between processes, and input and output flows to and from processes outside the scope of the architecture.

BPM models are used to define, measure, improve, design, control, and validate existing processes or new processes, for greater efficiency and effectiveness or to enable transformation of business operations.

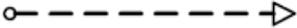
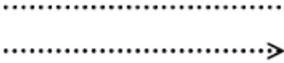
6.2 BPM Description

Business Process Models in the OneVA Enterprise Architecture are constructed using the BPMN 2.0 standard that is managed by the Object Management Group (OMG). The BPMN specification can be found on the OMG website at the following link: <http://www.bpmn.org/>.

Table 7 below lists and describes the basic BPMN elements used in a OneVA EA business process model:

Table 7: Basic BPMN Modeling Elements (from the OMG document, Business Process Model and Notation v. 2.0)

Element	Description	Notation
Event	An Event is something that happens during the course of a Process or a Choreography. These Events affect the flow of the model and usually have a cause (<i>trigger</i>) or an impact (<i>result</i>). Events are circles with open centers to allow internal markers to differentiate different <i>triggers</i> or <i>results</i> . There are three types of Events, based on when they affect the flow: Start, Intermediate, and End.	

Element	Description	Notation
Activity	<p>An Activity is a generic term for work that a company performs in a Process. An Activity can be atomic or non-atomic (compound). The types of Activities that are a part of a Process Model are: Sub-Process and Task, which are rounded rectangles. Activities are used in both standard Processes and in Choreographies.</p>	
Gateway	<p>A Gateway is used to control the divergence and convergence of Sequence Flows in a Process and in a Choreography. Thus, it will determine branching, forking, merging, and joining of paths. Internal markers will indicate the type of behavior control.</p>	
Sequence Flow	<p>A Sequence Flow is used to show the order that Activities will be performed in a Process and in a Choreography.</p>	
Message Flow	<p>A Message Flow is used to show the flow of Messages between two <i>Participants</i> that are prepared to send and receive them. In BPMN, two separate Pools in a Collaboration Diagram will represent the two <i>Participants</i> (e.g., PartnerEntities and/or PartnerRoles).</p>	
Association	<p>An Association is used to link information and Artifacts with BPMN graphical elements. Text Annotations and other Artifacts can be Associated with the graphical elements. An arrowhead on the Association indicates a direction of flow (e.g., data), when appropriate.</p>	

Element	Description	Notation
Pool	A Pool is the graphical representation of a <i>Participant</i> in a Collaboration. It also acts as a swim lane and a graphical container for partitioning a set of Activities from other Pools, usually in the context of B2B situations. A Pool MAY have internal details, in the form of the Process that will be executed. Or, a Pool MAY have no internal details, i.e., it can be a black box.	
Lane	A Lane is a sub-partition within a Process, sometimes within a Pool, and will extend the entire length of the Process, either vertically or horizontally. Lanes are used to organize and categorize Activities.	
Data Object	Data Objects provide information about what Activities require to be performed and/or what they produce, Data Objects can represent a singular object or a collection of objects. Data Input and Data Output provide the same information for Processes.	
Message	A Message is used to depict the contents of a communication between two <i>Participants</i> (as defined by a business PartnerRole or a business PartnerEntity).	
Group (a box around a group of objects within the same category)	A Group is a grouping of graphical elements that are within the same Category. This type of grouping does not affect the Sequence Flows within the Group. The Category name appears on the diagram as the group label. Categories can be used for documentation or analysis purposes. Groups are one way in which Categories of objects can be	

Element	Description	Notation
	visually displayed on the diagram.	
Text Annotation (attached with an Association)	Text Annotations are a mechanism for a modeler to provide additional text information for the reader of a BPMN Diagram.	

Figure 5 below depicts an example of a Business Process Model:

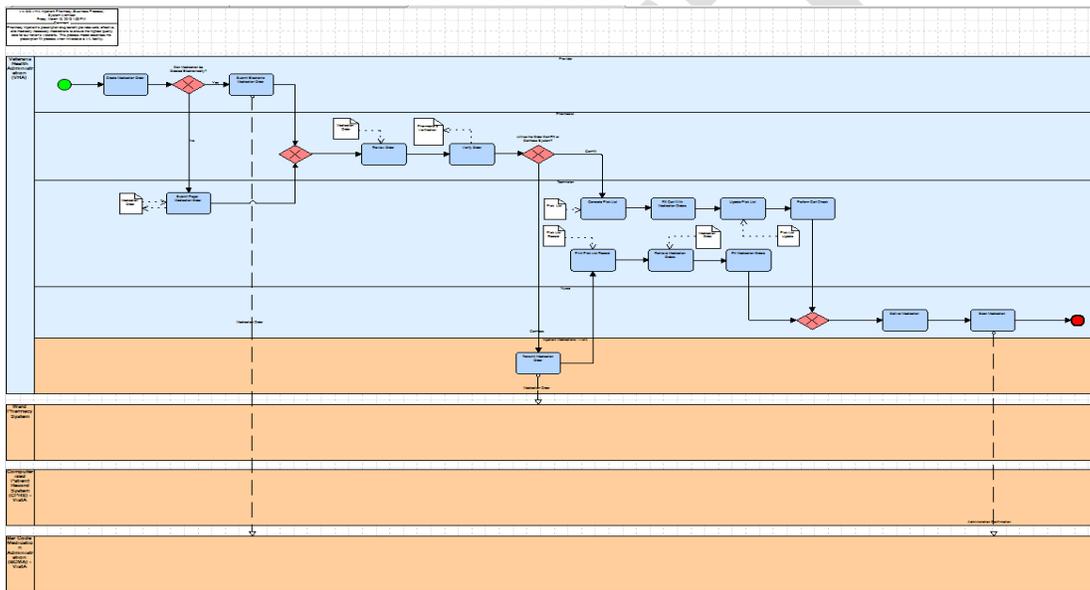


Figure 5: Business Process Model (using BPMN)

6.3 BPM Relationship to Other Models

Table 8: Business Process Model Relationships to Other Models

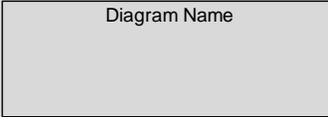
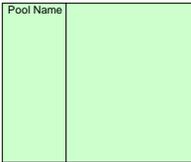
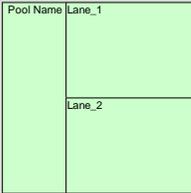
Model	Relationship
Overview and Summary Information	Processes modeled in the BPM must be within the scope defined in the OSI.
Business Concept Graphic	The scope depicted in the BCG must agree with the scope of the BRM.
Business Reference Model	BRM leaf-level functions are linked to processes in the BPM.
System	Systems depicted in the SIM support business processes included in the BPM.

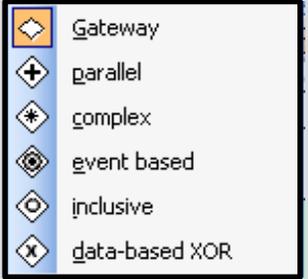
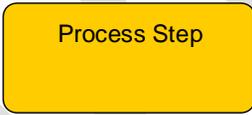
Information Model	
Data Dictionary	All BPM terms and acronyms must be defined in the Data Dictionary.

