



**BUSINESS
TRANSFORMATION
AGENCY**

BEA 8.0 Summary

March 11, 2011

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Acronym List

Acronym	Definition
ADL	Architecture Development Library
AFR	Agency Financial Report
APG	Architecture Product Guide
AV	All Viewpoint (DoDAF)
AV-1	Overview and Summary
AV-2	Integrated Dictionary
BDM	BEA Development Methodology
BEA	Business Enterprise Architecture
BECCM	Business Enterprise Common Core Metadata
BIP	BEA Improvement Proposal
BMA	Business Mission Area
BPM	Business Process Model
BPMN	Business Process Modeling Notation
BRM	Business Reference Model
BPR	Business Process Reengineering
BTA	Business Transformation Agency
CBM	Core Business Mission
CHRIS	Common Human Resources Information Standard
CMO	Chief Management Office
COI	Community of Interest
CV	Capability Viewpoint
DBSMC	Defense Business Systems Management Committee
DFMIG	Defense Financial Management Improvement Guidance
DIMHRS	Defense Integrated Military Human Resources System
DITPR	Defense Information Technology Portfolio Repository
DIV	Data & Information Viewpoint
DIV-1	Data & Information Viewpoint 1 (Conceptual Data Model)
DIV-2	Data & Information Viewpoint 2 (Logical Data Model)
DIV-3	Data & Information Viewpoint 3 (Physical Data Model)
DKO	Defense Knowledge Online
DM2	DoDAF 2.0 Meta-Model
DoD	Department of Defense
DoDAF	DoD Architecture Framework
DOORS	Dynamic Object Oriented Requirements System
DSP	DoD Standardization Program
E2E	End-to-End
EDA	Electronic Document Access

Acronym	Definition
EI	Enterprise Integration
EP&I	Enterprise Planning & Investment Directorate
ERP	Enterprise Resource Planning
ETP	Enterprise Transition Plan
FEA	Federal Enterprise Architecture
FFMIA	Federal Financial Management Improvement Act
FM	Financial Management (Core Business Mission)
FRPC	Federal Real Property Council
GAO	Government Accountability Office
H2R	Hire to Retire
HRM	Human Resource Management (Core Business Mission)
HTML	Hypertext Markup Language
IRB	Investment Review Board
IT	Information Technology
IV&V	Independent Validation and Verification
JCA	Joint Capability Area
LRP	Laws, Regulations, and Policies
MDAP	Major Defense Acquisition Program
MSSM	Materiel Supply & Service Management (Core Business Mission)
NDAA	National Defense Authorization Act
OCSS	OmniClass Construction Classification System
OMB	Office of Management and Budget
OV	Operational Viewpoint
OV-5a	Operational Activity Decomposition Tree
OV-5b	Operational Activity Model
OV-6a	Operational Rules Model
OV-6c	Business Process Model
P2P	Procure-to-Pay
PAR	Performance and Accountability Report
PCA	Pre-Certification Authorities
PDS	Procurement Data Standard
PHD	Product Hazard Data
PSA	Principal Staff Assistant
RPAR	Real Property Acceptance Requirements
RPCIPR	Real Property Construction-in-Progress Requirements
RPILM	Real Property & Installations Management (Core Business Mission)
RPIM	Real Property Information Model
RPIR	Real Property Inventory Requirements
SA	System Architect
SFIS	Standard Financial Information Structure
SMP	Strategic Management Plan
SOA	Service-Oriented Architecture

Acronym	Definition
SPOT	Synchronized Pre-deployment & Operational Tracker
StdV	Standards Viewpoint
SV	Systems Viewpoint
SvcV	Services Viewpoint
TA	Tiered Accountability
USSGL	United States Standard General Ledger
VA	Department of Veterans Affairs
VIPS	Virtual Interactive Processing System
WMA	Warfighter Mission Area
WSLM	Weapon System Life-cycle Management (Core Business Mission)

1 Introduction

The purpose of the BEA Summary document is to provide an overview of the latest Business Enterprise Architecture (BEA) release; outlining changes made since the prior release. The types of changes include: architecture content, supporting products, and changes to enhanced visualizations of BEA content. This document provides information for functional and technical business transformation planners, architects, and managers at the Enterprise, Component, and program levels of the Department of Defense (DoD) and other federal organizations.

The BEA is the enterprise architecture for the DoD Business Mission Area (BMA) and reflects the DoD business transformation priorities; the Business Capabilities required to support those priorities; and the combinations of Enterprise Systems and Initiatives that enable those capabilities. BEA 8.0 aligns with DoD Architecture Framework (DoDAF) 2.0 naming conventions and comprises a set of integrated products including the All Viewpoint (AV), Capability Viewpoint (CV), Operational Viewpoint (OV), System Viewpoint (SV), Services Viewpoint (SvcV), Standards Viewpoint (StdV), and Data & Information Viewpoint (DIV). Together, the aforementioned Viewpoints display capabilities, activities, processes, data, information exchanges, business rules, system functions, services, system data exchanges, technical standards, terms, and linkages to Laws, Regulations, and Policies (LRP).

The purpose of the BEA is:

“To provide a blueprint for DoD business transformation that helps to ensure that the right capabilities, resources and materiel are rapidly delivered to our warfighters: What they need, where they need it, when they need it, anywhere in the world. The BEA guides and constrains implementation of interoperable defense business system solutions as required by the National Defense Authorization Act (NDAA) and guides information technology (IT) investments to align with strategic Business Capabilities as required by NDAA, Clinger-Cohen and supporting Office of Management and Budget (OMB) and Government Accountability Office (GAO) policy.”