6.4 BPM Conventions

The following table lists modeling conventions used to create a Business Process Model:

Table 9: Conventions Used in the Business Process Model

Element	Symbol	Format
Document Block	 <p>A rectangular box with a black border and the text "Diagram Name" centered inside.</p>	Position: Upper Left Corner Border: Solid Black Fill: None Text: Color: Black Font: Arial Size: Default
Pool	 <p>A light green rectangular area with a black border. The text "Pool Name" is written in the top-left corner.</p>	Border: Solid Black Fill: Light Green Text: Color: Black Font: Arial Size: Default
Lane	 <p>A light green rectangular area with a black border, divided into two horizontal lanes. The top-left corner is labeled "Pool Name", the top-right corner is labeled "Lane_1", and the bottom-right corner is labeled "Lane_2".</p>	Border: Solid Black Fill: Light Green Text: Color: Black Font: Arial Size: Default

Element	Symbol	Format
Event Primitives	 <ul style="list-style-type: none">  Event  conditional  exception  cancel  compensation  catching escalation  escalation  intermediate error  end error  catching link  throwing link  message  catching message  send message  multiple  catching signal  send signal  timer  terminate 	Border: Solid Black Fill: Light Brown Text: Color: Black Font: Arial Size: Default
Gateway Primitives	 <ul style="list-style-type: none">  Gateway  parallel  complex  event based  inclusive  data-based XOR 	Border: Solid Black Fill: Light Brown Text: Color: Black Font: Arial Size: Default
Process Step		Border: Solid Black Fill: Gold Text: Color: Black Font: Arial Size: Variable
Sequence Flow		Line: Solid Black Text: Color: Black Font: Arial Size: Default

Element	Symbol	Format
Message Flow		Line: Dashed Black Text: Color: Black Font: Arial Size: Pen 7
Data Object		Border: Solid Black Fill: White Text: Color: Black Font: Arial Size: 10

The following guidelines are used to create or modify the Business Process Model:

- Documentation Block - located in the upper left corner of the diagram. The document block contains the model name, model type, model description and last modification date and time.
- Diagram Names shall contain at least one verb and one noun.
- Diagrams that depict a sub-process should be named for the sub-process. However, it is recognized that in the case of reusable sub-processes this scenario is not always possible.
- Each BPM Diagram shall include a description to provide a clear understandable narrative of what the Diagram portrays. This information should be included in the Diagram Properties.
- The Diagram description must be clear, concise and unambiguous. The description shall include, as a minimum, a summary of the main Process Thread, a reference to the Events and their relationship to other diagrams, a reference to the Gateways and the decisions made, and a summary of the major Business Rules that impact the diagram.
- Participants, Data Objects, and Process Steps must have labels containing name and/or other attributes placed inside the shape. Events, Gateways Sequence Flows and Message Flows labels should be placed above the shape as much as possible. However, labels may be placed below or to the right or left of the object to enhance readability of the Diagram.
- While extensible, BPM diagrams still have the basic look and feel for any viewer to easily understand a diagram created by any process architect. Thus, the footprint of the basic flow elements (Events, Process Steps and Gateways) should not be altered.

Objects in the BPM diagrams shall have a concise and intuitive name according to the following standards:

- All BPM object names shall be title-case. Nouns must be singular, unless the plural form is required to correctly describe the object. Use only approved acronyms.
- Activities must be clearly named and defined. The Activity name shall contain at least one verb in the present tense and one noun; for example, "Analyze Record."

- Events shall be clearly defined and labeled. Event names shall consist of at least one noun and one verb or adjective, for example, “Record Analyzed”, “Booking Successful.” Event names shall be as specific as possible, avoiding generic names such as “End”, “Stop”, or “Start.” Do not use verb-noun names for Events; for example, “Send Notification” is not a proper name for an Event.
- Data Objects shall be clearly named and defined. The name must have at least one noun that accurately describes the Data Object. A Transition State may be used as necessary to identify changes in a Data Object’s content or State.
- Decision Gateways must be clearly named and defined with a combination of nouns and verbs conveying a question or query, ending in a question mark.

Example: The question “Adjustment required?” with the answers “Adjustment not required” and “Adjustment required” are not acceptable because they may also refer to other unrelated adjustments elsewhere in the architecture. A more specific question incorporating context would be “Adjustment to cost model required?” with the answers being “Adjustment to cost model required” and “Adjustment to cost model not required” would be better.

- Gateway Control Types should be displayed consistently.
- Participants (Pools) and Roles (Lanes) names shall be composed of nouns, and adjectives, where appropriate, and must be clearly defined.
- Groups may be used to cluster related objects. A name shall be assigned to the Group, defined using appropriate nouns and verbs.
- All Object names shall be less than 80 characters long.
- Do not use special characters in object names, with the exception of “?” in gateways.
- Use initial uppercase for all object names. Incidental words, such as prepositions within the object name (“with”, “at”, “in”, “and”, “no”, “not”, “a”, “an”, “to”, or “the”), shall be all lowercase.
- Object names shall be spelled correctly and shall not use future tense.

7 Conceptual Data Model (CDM)

7.1 CDM Purpose

The Conceptual Data Model is a high-level view of VA information which describes general groups of data required to support business operations. The CDM describes information and data that the business must collect and store, and generally describes the data used by systems that implement or support business processes. The CDM facilitates the improvement of the quality and depth of information available for business operations.

7.2 CDM Description

The CDM depicts data objects that are of significance to an organization (entity classes), about which the organization collects information, and characteristics of (attributes), and associations (relationships) between pairs of those objects of significance. It defines the information classes and the relationships among them. Each kind of information class is defined as its own entity with associated attributes and relationships. An entity is something of interest to the business about which data (characteristics or attributes) are collected. A relationship shows how entities are associated with one another.

A class of data (entity or subject area) is represented in the CDM as a rectangle and is labeled with a singular noun, or an adjective and noun. Relationships are drawn as a line connecting the related entities.

A characteristic of relationships is cardinality which describes how the entities are related. Entities can be related with a one-to-many relationship where one entity is the parent (independent) and the associated entity is a child (dependent). In a CDM entities may be associated with many-to-many relationships.

The level of detail in a Conceptual Data Model varies with the purpose of the architecture. Entities may not have all attributes and relationships identified and relationship cardinality will often be unknown at the time of CDM development. As much detail as is necessary to satisfy the purpose of the architecture should be included in the CDM.

Figure 6 below depicts a Conceptual Data Model with relationships and relationship cardinality identified, though entity attributes remain undefined:

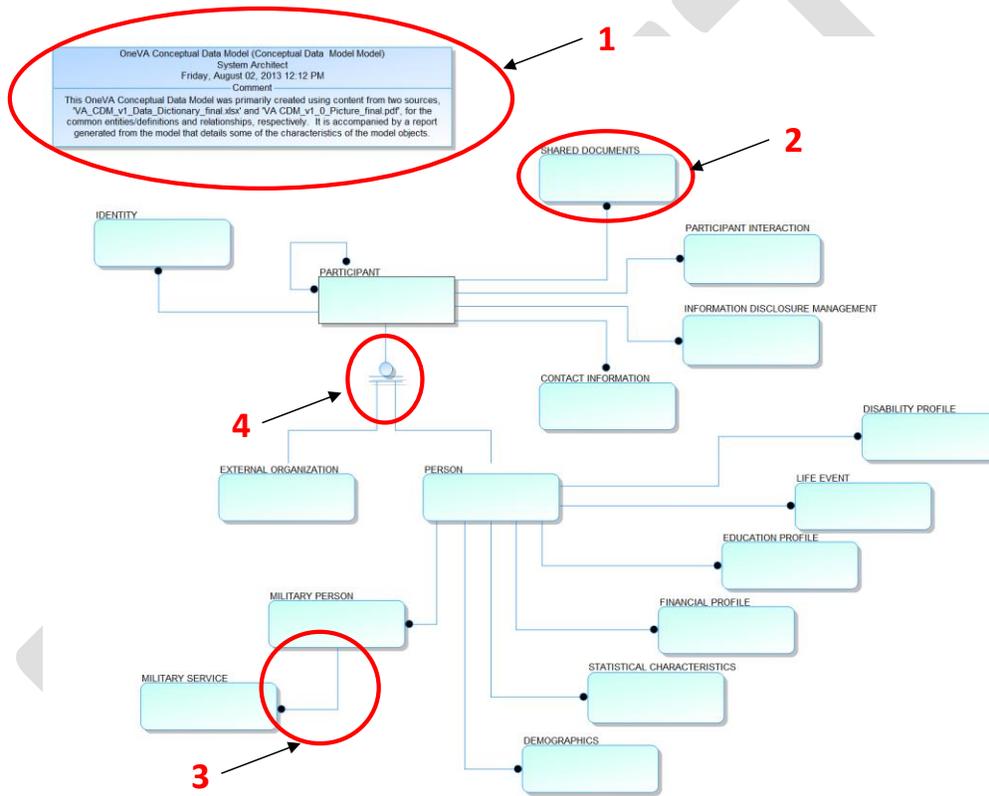


Figure 6: Conceptual Data Model

Object definitions:

(1) Documentation Block - contains the diagram name, last modification date and a brief description of the contents of the diagram. It is located in the upper left corner of the diagram.

(2) Entity - refers to a unique person, place, or thing about which the business desires to maintain information. It may be either physical or conceptual (an event, an idea). Each entity represents a set of things having common characteristics and is usually related to other entities.

(3) Relationship - a connection or association between two entities based on a structural business rule.

A Relationship instance is the meaningful association or connection between two entity instances. For each entity instance at one end, the relationship shows the minimum and maximum number of instances possible for the entity at the other end.

(4) Supertype/Subtype - a relationship between two entities where the dependent entity inherits characteristics from the independent entity.

7.3 CDM Relationship to Other Models

Table 10 below lists the relationships of the CDM to other architecture models:

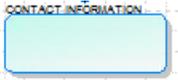
Table 10: Conceptual Data Model Relationships to Other Models

Model	Relationship
Overview and Summary Information	Data described in the CDM must comply with the scope defined in the OSI.
Business Concept Graphic	The scope depicted in the BCG defines the scope of the CDM.
System Interface Model	Data exchanged in system interfaces must be described in the CDM.
Business Reference Model	Data specified in the various levels of the BRM are described in the CDM.
Business Process Model	Data referred to in a data object in the BPM is described in the CDM.
Data Dictionary	All terms in the CDM must be defined in the DD.

7.4 CDM Conventions

Table 11 below lists modeling conventions used to create a Conceptual Data Model:

Table 11: Conventions Used in the Conceptual Data Model

Element	Symbol	Format
Documentation Block	Text Box 	Position: Upper Left Corner Border: Solid Black Fill: None Text: Color: Black Font: Arial Size: Default
Entity	Rounded Rectangle or Rectangle 	Border: Solid Black Fill: Light blue, with values R/G/B – 198/255/244 Text: Color: Black Font: Arial Size: Default
Relationship		Border: N/A Fill: N/A Text: Color: Blue Font: Arial Size: Default
Supertype/Subtype		Border: N/A Fill: N/A Text: Color: Blue Font: Arial Size: Default

The following guidelines are used to create or modify the Conceptual Data Model:

- A Documentation Block is placed in the upper left-hand corner of every diagram as close to the corner as the printer margins will permit. Include the diagram name and date last updated.
- The dimensions of the Documentation Block are adjusted so truncation indicators (dots) are not displayed and all text is visible.
- A black border and no fill color are selected for the Documentation Block.
- The Entities should be grouped by relationships to minimize crossing relationship lines and to make the diagram more readable and understandable.
- The Title of the diagram shall include the following:
 - Be centered on the top of the diagram and in title case (determine center placement by printing single page printable diagrams on 8.5"x11" paper, and folding sheet in half side to side).

- Not be underlined or bolded.
- Be in Arial font with appropriate font size so the title is in proportion to all other diagrams when single page printable diagrams are printed on 8.5"x11" paper.
- Be an exact match of the Diagram Name.

8 Enterprise Logical Data Model (ELDM)

8.1 ELDM Purpose

The Enterprise Logical Data Model is used to define, describe, and analyze the data needed to support business processes. Using business language, the ELDM documents the enterprise's data types and the structural business process rules (relationships) that govern the data.

8.2 ELDM Description

The Enterprise Logical Data Model describes business data types, or classes, and structural business rules using entities and relationships. An entity is an abstraction of something (a person, an object, a geographic location) about which the business needs to store information. Entities identify data types, and are described with a set of attributes that list and define characteristics of the data. One or more of the attributes uniquely identify an entity. Entities are represented in a model as a rectangle with rounded corners and related entities are joined with a connecting line and are labeled to identify the nature of the relationship. For example, employees of a company usually have several phone numbers. The relationship between employees and phone numbers could be labeled "contacted with", and read as "Each employee is *contacted with* phone numbers".

An important characteristic of the relationship between entities is the cardinality of the relationship. Cardinality describes the number of instances of an entity in relation to another entity. Cardinality values include one-to-one, one-to-many, many-to-one, and many-to-many. In the example above, an employee may have more than one phone number, so the relationship cardinality is one-to-many and could be read as "Each employee is contacted by one or more phone numbers". Many-to-many relationships are indeterminate and are resolved into associative entities in the ELDM.

Another characteristic of relationships is the relationship optionality. Optionality indicates if the relationship between two entities is one that is required to exist. Continuing the example above, employees of the organization may be required to have a contact phone number, in which case, the optionality of the relationship is described as mandatory.

Enterprise Logical Data Models in the OneVA EA are required to include independent entities, each with an identifier, a complete set of defined attributes and an entity identifier, and all entity relationships fully defined and indicated with cardinality and optionality. Models are to be independent of any system, platform or database technology.

Currently, the modeling notation used is IDEF1X.

Figure 7 below depicts an enterprise-level logical data model with entities, entity identifiers, attributes, relationships, and relationship cardinality included. Entity, attribute, and relationship definitions are usually provided in a separate document or available from a tool.

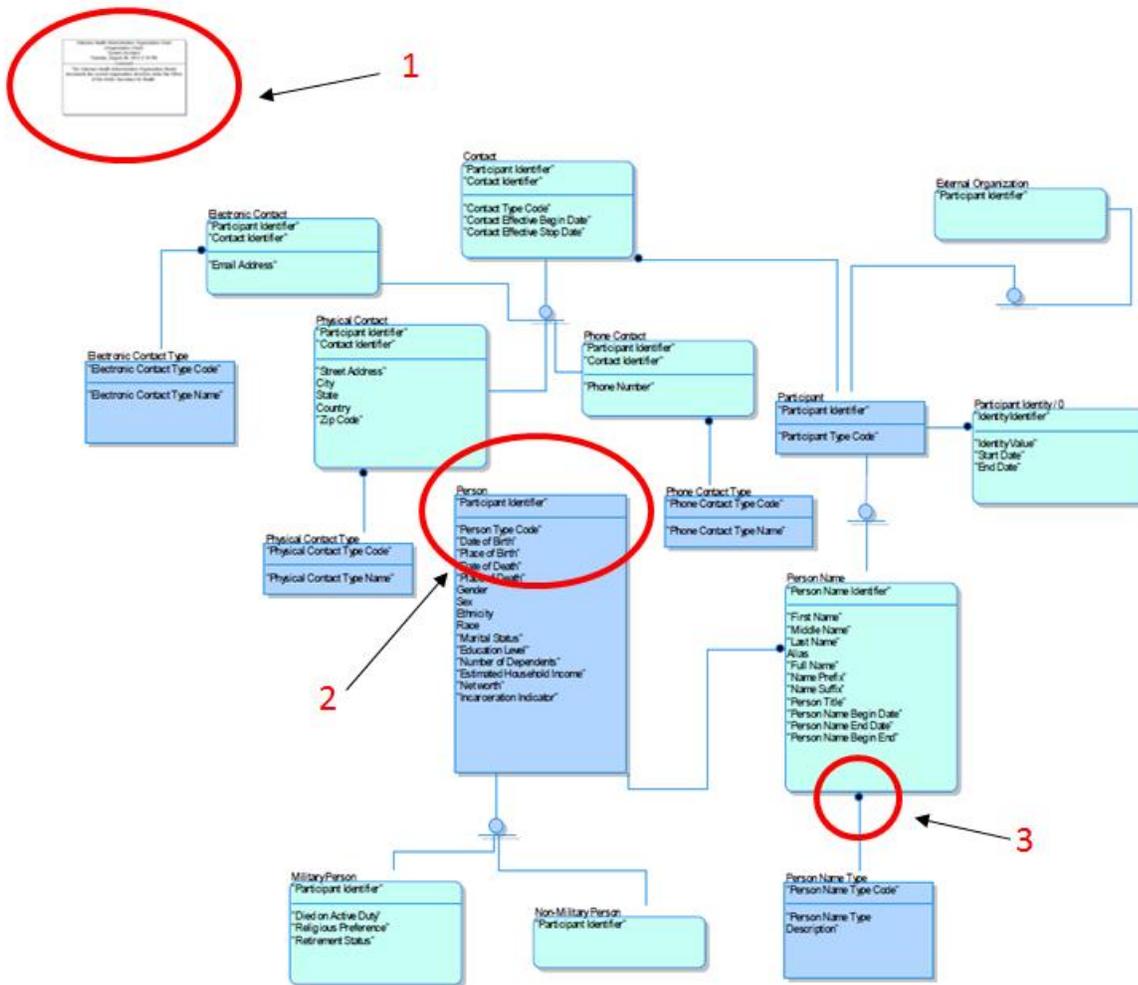


Figure 7: Enterprise Logical Data Model

Object definitions:

- (1) **Documentation Block** - contains the diagram name, last modification date and a brief description of the contents of the diagram. It is located in the upper left corner of the diagram.
- (2) **Entity** - labeled with its name, the identifier listed above the horizontal line, and attributes listed below the horizontal line.
- (3) **Relationship between two entities** - with cardinality (many-to-one) and optionality (mandatory) depicted.

8.3 ELDM Relationship to Other Models

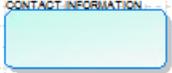
Table 12: Enterprise Logical Data Model Relationship to Other Models

Model	Relationship
Overview and Summary Information	Data described in the ELDM must comply with the scope defined in the OSI.

Business Concept Graphic	The scope depicted in the BCG defines the scope of the ELD.
System Information Model	Data exchanged in system interfaces must be described in the CDM.
Business Reference Model	Data specified in the various levels of the BRM are described in the CDM.
Business Process Model	Data referred to in a data object in the BPM is described in the CDM.
Data Dictionary	All terms in the ELDM must be defined in the DD.

8.4 ELDM Conventions

Table 13: Conventions Used in the Enterprise Logical Data Model

Element	Symbol	Format
Documentation Block	Text Box 	Position: Upper Left Corner Border: Solid Black Fill: None Text: Color: Black Font: Arial Size: Default
Entity	Rounded Rectangle or Rectangle 	Border: Solid Black Fill: Light blue, with values R/G/B – 198/255/244 Text: Color: Black Font: Arial Size: Default
Relationship		Border: N/A Fill: N/A Text: Color: Blue Font: Arial Size: Default

Element	Symbol	Format
Supertype/Subtype		Border: N/A Fill: N/A Text: Color: Blue Font: Arial Size: Default

9 Systems Interface Model (SIM)

9.1 SIM Purpose

The Systems Interface Model identifies the relationship of systems and system nodes and the interfaces that exchange data. It depicts system nodes, systems, and top level services resident at these nodes that support VA operations and business processes. It also identifies interfaces that cross organizational or agency boundaries to external nodes (non-VA and federal systems).

The SIM is used to provide the basis for categorizing systems and their components. It facilitates the identification of gaps and redundancies, and the identification of opportunities for sharing, reuse, and consolidation.

The term “system”, in this section, represents both systems and services.

9.2 SIM Description

The Systems Interface Model is comprised of a set of diagrams developed with a specific context in mind, e.g. an organizational focus or a system focus. It identifies system nodes and systems that support the business functions of VA organizations. The SIM also identifies interfaces between systems and between system nodes. Initial versions of the SIM may only show key interfaces. Detailed versions are used to identify system requirements and system interoperability.

A OneVA EA System Node represents one or more systems that work together within a segment to support the automated portion of the business requirements described in the business functions. A system represents a related set of software components resting on infrastructure that, when aggregated and managed, may be used to create, use share, and store data and information to enable support of a business function.⁴ A family of systems is a set of independent systems that can be arranged or interconnected in various ways to provide different stakeholder capabilities. An external system represents a system that is not in the OneVA EA but that does interface with systems within the OneVA EA.

Each SIM is constructed from the point of view of a focus system node that includes the node’s systems and their supporting system interfaces. Each peripheral system node will only include systems that have an interface to the focus node. The system interfaces on each model depict both internodal and intranodal exchanges of information with the focus node in support of business functions.

⁴ Definition from Federal Enterprise Architecture Framework Version 2, January 29, 2013

Figure 8 below depicts an example of a Systems Interface Model:

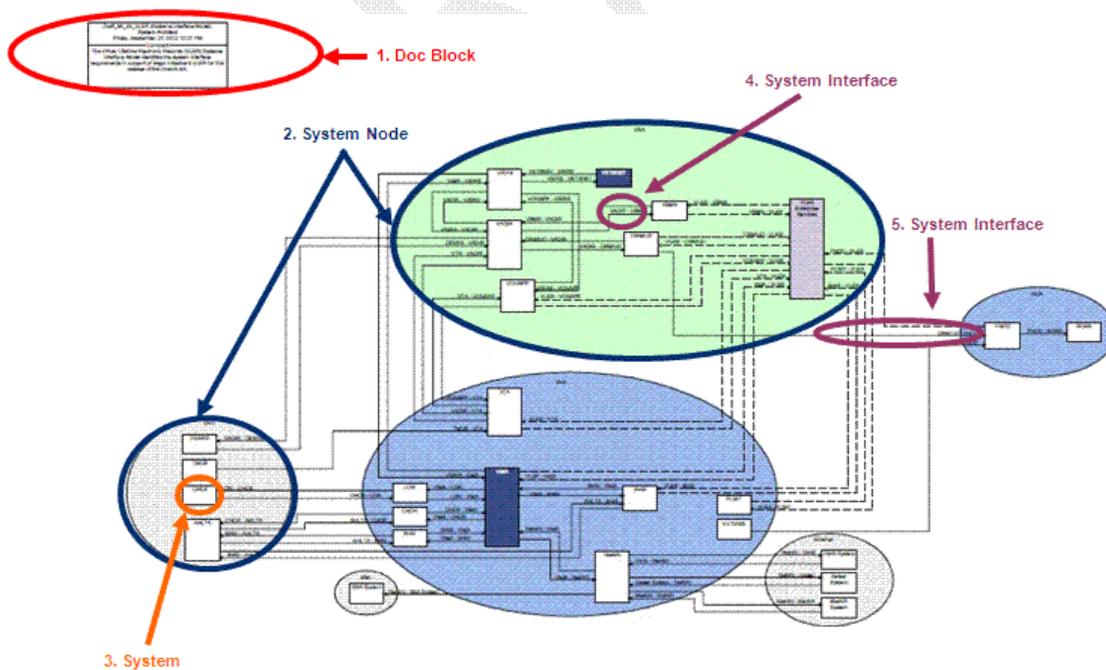


Figure 8: System Interface Model

Object definitions:

(1) Documentation Block is located in the upper left corner of the diagram. The title block contains the diagram name which includes the focus Stakeholder (“MI_4_VLER”), type (“Systems Interface Model”) and last modification date.

(2) System Nodes are the large oval shapes in the diagram that are named after the stakeholder. The SIM diagram name represents the focus system node.

(3) Systems are the rectangles contained within each system node. They represent the VA stakeholder enterprise systems, and external systems including federally mandated systems.

(4), (5) System Interfaces are depicted graphically as lines between the systems. They are a simplified, abstract representation of intranodal communications between systems within a system node (4) and internodal communications between systems across system nodes (5).

9.3 SIM Relationship to Other Models

Table 14: Systems Interface Model Relationship to Other Models

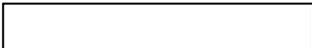
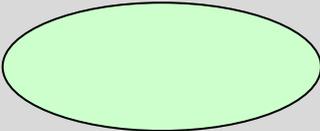
Model	Relationship
Overview and Summary Information	Systems and interfaces depicted in the SIM must comply with the scope defined in the OSI.

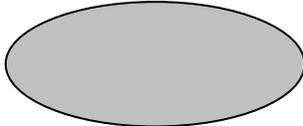
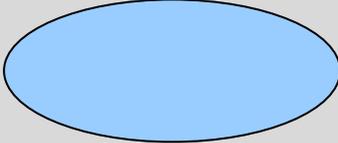
Conceptual Data Model	The CDM describes data exchanged through interfaces depicted in the SIM.
Business Concept Graphic	The scope depicted in the BCG defines the scope of the SIM.
Business Reference Model	The BRM describes the business functions supported by the SIM.
Business Process Model	The BPM describes the business processes supported by the SIM.
Enterprise Technical Architecture	The infrastructure described in the ETA supports systems and interfaces depicted in the SIM.
Functional Organization Model	Nodes depicted in the SIM must support organizations appearing in the FOM.
Data Dictionary	All terms in the SIM must be defined in the DD

9.4 SIM Conventions

Table 15: Conventions Used in the System Interface Model

Element	Symbol	Format
Documentation Block		Position: Upper Left Corner Border: Solid Black Fill: None Text: Color: Black Font: Arial Size: Default
System/Application		Border: Solid Black Fill: Stakeholder Dependent Text: Color: Black Font: Arial 10, black Size: Default

Element	Symbol	Format
Enterprise Level System	Rectangle 	Border: Solid Black Fill: Yellow boxes with a black border The custom color settings are: Red/Green/Blue – 255/255/153 Text: Color: Black Font: Arial 10, black Size: Default
Non-VA System	Rectangle 	Border: Solid Black Fill: White boxes with a black border. Text: Color: Black Font: Arial 10, black Size: Default
System of Systems	Text Box 	Border: Solid Black Fill: Blue fill with a black border. Custom color settings are: Red/Green/Blue – 49/133/155 Text: Color: Black Font: Arial 10, black Size: Default
Enterprise Level Service	Rectangular textbox 	Border: Solid Black Fill: Lavender fill and a black border. The custom color settings are: Red/Green/Blue – 210/201/222 Text: Color: Black Font: Arial 10, black Size: Default
Central System Node	Elliptical 	Border: Solid Black Fill: Light green fill and a black border. The custom color settings are: Hue/Sat/Lum – 140/240/192 or Red/Green/Blue – 204/255/204 Text: Color: Black Font: N/A Size: N/A
External System	Elliptical	Border: Solid Black

Element	Symbol	Format
Node		Fill: Light gray fill and a black border. The custom color settings are: Hue/Sat/Lum – 160/0/225 or Red/Green/Blue – 239/239/239 Text: Color: Black Font: N/A Size: N/A
External System Node (Internal to VA)		Border: Solid Black Fill: Light blue fill and a black border. The custom color settings are: Hue/Sat/Lum – 40/240/210 Red/Green/Blue – 255/255/191 Text: Color: Black Font: N/A Size: N/A
System Interface		Border: Solid Black Fill: N/A Text: Color: Black Font: N/A Size: N/A
Service Interface		Border: Dashed Black Width: 1.25 Text: Color: Black Font: N/A Size: N/A

The following guidelines are used to create or modify the System Interface Model:

- A Documentation Block representing header information for the diagram (including the diagram name and date last updated) is placed at the top center of every diagram. The Documentation Block is enlarged so there are no truncation indicators (dots) indicating text is not visible. The Documentation Block is a box with no fill color and has a black border.
- System Interface labels will be placed, where possible, above the horizontal line and closest to either the arrowhead or 90 degree angle.

- System Interface line intersections are permissible, but should be minimized to the extent possible.
- Each SIM diagram shall have a Diagram Description contained within the Description block of the diagram properties that describes the purpose of the diagram, the Stakeholder and federally mandated systems Information.
- The SIM diagram shall not have a border.
- System names are used to create system interface names. The naming convention for system interfaces is “sending system acronym” - “receiving system acronym”.
- Each system interface name shall use acronyms of systems depicted, be non-plural and use no special characters except “-”.

10 Data Dictionary (DD)

10.1 DD Purpose

The Data Dictionary is a table format model containing the definitions of terms used in the OneVA EA. The Data Dictionary is an accompanying reference to the other models in the architecture and enables the clear understanding of the models with minimal reference to outside sources.

10.2 DD Description

The Data Dictionary consists of a table that defines all terms used in the OneVA EA. Each labeled item in a model’s graphical representation is defined with an entry in the Data Dictionary.

Each entry in the Data Dictionary is described using the following attributes:

1. **Object Type:** The major classification scheme in the DD.
2. **Name:** The specific name of an instance of the Object Type.
3. **Description:** The full description (definition) of the listed Name.