The Strategic Management Plan (SMP) is a key driver of BEA content in this release. The SMP, aligned with the Department’s overall strategic framework, sets the strategic direction for the Department’s business operations (see Figure 1). The 2009 SMP, published in July 2009, outlined five cross-functional, enterprise-wide business priorities: (1) support the all-volunteer force; (2) support contingency business operations; (3) reform the DoD acquisition process and support processes; (4) enhance the civilian workforce; and (5) strengthen financial management. These priorities encompass the most pressing business management challenges currently facing the Department and are supported in the SMP by specific outcomes, goals, measures and key initiatives that are critical for success. Execution of the necessary activities to achieve the priorities and goals requires Business Process Reengineering and Lean Six Sigma efforts for process improvement. The Performance Budget contains initiatives and measures that support all of the SMP priorities in addition to non-business-related outcomes. The BEA defines the Department’s future business environment. The Department’s business leaders rely on the BEA to help guide and constrain investments within their portfolios. The ETP is the conceptual roadmap that implements the BEA, defines the path to a transformed DoD enterprise and identifies business investments. This

alignment will be further strengthened through the development of the next BEA and ETP and through the development of Military Department transformation and transition plans.



Figure 1: SMP Alignment

The main focus areas for BEA 8.0 support the intended uses of the architecture:

- Investment Management – Support alignment of services, systems and solutions to the prioritized strategic capabilities of the Department
- Interoperability – Support the development of enterprise systems through identification of standard data used within the Department’s business processes

BEA 8.0 is a culmination of the informational releases of BEA 7.1 and BEA 7.2 and ongoing BEA content and visualization updates that allows stakeholders to accelerate coordination and implementation of End-To-End (E2E) requirements that focus on improving the Department’s ability to manage business operations. BEA 7.1 focused on the expansion of Human Resources Management (HRM) Operational Activities within the BEA OV-5a Node Tree so that all current

HRM OV-5 activities are shown for HRM IRB reviews. BEA 7.2 contains improvements to both help the user experience and improve the enterprise requirements contained therein.

As the Department moves towards developing and managing from an E2E perspective, visualizing the department's portfolio across organizations becomes more critical. Since the focus of BEA 8.0 continues to be P2P and H2R, visualizations were created to support those areas. Because of the significant E2E work completed in these areas, some gaps may exist from the previous release. The visualization was developed to help understand the usefulness of the E2Es and how to better improve the management of those systems from an E2E perspective.

The HTML for BEA 8.0 was enhanced to provide visualization of the Procurement Data Standard (PDS) in a similar manner to the visualization for SFIS and CHRIS. From the "Enterprise Standard" hyperlink the reader may click a "diagram" icon to view the "Procure to Pay" end-to-end diagrams and a "Data" view of the IEs, data elements and business rules. A "report" icon will display all 300+ PDS data elements. This "visualization" brings together all the items of importance to PDS in one easy-to-view location.

BEA 8.0 continues to improve the BEA's conformance to DoDAF 2.0 and other standards such as the Business Process Modeling Notation (BPMN 2.0) Analytics Conformance Class (Primitives). The content improvements enrich the quality of the CBM requirements captured as part of the E2E Framework. As in previous releases, content and structural updates were made to improve the overall integrity and integration of the architecture.

2 General BEA Overview

2.1 Basic Tenets

The BEA addresses DoD Enterprise-level business and strategic plans, goals, and objectives and continues to be an outcome-based architecture focused on the CBMs¹ as depicted in Figure 2: Core Business Missions.

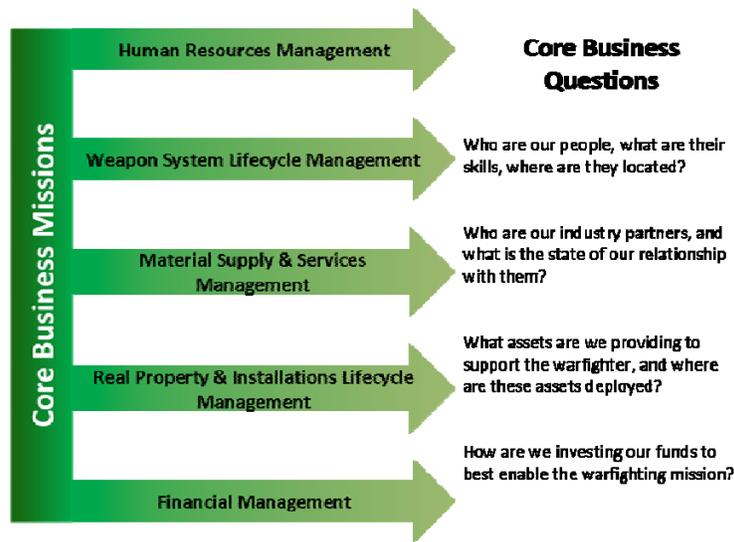


Figure 2: Core Business Missions

2.2 BEA Development

In previous BEA releases, the BEA was developed using a “Spiral Development Process”. Although this process enabled successful development of previous releases, the Business Transformation Agency (BTA) realized that the methodology used to develop the BEA must evolve in concert with the evolution of the content. Thus a parallel development process, depicted in Figure 3: Parallel Development Process, was used for BEA 8.0. This process modification involved multiple resources performing real-time architecture content development across products as well as cross product integration during the workshops. The parallel development process enabled delivery of a fully integrated product suite that met significantly tighter deadlines. In addition to modifying the content development process, the BTA allowed remote access to stakeholders enabling their participation during phases of the BEA development life-cycle within which they were previously uninvolved. This proved to be an agile and effective development process that will be continued in future releases.