Figure 9 below depicts a Data Dictionary entry for items under the “BPM Process Step” object type:

BPM Process Step		
Name	Description	Business Process Diagram(s)
Accept Goods and Services	Acknowledgement by an authorized official that goods tendered and services rendered conform with contract or intragovernmental order requirements, at which time the Government takes ownership and triggers asset valuation and accountability.	Manage Sales and Procurement
Accept Orders	Accept Orders is the process of managing transactions involving sales, services, and transfers between two entities of the government, including the ability to validate supplier/buyer information; enter, accept, review, send, issue, and modify inter/intra agency orders; send inter/intra agency agreement notifications; receive inter/intra agency procurement evidence; receive and accept goods obtained intra-governmentally; and receive an inter/intra agency invoice.	
Accept Other Goods and Services	This process includes the act of an authorized representative assuming ownership and accountability of existing identified goods tendered or approved specific services rendered. This includes final review and signing of documentation that triggers final payment, asset accountability, inventory record updates, etc. This process applies to all goods and services, excluding real property. For intragovernmental orders, acceptance is deemed to occur constructively, unless otherwise denoted in the order, on the 7th calendar day after the Government buyer receives delivery of supplies or performance of services in accordance with the terms and conditions of the order, unless there is a disagreement over quantity, quality, or compliance with other terms and conditions of the order. The trading partners may specify a longer period for constructive acceptance in the solicitation and resulting order, if required, but must document in the file the justification for extending the constructive acceptance period beyond 7 days. Constructive acceptance for intragovernmental orders will trigger the payment process. The definition of constructive acceptance should not be interpreted to conflict with established/existing FAR or FMR definitions or other regulatory guidance. This definition is strictly to apply to intragovernmental reimbursable transactions only, and occurs after initial acceptance by the government.	Finalize Acceptance Manage Financial Assets and Liabilities Manage Liabilities Perform Receipt, Acceptance, and Return Personnel Visibility
Accept Signed Agreement	This process includes the Government buyer accepting the Government supplier signed agreement thus formalizing the agreement.	Establish Sourcing Vehicle with Government Sources Source Goods and Services

Figure 9: Data Dictionary Example

There may be cases where more than one Administration in the VA uses the same term in different ways. In these cases, the Data Dictionary should include the definition for each instance under its respective object type and include a note to provide disambiguation.

10.3 DD Relationship to Other Models

Table 16: Data Dictionary Relationship to Other Models

Model	Relationship
All Models	All object terms and acronyms from all models must be defined in the Data Dictionary

10.4 DD Conventions

The Data Dictionary is constructed in a three-column format, sorted by object name. Columns provide the following information for each entry: name of object; description; object type.

11 Reports

11.1 Reports Purpose

Reports accompany each release of the OneVA Enterprise Architecture and provide details on the models delivered for that release.

11.2 Reports Description

Reports are tabular in nature and include descriptive and status-oriented information about each model in the release. Following is a list of reports available:

- **Business Reference Model Report**
This report lists the OneVA EA BRM Lines-of-Business which serve as the OneVA EA BRM level.
- **Federated Business Reference Model Report**
This report (formally called the Business Function report) includes names and descriptions of each activity that is routinely performed to carry out specific VA business functions.
- **VBA Frankie Systems Interface Model (SIM) Report**
The VBA Frankie SIM Report contains the metadata behind the VBA Frankie SIM. This information includes system/service name and definitions, interface name, and data contained in the interface where applicable.
- **Functional Organization Model Report**
- **Conceptual Data Model Report**
This report contains a listing of data element names and descriptions used to supplement the CDM Note that updates were made only to underlining data for the CDM that does not impact the model itself.
- **Enterprise Logical Data Model Report**
This report lists and defines each entity and its attributes. Each relationship is defined and its properties of optionality and cardinality are indicated.

- **OneVA EA Data Dictionary**
The Data Dictionary includes a definition of all architecture objects used in the OneVA EA. Additionally, all acronyms are translated and defined.
- **Strategic Plan Refresh Mappings Report**
This report includes the names and descriptions of each Business Goal Business Objective and Business Strategy included in the VA Strategic Plan Refresh.
- **Strategic Plan Addendum Mappings Report**
This report includes the names and descriptions of Core Values, Characteristics, Agency Priorities and Goals included in the VA Strategic Plan Addendum.
- **OneVA EA Business Function Mapping to 2007 FEA BRM Report**
This report includes the names and descriptions of VA Business Functions and the mapping to the Federal Enterprise Architecture Business Reference Model.
- **OneVA EA April 2013 - September 2013 Compare Report**
The report shows a comparison of changes to the OneVA EA from the April 2013 architecture release to the September 2013 release.
- **Major Initiative Report**
This report includes names and descriptions of each VA Major Initiative and Supporting Initiatives.
- **Systems to Major Initiative**
This report includes the names and descriptions of VA Systems and their mappings to VA Major Initiatives
- **System Inventory Report**
This report includes the names and descriptions of each application and system within the enterprise.

11.3 Reports Relationship to Other Models

Table 17: Reports Relationship to Other Models

Model	Relationship
All Models	All models are described by reports.

Appendix A Acronyms

Acronym	Definition
ARM	Applications Reference Model
ASG	Architecture Style Guide
BCG	Business Concept Graphic
BPM	Business Process Model
BPMN	Business Process Modeling Notation
BRM	Business Reference Model
CDM	Conceptual Data Model
CM	Configuration Management
CMD	Configuration Management Document
DD	Data Dictionary
DRM	Data Reference Model
ETA	Enterprise Technical Architecture
FEA	Federal Enterprise Architecture
FEAF	Federal Enterprise Architecture Foundation
FOM	Functional Organization Model
IEEE	Institute of Electrical and Electronics Engineers
IT	Information Technology
LDM	Logical Data Model
LRP	Laws, Regulations and Policies
MI	Major Initiative
NCA	National Cemeteries Administration
OMB	Office of Management and Budget
OneVA EA	Veterans Affairs Enterprise Architecture
OSI	Overview and Summary Information
RRM	Requirements and Rules Model
SoS	System of Systems
SOA	Service Oriented Architecture
SPO	Strategy Planning Objects
SIM	Systems Interface Model

Acronym	Definition
SRM	Security Reference Model
TRM	Technical Reference Model
URL	Universal Resource Locator
VA	Veterans Affairs
VBA	Veterans Benefits Administration
VADM	VA EA Development Methodology
VHA	Veterans Health Administration

DRAFT

Appendix B Glossary

Term	Description
Acronym	The initials of a standard phrase used in the OneVA EA or ETP.
Activity Box	Represented by an enclosed rectangular box within which an operational function is performed in conducting the business of the enterprise.
Action Assertion Business Rule	These rules concern some dynamic aspects of the business and specify constraints on the results that actions produce. There are three types of action assertions: <ul style="list-style-type: none"> – Condition: This is a guard or the “if” portion of an “if-then” statement. If the condition is true, it may signal the need to enforce or test additional action assertions. – Integrity Constraint: These must always be true (for example, a declarative statement). – Authorization: This restricts certain actions to certain human roles or users.
AND-Split	See “Fork (AND-Split)”. [BPM]
AND-Join	See “Join (AND-Join)”. [BPM]
Attribute	An Attribute is a property or characteristic that is common to some or all of the instances of an Entity. Attributes that identify Entities are key Attributes. Attributes that describe an Entity are non-key Attributes. Attributes are associated to one and only one Entity or Subject Area.
Artifact	A graphical object that shows additional information about a process that is not directly related to the Sequence Flow or Message Flow. There are three artifacts: Data Objects, Groups and Annotations. [BPM]
Association	An Association is used to link information with Flow Objects. An Association may or may not have direction. [BPM]
Availability	Timely, reliable access to data and information services for authorized users.
Box Name	The verb or verb phrase placed inside a BRM box to describe the modeled function.
Box Number	The number (0 to 9) placed inside the lower right corner of a BRM box to uniquely identify the box on a diagram.
BPM Event	See “Event”.
BPM Process	See “Process”.
Branch	A junction (fork or join) of two or more arrow segments.
Branching Point	Branching points are Gateways within a Business Process where the flow of control can take one or more alternative paths. Synonymous with <i>Decision</i> . [BPM]
Business Capability	This is the ability to execute a specific course of action. It can be a single business enabler or a combination of business enablers (e.g., business processes, policies, people, tools and systems information) that assist an organization in delivering value to its customer.