¹ For additional information on CBM, and Business Capabilities, reference the BEA 8.0 AV-1 Overview and Summary Information and the March 2011 Report on Defense Business Operations. Definition of terms used in this document can be found in the BEA 8.0 AV-2 Integrated Dictionary.

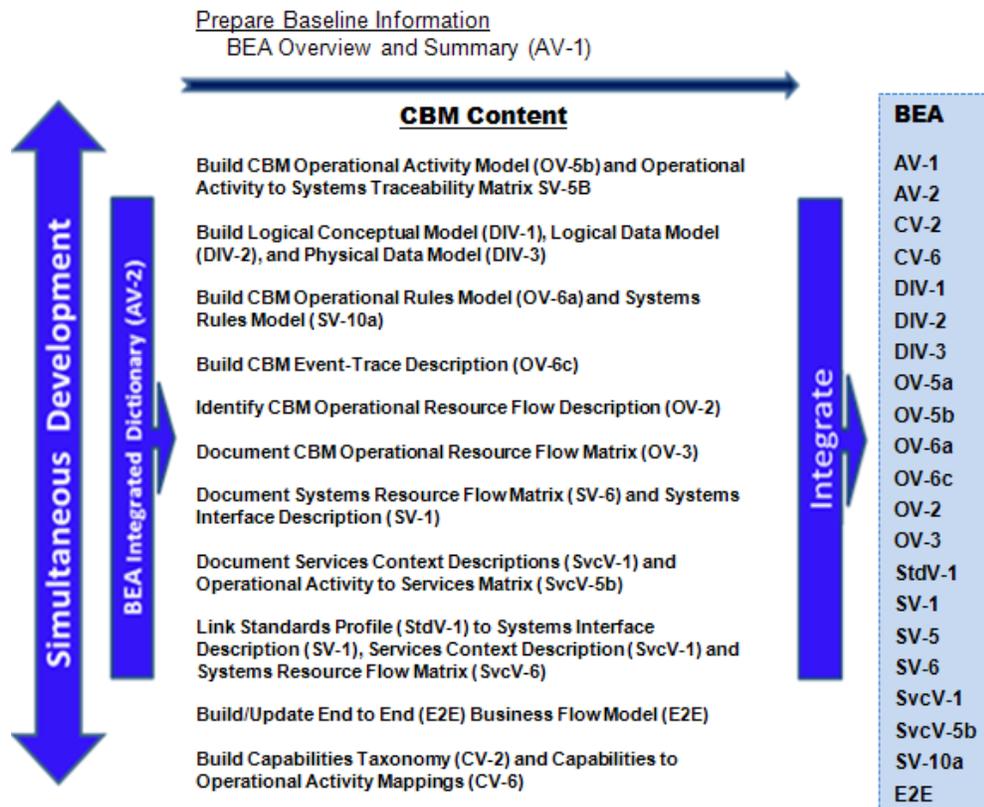


Figure 3: Parallel Development Process

As evidenced within the content list of Figure 3, the BEA continues to evolve toward conformance with DoDAF 2.0 and its data-centric theme and BPMN 2.0/Primitives. The definition of enterprise data requirements began with gaining concurrence of the Business Enterprise Common Core Metadata (BECCM) Community of Interest (COI) on what constitutes an enterprise data standard. Concurrence on requisite BEA content to support compliance to an enterprise data standard was also gained from the BECCM. As a result, the following information must be captured for all BEA data standards: entities, attributes, data elements, data-related business rules, data type, field length, and domain permitted values.

This data-centric approach ensures concordance between views in the Architectural Description while ensuring that all essential data relationships are captured to support a wide variety of analysis tasks. The views created as a result of the architecture development process provide visual renderings of the underlying architectural data and convey Architectural information of interest needed by specific user communities and decision makers.²

The latest BPMN 2.0/Primitives specifications were enforced on all P2P and H2R process models. As the diagrams were under revision, the users of the BEA required education on the specifications. Training materials on Primitives used in the BEA development process will be posted on the BEA

² Benefits as described on the DoD Deputy Chief Information Officer's DoDAF 2.0 web page <http://cio-nii.defense.gov/sites/dodaf20/6-step.html>

website. If you have any questions or require further training in this area, please contact ASKBEA@BTA.mil.

Throughout the process, Independent Verification and Validation (IV&V) support was included as an embedded member of the development team to provide near real-time input for timely resolution. IV&V reports on deliverables subsequent to each architecture release.

2.3 Alignment of BEA, SMP, ETP and Congressional Report

The BEA guides and constrains both investment and implementation of interoperable defense business-system solutions. It also defines the business capabilities required to support the Department's business focus areas, the combinations of enterprise systems and initiatives that enable those capabilities and the planned steps for future implementation of the defined capabilities.

The key driver for development of the BEA is the SMP. BEA development efforts focus on alignment with the SMP defined goals and objectives.

The Enterprise Transition Plan (ETP) is the conceptual roadmap that implements the DoD business enterprise architecture (BEA). It defines the path to a transformed DoD enterprise and identifies business investments that provide enterprise capabilities that support the warfighter and decision makers. Major milestones for Enterprise and Component Systems, and Initiatives that are critical to achieving the transformation priorities are depicted therein. The ETP describes how key systems will transition to the To-Be state outlined in the BEA, while the DoD's SMP serves as a guide for further evolution of the BEA.

The SMP and ETP provide important information to DoD leaders to help them guide future efforts toward progress evaluation, gap and overlap identification, and the achievement of Department priorities. The identification of such overlaps minimizes redundancy; while the knowledge of and refocused attention to existing gaps better enables requisite business capabilities. The SMP, BEA, and ETP provide a guide, blueprint, and roadmap, respectively, for defense business transformation.

The Congressional Report provides a status against the prior year's ETP. Together, these products identify the Department's business mission area enterprise priorities (SMP), the target environment (BEA), the path to that target environment (ETP), and the progress towards that target environment (Congressional Report).

While the SMP will be delivered bi-annually in July, the BEA, ETP, and the Congressional Report are released on an annual basis. The BEA and Congressional Report are released annually in March while the ETP is released annually in September. The timing of these releases necessitates the alignment of the ETP to the previously delivered BEA and SMP. For example, the September 2010 ETP aligns to the March 2010 BEA 7.0 and the July 2009 SMP. The BEA 8.0 linkage to the ETP is expected to be accomplished in September 2011 with the delivery of the 2011 ETP.

2.4 BEA 8.0 Governance

BEA development is guided by a governance process that involves the Defense Business Systems Management Committee (DBSMC), Investment Review Boards (IRBs), Component Chief Management Offices (CMOs), BEA Stakeholders and the BEA architecture development team. BEA content is driven by the identification of capability gaps and improvements by various BEA stakeholders. These stakeholders mainly consist of Principal Staff Assistants (PSAs) aligned to

support the BMA's CBMs but may also include other organizations. The stakeholders relay identified capability gaps and improvements within their respective areas to their functional representatives who translate them into requirements that drive architecture content improvements. In addition to these content improvements the architecture development team identifies structural improvements for the BEA.

All proposed architecture content and structural improvements are submitted in the form of a business case documented via BEA Improvement Proposals (BIPs). Each BIP contains a description of background information, scope, benefits, and impacts relative to the foundational capability gaps and improvements. The BIPs are submitted to the Investment Review Board (IRB) Chairs representing the PSAs/CBMs for review, approval and prioritization to determine the scope of each release of the BEA. The BIPs that are approved are then scheduled for development.

The final result of all changes made in the architecture is reviewed by all content stakeholders, including the Component CMOs and CIOs and is approved by the DBSMC. Figure 4 below illustrates the BEA governance process.

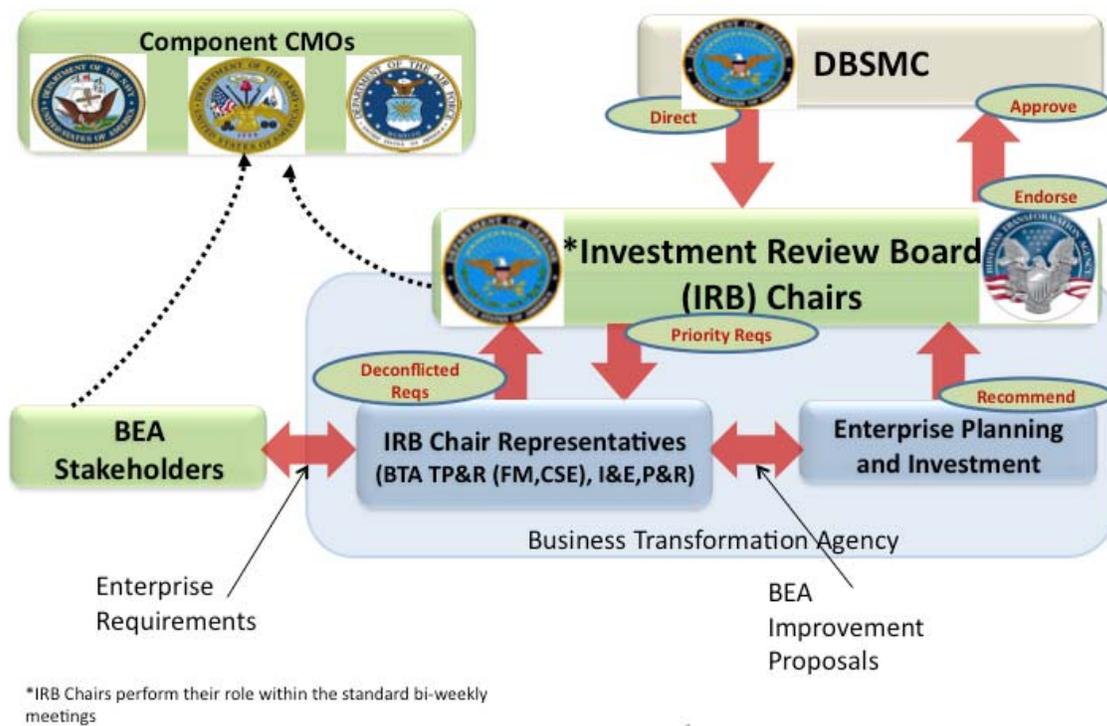


Figure 4: BEA Governance Process

3 BEA 8.0 Content Changes

The majority of the content changes made in BEA 8.0 are a result of addressing the capability gaps and improvements that originated from previous BEA releases. Content changes relative to the BEA 8.0 release are documented herein and are organized by the stewarding CBM, or the primary BTA directorate. The changes are described from a value added perspective as it relates to business transformation efforts. A description is given that defines architecture improvement needs while also providing details on how BEA 8.0 addresses those needs.