Term	Description
Business Process	A Business Process is a set of tasks that are performed within an organization or across organizations.
Business Rule	Listed in the RRM, a Business Rule is “a rule that is under business jurisdiction”, SBVR OMG. It is a constraint on an enterprise, a mission, operation, business, or architecture. A Business Rule describes what the business must or cannot do. A Business Rule is an atomic piece of business logic, specified declaratively, whose intent is to control, guide, or enhance behavior.
Child Box	A box on a Child diagram.
Child Diagram	The diagram that details a Parent box.
Class Word	A Class Word is a word selected from a specified list that is used in an Attribute name to establish the general structure and domain of that Attribute.
Collaborative Process	A collaboration process depicts the interactions between two or more business Entities. This is shown as two or more processes communicating with each other. In BPM, collaborative processes also include processes from the same Business Entity, but commonly assigned to a different higher-level process. [BPM]
Collapsed Sub-Process	A collapsed Sub-Process is a graphical representation of a Process Step in which the details of the Sub-Process are not visible in the diagram. This is indicated by a “+” stereotype. [BPM]
Conditional Flow	A Sequence Flow that has a condition expression evaluated at run time to determine whether the flow will be used. [BPM]
Confidentiality	Assurance that information is not disclosed to unauthorized individuals, processes or devices.
Connecting Objects	Connecting objects connect Flow Objects together. There are three connecting objects: Sequence Flow, Message Flow and Association. [BPM]
Context	The immediate environment in which a function (or set of functions on a diagram) operates.
Context Diagram	A diagram that presents the context of a model, whose node number is A-n (n greater than or equal to zero). The one-box A-0 is a required A-0; that with node numbers A-1, A-2, are optional A-0s.
Criticality	The criticality assessment of the information being exchanged in relationship to the mission being performed.
Data-Based Decision	A Gateway in which the Decision represents a branching point where Alternatives are based on conditional expressions based on data contained within the outgoing Sequence Flow. [BPM]
Data Element	A Data Element allows a common format or small set of values to be assigned to more than one Attribute or describe derived data such as a total that is not an Attribute.
Data Model	A graphical and textual representation of analysis that identifies the data needed by an organization to achieve its mission, functions, goals, objectives, and strategies and to manage and rate the organization. A data model identifies the Entities, Attributes and Relationships (or associations) with other data.

Term	Description
Data Object	Additional information on an BPM, which does not have any direct effect on the Sequence Flow or Message Flow but does show the data that may be passed, created, or consumed by the BPM Process. Data Objects are a mechanism to show how data is required or produced by Process Steps. A Data Object is considered an artifact because it does not have a direct effect on the Sequence or Message Flow of the process. [BPM]
Decision	Synonymous with “Branching Point.” [BPM]
Decomposition	The partitioning of a modeled function into its component functions.
Default Flow	Sequence Flow, for Data-Based Exclusive Decisions or Inclusive Decisions, which shall be used only if all the other outgoing Conditional Flows are not true at run time. [BPM]
Derivation Business Rule	These rules concern algorithms used to compute a derivable fact from other terms, facts, derivations, or action assertions.
Description	Text description of mission or role being performed by the Node.
Diagram	A single unit of a Model that presents the details of a box.
Diagram Node Number	That part of a diagram’s node references that corresponds to its Parent box node number.
End Event	An Event that indicates where the process concludes. [BPM]
Enterprise Sub-Services	Used in the SIM-TA Bridge, it describes the intersection between enterprise systems and Technical Services, and defines Standard attributes to bring order to that point.
Entity	An Entity is the representation of a set of real or abstract things (people, objects, places, events, ideas, combination of things, etc.) that are recognized as the same type because they share the same characteristics and can participate in the same Relationships.
Event	An Event is something that happens during the course of a Business Process. These Events affect the flow of the process and usually have a cause (trigger) or an impact (result). Events are represented as circles with open centers to allow internal markers to differentiate different triggers or results. There are three types of Events, based on when they affect the flow: Start, Intermediate and End. [BPM]
Event-Based Decision	The Decision represents a branching point where Alternatives are based on an Event that occurs at a particular point in the process. [BPM]
Event Name	Name of the Event that triggers the IE.
Exception Flow	Sequence Flow occurring outside the Normal Flow of the process and is based upon an Intermediate Event that occurs during the performance of the process. [BPM]
Exclusive Gateway (XOR)	An Exclusive Gateway restricts the flow such that only one of a set of alternatives may be chosen during runtime. There are two types of Exclusive Gateways: Data-based and Event-based. Also see “Inclusive Decision”. [BPM]
Expanded Sub-Process	An expanded Sub-Process is a graphical representation of a Sub-Process in which the boundary of the Sub-Process icon is expanded and the details (a process) are visible within its boundary. [BPM]

Term	Description
Flow Object	Flow Objects are the main graphical elements to define the behavior of a Business Process. The three Flow Objects are Events, Process Steps and Gateways. [BPM]
Fork (AND-Split) [BPM]	Dividing a path into two or more parallel paths, where Process Steps can be performed concurrently, rather than sequentially. [BPM]
Function	An activity, process, or transformation (modeled by a BRM box) identified by a verb or verb phrase that describes what must be accomplished.
Gateway	Used on a BPM, this Flow Object controls the divergence and convergence of multiple Sequence Flows. [BPM]
Inclusive Decision	A branching point (Gateway) where Alternatives are based on conditional expressions contained within the Sequence Flow. Since each path is independent, all combinations of the paths may be taken. Also see “Exclusive Gateway”. [BPM]
Integrity	Quality of an IS reflecting the logical correctness and reliability of the operating system; the logical completeness of the hardware and software implementing the protection mechanisms; and the consistency of the data structures and occurrence of the stored data. Note that, in a formal security mode, integrity is interpreted more narrowly to mean protection against unauthorized modification or destruction of information.
Intermediate Event	An Event that occurs between a Start Event and an End Event. It affects the flow of the process, but will not start or (directly) terminate the process. [BPM]
Interface	A shared boundary across which data or objects are passed; the connection between two or more model components for the purpose of passing data or objects from one to the other.
Join (AND-Join) [BPM]	A Gateway that combines two or more parallel paths into one path. Synonymous with “AND-Join” and “synchronization”. [BPM].
Lane	A Lane is a sub-partition within a Pool and extends the entire length of the Pool. Lanes are used to organize and categorize Process Steps within a Pool. [BPM]
Leaf-level	Refers to the lowest level of detail described for a given Business Function, system, or process model. It represents the lowest level of decomposition of higher-level models needed to represent objects and relationships of interest to the topic under study.
Level Identifier	If using hierarchical decomposition of Nodes: identifier that corresponds to the Node’s place in the Node hierarchy.
Logical Data Model	The LDM provides the structure for organizing the data as well as the metadata need for an understanding of the data. The LDM can serve as a guide for the acquisition and evaluation of systems by assisting portfolio managers in quantitatively assessing the contents of their portfolios in the evaluation of how well the alternative solutions meet the data needs of the VA.
Merging (OR-Join)	Merging exclusively combines two or more paths into one path. A Merge Gateway represents merging. [BPM]