3.1 Financial Management (FM)

- Enhancement of the financial management content in the BEA related to Material Weaknesses in support of audit readiness and Business Process Reengineering (BPR). This effort focused on the current financial reporting material weaknesses documented in the Performance and Accountability Report (PAR) for the DoD Agency Financial Reports (AFR). These material weaknesses were linked to the business processes that have a material impact towards improving audit readiness across DoD and to performance metrics that could be used to measure the performance improvement from BPR.
- Update of Delinquent Debt information in the BEA to satisfy requirements developed by the Enterprise Delinquent Debt Management working group and approved by DoD senior leadership.
- Refinement and extension of the baseline repository of DFMIG/FFMIA guidance and LRP established in BEA 7.0 by adding new and changing existing rules and LRP as identified by the DoD DFMIG/FFMIA requirements steward (DFAS). In addition, FM requirements associated with pay systems were incorporated to support on-going pay system development efforts in the HRM CBM.
- Addition of two new transaction types to the US Standard General Ledger posting logic: 1) Reduction of Unfilled Customer Order from Prior-Year and 2) Write-off-Refund of a Prior Year Receipt.
- Revision of SFIS based on changes made to authoritative guidance such as the Treasury Financial Manual and OMB Circulars since the last BEA release. Also, SFIS was updated based on needed adjustments identified by the SFIS validation pilot.

3.2 Human Resources Management (HRM)

- Doubled the number of HRM BEA OV-5a Node Tree activities so that all current HRM OV-5 activities are shown for HRM IRB review preparations by systems.
- Further developed the Common Human Resources Information Standards (CHRIS) and added military retirement process business rules to guide system owners to a better understanding of the HRM Enterprise Standards (HRM ES).
- Expanded Quality of Life models to support Wounded Warrior and Recovery Coordination Program initiatives.

- Decomposed the “Manage Human Resources Policy and Guidance” activity to more accurately depict the interaction of policy and standards formulation with HRM functions.
- Restructured the Hire to Retire (H2R) E2E model to better support the BMA’s move from a function-centered approach to one that looks at DoD business functions across the enterprise from an End-To-End perspective. Additional work will be needed to address all of the HRM functions within E2Es.
- Replaced DIMHRS mechanism with citation of the appropriate HRM Family of Systems.

3.3 Materiel Supply and Service Management (MSSM)

- Addition of Electronic Document Access (EDA) functionality as a mechanism to facilitate transfer of information between contracting systems.
- Enhancement of the set of data elements needed from Procurement Data Standards (PDS) that defines the data structures and business rules for contract data output needed by enterprise DoD Standardization Program (DSP) systems and emerging ERPs for end-to-end contract development, management, and reporting.
- Further development of the Synchronized Pre-deployment & Operational Tracker (SPOT) content, aligning it with applicable enterprise standards to help reduce waste, improve ability to audit costs, improve budgetary planning.
- Implementation of an approach to streamline BEA P2P process models. These models encompass all business functions necessary to obtain goods and services. This includes such functions as requirements identification, sourcing, contract management, purchasing, payment management, and receipt/debt management.

3.4 Real Property and Installations Management (RPILM)

- Introduction of the OmniClass Construction Classification System (OCSS) in support of standardized information exchanges, building information modeling, and real property asset management.
- Integration of business processes and related models for Product Hazard Data (PHD) stewardship to guide and constrain investments and to assess architectural compliance of new development efforts, modernizations, and IRB systems and programs.
- Definition and execution of a process to extract current metadata from the Real Property Information Model (RPIM) version 4.0. This improvement enables identification of Real Property Inventory Requirements (RPIR), Real Property Acceptance Requirements (RPAR) and Real Property Construction-in-Progress Requirements (RPCIPR) as enterprise data standards, in accordance with the Business Enterprise Common Core Metadata (BECCM) Community of Interest (COI) guidance. Addition of requisite content to improve understanding and use of Real Property Space, Real Property Asset Accountability, and Installation, Site and Real Property Networks. This was done to facilitate reporting DoD’s annual real property inventory to the Federal Real Property Council (FRPC).

- Addressed gaps in the consistent understanding and use of Real Property Space, Real Property Asset Accountability, and Installation, Site and Real Property Networks.

3.5 Weapons System Lifecycle Management (WSLM)

- Identification and documentation of additional data elements required for the Weapons System Lifecycle Management (WSLM) family of services. This family of services provides the data for decision-makers of Major Defense Acquisition Program (MDAP) programs to allow them to see status and provide budget recommendations. BEA 8.0 WSLM enhancements support periodic, ad hoc and analytic reporting and are constantly being supplemented to support emerging needs.
- Removal of the internal Services not relevant to the BEA. Definition of WSLM service data requirements to improve user understanding of the data needed to call a web service and what data, with definitions, would be returned.

3.6 Enterprise Integration (EI)

Enterprise Integration (EI) collaborated with the CBM representatives to support alignment of BEA content enhancement with the E2E framework. E2E content enhancements for BEA 8.0 focused on P2P and H2R in the areas of:

- Business rules
- Minimum data requirements
- Relevant performance metrics
- Material weaknesses

3.7 Laws, Regulations, and Policies (LRP)

The BEA Laws, Regulations and Policies (LRP) Repository is the single, authoritative reference source of all requirements that constrain the Department's business operations. The Repository is maintained in the Dynamic Object Oriented Requirements System (DOORS). This tool allows the specific Laws, Regulations, and Policies to be linked directly to the BEA OV-5b Activity Model, OV-6a Business Rules, and OV-6c Process Models as appropriate. It also serves as the benchmark against which all proposed architectural and systems changes are checked for integration into the enterprise. The LRP Repository provides more user-friendly data for assistance in determining BEA compliance.

There are 284 Laws, Regulations, and Policies contained in the Repository for BEA8.0. The products and reports relevant to BEA 8.0 including updates or changes to any Laws, Regulations, or Policies are outlined in the BEA LRP Repository narrative, accessible through the home page of the BEA 8.0 HTML website.

BEA 8.0 includes the maintenance of Defense Financial Management Improvement Guidance (DFMIG) rules which include Federal Financial Management Improvement Act (FFMIA) requirements. The DFMIG rules include links between specific Laws, Regulations, and Policies and Business Process Model (BPM) processes.

Improvements completed in BEA 8.0

Updated 50 Laws, Regulations, and Policies.

Compiled and added 39 new Laws, Regulations, and Policies into the LRP Repository.

Created 198 links between the Laws, Regulations, and Policies and the DFMIG rules.

Created 1259 DFMIG links to BPM processes.

Eighty nine (89) source documents which constrain the BEA have been added or revised within the LRP Repository. These LRP source documents were deemed relevant to the architecture by each CBM and have been appropriately mapped to process steps at their respective levels of the OV-6c Business Process Models (BPM).

4 BEA Supporting Products

The BTA Enterprise Planning & Investment (EP&I) Directorate develops supporting products, not specified by DoDAF, that assist the end user with accessing information and understanding the architecture. These products come in the form of references, supplemental products, and visualizations that support the purpose and use of the BEA. Each product is described in more detail below.

4.1 Reference Documents

4.1.1 BEA Compliance Guidance

The BEA Compliance Guidance document provides instructions for assessing systems' compliance to the BEA. This guidance is to be used by program managers when certifying their system against the BEA and by Component Pre-Certification Authorities (PCA) when reviewing the system certification.. The guidance is updated with each architecture release to include revised information regarding key elements from the BEA that must be asserted to for compliance. The revised guidance is expected to be released in March 2011. The *BEA Compliance Guidance* document is accessible through the homepage of the BEA 8.0 Web site under BCL (Business Capability Lifecycle).

4.1.2 BEA Development Methodology (BDM)

The *BEA Development Methodology* (BDM) document describes the overall process and approach that the BEA Development team follows during architecture development. This document represents a compilation of practices that have been tried and tested across the architecture development lifecycle and describes the current methodology to develop the BEA. The *BDM* is located on the home page of the BEA 8.0 HTML Web site, under Architecture Development Library (ADL).

4.1.3 BEA Architecture Product Guide (APG)

The BEA *Architecture Product Guide* (APG) document provides specific modeling conventions that guide the development and integration of each BEA product. The APG describes the BEA AV, OV, DIV SV, SvcV, and StdV products to include guidance, rules, examples, checklists, and product descriptions. The APG is intended for an audience that understands DoDAF and has IBM-Rational System Architect (SA) training and/or experience.

For BEA 8.0, the APG was updated to incorporate and implement changes in methodology and development checklists to enhance product quality. The *APG* is located on the home page of the BEA 8.0 HTML Web site, under Architecture Development Library (ADL).

4.2 Supplemental Products

4.2.1 BEA 7.0 to BEA 8.0 Compare Report

In response to an overwhelming need from the BEA user community, the EP&I Directorate continues to deliver ‘compare’ reports. These reports provide a detailed comparison of product changes between BEA 7.0 and BEA 8.0 release.

The Compare Reports contain differences only between the two versions. Artifacts and characteristics that have not changed between BEA versions are not included. For example, if the description of an artifact instance has not changed since BEA 7.0 but a new CBM has been associated with the artifact instance, then only the new CBM will be indicated and the description will not be displayed. The reports do not indicate whether an artifact was replaced by a different artifact. For example, if an artifact was renamed but the description and other characteristics remained the same, then the report will reflect one artifact as obsolete and one artifact as new.

The difference between artifacts is indicated by the following letter and color codes:

- **{N} – New** indicates artifacts or artifact characteristics that are new (they are in BEA 8.0 but were not in BEA 7.0)
- **{D} – Deleted** indicates artifact characteristics that are obsolete (they were in BEA 7.0 and are not in BEA 8.0)
- **{U} – Updated** indicates artifacts or artifact characteristics that have changed (they were in BEA 7.0 and have been updated in BEA 8.0)

The artifacts are organized by DoDAF architecture viewpoint (AV, OV, SV, DIV, SvcV and StdV) in addition to a section with the following BEA-unique artifacts:

- Business Capability
- CBM
- Federal Enterprise Architecture (FEA) Business Reference Model (BRM)

The Compare Reports are available in MS-Excel format, and are accessible through the homepage of the BEA 8.0 Web site.

5 BEA Site Update, Structural Changes and Visualization Enhancements

5.1.1 BEA Site Update

The BEA Web Page was recently redesigned, offering a more streamlined and informative user experience. A vertically scrolling News section informs users of the latest BEA events and development activities. This feature enables BEA users to locate areas of interest and, if able, participate in BEA development workshops and meetings. The News section continuously updates to provide near real-time visibility into ongoing efforts related to BEA and stakeholders engagements.

Additionally, the web site provides improved access to BEA content and other information via a standard drop-down list. This feature enables users to quickly reach key BEA products, documents, and other useful DoD and architecture resources. The new page also features BEA contact information and external links to partnering DoD organization websites.

5.1.2 Structural Changes

The major focus for BEA 8.0 was the continued evolution and refinement of the Procure to Pay (P2P) and Hire to Retire (H2R) E2E Business Flows. The first improvement consisted of consolidating the OV-6c process models within the P2P purview. This established a lower-level set of diagrams that further defines the enterprise requirements associated with the P2P E2E. It also decreased the total number of P2P OV-6c models from 25 to 7. The second development effort, H2R consisted of content and structural changes at the E2E Level 1. The Human Resources Management (HRM) Core Business Mission (CBM) viewed the scope of the H2R E2E as too broad; therefore, the scope was streamlined to make the H2R E2E more exemplary of its true scope. It should be noted that the BEA 8.0 E2E refinement and development efforts resulted in the identification of additional areas for refinement, or gaps between previous release's E2E content and the current release. These additional areas for refinement resulted from the identification of E2E flows that were previously part of the E2Es but no longer fit in the revised H2R and P2P models. These flows are:

H2R:

- Military Health Services
- Manage Travel
- Law Enforcement
- Physical Security
- Safety
- Interagency Support
- Policy and Guidance

P2P:

- Manage Travel

The BEA development process continues to focus on defining and capturing enterprise data requirements. The process also continues to apply the DoDAF Meta-Model (DM2) and BPMN 2.0/Primitives. Definition of enterprise data requirements began with gaining concurrence by the Business Enterprise Common Core Metadata (BECCM) Community of Interest (COI) on what

constitutes an enterprise data standard. Concurrence on requisite BEA content to support compliance to an enterprise data standard was also gained from the BECCM.