Term	Description
Message Flow	A Message Flow shows the flow of messages between two Steps that are prepared to send and receive them. Two separate Pools in the Diagram will represent the two business units. [BPM]
Model Note	A textual comment that is part of a BRM diagram used to record a fact not otherwise depicted.
Name	Name or label of Node box on diagram.
Node	A box from which Child boxes originate; a Parent box.
Node Index	A listing, often indented, showing nodes in a BRM Model in outline order. Same meaning and content as Node Tree.
Node Reference	A code assigned to a diagram to identify it and to specify its position in the model hierarchy; composed of the model name (abbreviated) and the diagram node number, with optional extensions.
Node Tree	The graphical representation of the Parent-Child relationships between the Nodes of a BRM Model, in the form of a graphical tree.
Normal Flow	Normal Sequence Flow refers to the flow that originates from a Start Event and continues through Process Steps via alternative and parallel paths until it ends at an End Event. [BPM]
Normal Form	Normal form is the condition of an Entity relative to satisfaction of a set of normalization theory constraints on its attribution. A specific normal form is achieved by successive reduction of an Entity from its existing condition to some more desirable form.
Normalization	The process of refining and regrouping Attributes in Entities according to the normal forms.
Business Function	An activity is an action performed in conducting the business of an enterprise. It is a general term that does not imply a placement in a hierarchy (e.g., it could be a process or a task as defined in other documents and it could be at any level of the hierarchy of the Business Reference Model). It is used to portray operational actions not hardware/software System Functions. [BRM]
Business Function Name	Name of the Business Function (at the originating Node of the Need Line) that produces the IE.
Optional Non-Identified Relationship	A non-identified Relationship in which an instance of the Child Entity can exist without being related to an instance of the Parent Entity.
OR-Split	Synonymous with "Branching Point." [BPM]
Parent Box	A box that is detailed by a Child diagram.
Parent Diagram	A diagram that contains a Parent box.
Participant	A Participant is a single business Entity or a business role, which controls or is responsible for a Business Process. A Pool represents a Participant in the process. [BPM]
Periodicity	How often the IE occurs; may be an average or a worst-case estimate and may include conditions (for example, wartime or peacetime).
Persistent Data	Data that has been saved and remains available even when it is not being used.
Pool	A Pool represents a Participant – a single Business Unit – in a process. It also acts as a Swimlane and a graphical container for partitioning a set of Process Steps from other Pools. [BPM]

Term	Description
Primary Key Attribute	Represented by one or more textual names in the upper portion of the Entity box. Primary Key Attributes contain characteristics that uniquely define a single instance of an Entity.
Private Business Process	Private Business Processes are those internal to a specific organization and are the types of processes that have been generally called workflow or BPM Processes. [BPM]
Process	Used on a BPM, this denotes a set of tasks performed within a business organization, where an activity (not to be confused with the BRM usage for 'Business Function) is a generic term for work that a business organization performs. A BPM Process is depicted as a graph of Flow Objects, which are a set of other Process Steps and the controls that sequence them. [BPM]
Process Break	A location in a process that shows where an expected delay will occur within a process. An Intermediate Event is used to show the actual behavior. [BPM]
Process Step	Work that can be performed within a Business Process. A Process Step can be atomic or non-atomic (compound). The types of Process Steps that are a part of a BPM Event Trace Diagram are: Process Step, Sub-Process and Task. The term "Process Step" is a synonym for the Business Process Modeling Notation term "Activity." BPM uses the term "Process Step" to avoid confusion with the BRM term "Activity," representing a "Business Function." [BPM]
Protection Type Name	The name for the type of protection.
Public Processes	Public processes represent the interaction between a private Business Process and another process or participant. Only those tasks that are used to communicate outside the private Business Process, plus the appropriate flow control mechanisms, are included in the public process. All other internal tasks of the private Business Process are not shown in the public process. Synonymous with "Abstract Process". [BPM]
Purpose	A brief statement of the reason for a model's existence.
Receiving Business Function	The identity of the Business Function consuming the information.
Relationship	A Relationship is an association between two Entities or between instances of the same Entity.
Relationship Cardinality	Relationship Cardinality is the number of Entity instances that can be associated with each other in a Relationship.
Relationship Cardinality Constraint	A Relationship Cardinality Constraint is a limit on the number of Entity Instances that can be associated with each other in a Relationship.
Relationship Name	A Relationship Name or label is "a verb or verb phrase, which reflects the meaning of the Relationship expressed between the two Entities shown in the diagram on which, the name appears."
Semantics	The meaning of the syntactic components of a language.
Sending Business Function Name	The identity of the Business Function producing the information.

Term	Description
Sequence Flow	Arrows that show the order that Process Steps will be performed in a process.
Service	A service is an implemented business capability that is well-defined, self-contained, and does not depend on the context or state of other services.
Standard	An agreed upon means that establishes uniform engineering and technical requirements to implement all or part of a Technical Service.
Start Event	An Event that indicates where a particular process will start. A process must have one or more Start Events. [BPM]
Stereotype	A graphical icon that indicates the type of Flow Object. [BPM]
Structural Assertion Business Rule	These rules concern mission or business Stakeholder terms and facts that are usually captured by the Entities and Relationships of Entity-Relationship models. They reflect static aspects of Business Rules that may also be captured in the CDM or LDM. – Terms: Entities. – Facts: Association between two or more terms (for example, relationship).
Sub-Process	A compound Process Step that is included within a process. It is compound in that it can be broken down into a finer level of detail (a process) through a set of Sub-Processes. A Sub-Process may be shown graphically as a collapsed or expanded Sub-Process. [BPM]
Swimlanes	Swimlanes group the primary modeling elements by organization or other criteria. There are two Swim lane objects, Pools and Lanes. [BPM]
Synchronization	See “Join (AND-Join)”. [BPM]
Syntax	Structural components or features of a language and the rules that define relationships among them.
System	Shown on a SIM, it represents computer systems, family of systems or systems of systems. A System resides within a System Node and may contain one or more System Functions.
System Interface	Shown on an SIM, it represents the data exchange between Systems.
System Node	Shown on an SIM, it represents the system capabilities that are required to support the business functions.
Task	An atomic Process Step that is included within a process. A Task is used when the work in the Process Step is not broken down to a finer level of process model detail. [BPM]
Technical Service	Listed in the TA with its constituent Standards, represents a technical capability designed to support an Enterprise Sub-Service.

Term	Description
Technology Service Area	Shown in the TA, it groups similar Technical Services together for increased organization and comprehension. There may be one or more Technical Services in a Technology Service Area. The current TA takes its highest-level structure from the VA Enterprise Architecture Technical Reference Model (EA TRM). It contains four Technology Service Areas, drawn from the Core Service Areas of the OneVA EA TRM.
Term	Used in the OneVA EA or ETP, this is a word or group of words designating a selected concept.
Text	An overall textual (non-graphical) comment about a graphic diagram.
Text Annotation	Text Annotations are mechanisms (Artifacts), attached with an Association, for a process architect to provide additional information for the reader of the Process Diagram. [BPM]
Timeliness	Required maximum allowable time of exchange from Node to Node (in seconds).
Title	A verb or verb phrase that describes the overall function presented on a diagram; the title of a Child diagram corresponds to its Parent box name
Triggering Event	Brief textual description of the Event(s) that trigger the Process Step.
Uncontrolled Flow	Sequence Flow that is not affected by any conditions or does not pass through a Gateway. [BPM]
Viewpoint	A brief statement of the perspective of the model.
XOR	See "Exclusive Gateway". [BPM]

Appendix C Sources

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