As a result, the following information must be captured for all BEA data standards: entities, attributes, data elements, data-related business rules, data type, field length, and domain permitted values where applicable.

DoDAF 2.0 conformance continues in 8.0 by implementing the terminology of DM2. Also, as new business terms are added, a crosswalk of DM2 terms will be provided to help make BEA content understandable while also making it easier to use. The BEA to DM2 cross-walk is highlighted below:

Table 1: BEA Business Terms to DM2 Crosswalk

BEA Business Term	DM2 Term
Business Capability, JCA	Capability
Operational Activity, BPM Process, System Function, Gateway, Event	Activity
Input, Output, Message Flow	Resource Flow
Mechanism, Pool, Swim Lane, Operational Node, System Node, System Entity	Performers
Material Weakness	Condition
Performance Measure	Measure
Desired Effect	Desired Effect
Controls, LRP, DFMIR/FFMIA, Business Rules	Rules
Services	Services
Entity, Attribute, Data Domain, Entity Relationship, Data Object	Information

The BPMN 2.0/Primitives specification was enforced on all P2P and H2R process modeling.

5.1.3 Visualization Enhancements

The BTA recognizes that the value of architecture extends beyond the traditional DoDAF views to the content within those views. For BEA 8.0, extensive work was completed to streamline the visualization of the requirements related to the E2Es and to support Portfolio Management. This work enabled simple discovery of meaningful enterprise requirements. The subsequent paragraphs outline the details of the visualization enhancements.

E2E Visualization (P2P & H2R): This visualization was created to provide the end-user a way to discover E2E content in a more user-friendly manner. The BEA is leveraged for numerous architecture development efforts, the visualizations make BEA E2E-related content more easily viewable and accessible for reuse.

Portfolio Management by E2E: As the Department moves towards developing and managing from an End to End perspective, visualizing the department’s portfolio across organizations becomes more critical. Since the focus of 8.0 continues to be P2P and H2R, visualizations were created to support those areas. Because of the significant E2E work completed in these areas, some gaps may exist from the previous release. The visualization was developed to help understand the usefulness of the E2Es and how to better improve the management of those systems from an E2E

perspective. A summary of those gaps can be found in this document in section 3 “BEA 8.0 Content Changes”.

Re-designed DIV-1, DIV-2 and DIV-3 web pages: The DIV-1, DIV-2 and DIV-3 products move the BEA forward in its drive toward DoDAF 2.0 conformance. DIV-1 products were created to support several enterprise standards such as the Common Human Resource Information Standard (CHRIS) and Procurement Data Standards (PDS). A DIV-1 was also created to identify data requirements associated to Delinquent Debt. DIV-2 products have been created to support data requirements for all of the CBMs, to include enterprise data standards and data-related business rules. DIV-3 products were created to support OmniClass and the Real Property Information Model (RPIM), both of which are Real Property and Installations Lifecycle Management (RPILM) data requirements.

Enterprise Level Blueprinting Requirements: As the BEA purpose and use evolves and expands, system blueprinting requirements are needed to support enterprise system development and implementation activities. The E2E Level 1 Business Flows visualization enables discovery of blueprinting requirements including enterprise data elements, business rules, performance measures and material weaknesses. . Although the focus of BEA 8.0 is P2P and H2R, this visualization was also developed for the B2R E2E.

Common Human Resource Information Standard (CHRIS): This visualization was enhanced for BEA 8.0 to provide more value-added information to the end-user. It now provides the user a more efficient way to discover not only the overall CHRIS but also the sub-sets functional groupings of standards the CHRIS comprises

Procurement Data Standards (PDS): This visualization was added to provide the end-user an efficient way to discover the minimum set of data elements and business rules for contract data output needed by enterprise DoD Standardization Program (DSP) systems and emerging ERPs for end-to-end contract development, management, and reporting.

Portfolio by Joint Capability Areas (JCA): Because the Department has multiple architectures and other constructs that are used to report and manage portfolios, flexibility in reporting accurate information according to these mechanisms is paramount. The BMA has actively collaborated with the Warfighter Community to align the BEA Business Capabilities and the JCAs. This alignment has been captured within and viewable through the BEA thus supporting visibility of the Department’s business portfolio by JCA. This visualization allows the warfighter and business communities to discover gaps and redundancies in delivering capabilities to the Warfighter.

Core Business Mission (CBM) Pages: In addition to the visualization enhancements outlined above, CBM pages were added to provide the end-user a quick way to discover content based upon a CBM area. For example, the Human Resources Management page highlights the scope of HRM including key initiatives, enterprise standards and systems, and BEA content updates related to HRM. CBM pages were also created for Financial Management (FM), Material Supply and Services Management (MSSM), Real Property and Installations Lifecycle Management (RPILM) and Weapon Systems Lifecycle Management (WSLM).

6 Technical User Requirements for the BEA Web Site

The BEA was constructed using IBM-Rational System Architect Version 10.7. The BEA continues to be offered to the general public in two versions: SA and HTML. The following are the technical specifications that were tested and are necessary for viewing the BEA 8.0 HTML Web site. These specifications are also listed in the [Technical Help](#) link accessible through the home page of the BEA 8.0 HTML Web site.

Web Browser Supported

- Internet Explorer Version 6.x and 7.x for Windows

System Requirements

- Add-ins are used to enhance the user experience. Not all services will function properly if these are not current, installed, and/or enabled:
 - Java Run Time Environment Version 6.0, Version 18 or Higher
 - JavaScript must be enabled in the browser
 - **DKO Account Required for Access to Linked Documents**

7 Final Note

BEA 8.0 took into account the latest version of the DoD Architecture Framework Version 2.0. The mantra for DoDAF 2.0 is “fit for purpose” architecture, which means that any iteration or release of an enterprise architecture should start with the purpose for which the architecture is being developed. For the BEA, that purpose is:

“To provide a blueprint...that guides and constrains implementation of interoperable defense business system solutions...and guides information technology (IT) investment management to align with strategic Business Capabilities...”

Release 8.0 continues the evolution of the BEA with this in mind. BEA support of business solutions starts with providing business context. Products such as the OV-5a Operational Activity Decomposition Tree and associated OV-5b Operational Activity Model serve as integral products for providing business context. Now, with the focus on DoD’s Business Mission Area becoming more end-to-end process focused and less on modular functions, the End-to-End Business Flows added as part of BEA 8.0 also become an integral part of the BEA. As such, each release will improve the BEA in these areas.

As previously mentioned, one of the intended uses or drivers of the BEA is implementation of interoperable business solutions. The BEA contains various types of information that are being considered for use in support of interoperability, some of the information contained in the BEA include Data standards, Business Rules, and LRP.

BEA Compliance is the process that is used to support the intended uses. For example, today, interoperability can be achieved only when data standards and business rules are enforced. BEA compliance is also being used as a way to achieve transformation in support of the warfighter. The BEA has been enhanced in the following ways to improve its use for compliance within the Business Mission Area and in expeditionary environments:

- The BIP process has been reengineered to foster greater cross-CBM socialization and communication throughout the BEA development life-cycle.
- BEA 8.0 is based on the SMP and other Departmental priorities. Future releases of the BEA will also be based on the SMP priorities and other Department Priorities.
- To conform with DoDAF 2.0, the following actions were performed:
 - Product names were converted to those outlined within the DoDAF 2.0.
 - Architecture viewpoints are composed of data that has been organized to facilitate understanding. Architecture should be developed using the Viewpoints and corresponding models that Fit-the-Purpose.
 - Figure 5: DoDAF 2.0 Viewpoints displays all Viewpoints described in the new version of the framework.

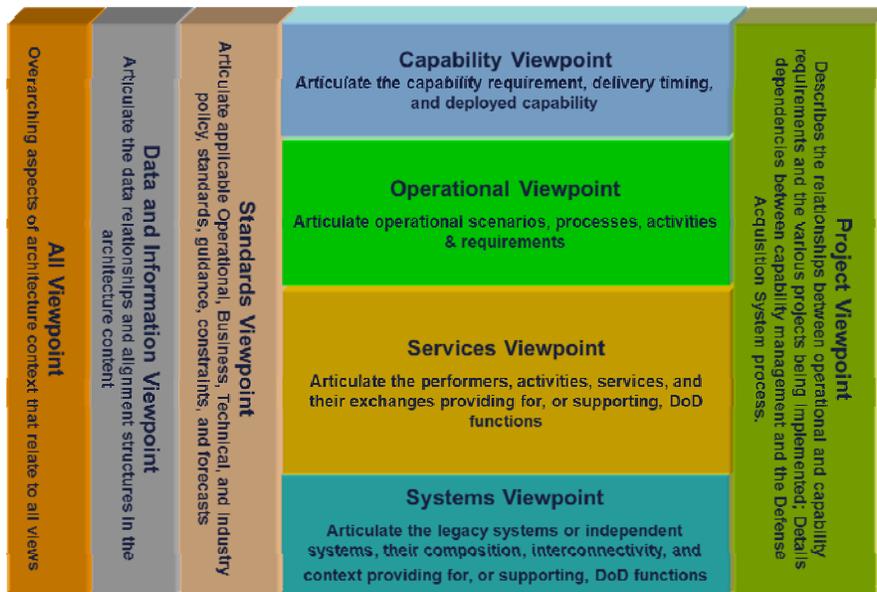


Figure 5: DoDAF 2.0 Viewpoints

7.1 Summary

Enterprise Architecture is continuously faced with the challenge of providing value to its many stakeholders. The BEA must support the requirements of its business users while also addressing the requirements of the warfighter. As evidenced by the efforts described in this note, BTA has recognized this challenge and is using the principles outlined in the Department’s newest framework to guide BEA development. BTA, like other organizations that have successfully undertaken enterprise architecture initiatives, understands that both the business processes of the Department must be transformed as well as the tools used to support and visualize that transformation. The BEA, as one of those tools, will continue to evolve to provide ever-improving support to the Department’s transformation efforts. This evolution will not only include the content used to support the various DoD decision processes and stakeholders but will also include the methodology and tools with which the architecture is developed.

7.2 BEA 9.0 Planning

BEA 9.0 planning continues to emphasize Interoperability, E2E Business Flows, Visualization, and Federation and takes into account additional key drivers such as SMP Priorities, Enterprise Standards, Common Vocabularies, SOA, and DoDAF 2.0. These key drivers are critical next steps for ensuring the BEA is able to adapt and support the various needs and priorities of the Department.

The implementation of the BPMN 2.0/Primitives specification and approach to streamlining BEA process models will also continue to be a focus in future development. While BEA 8.0 focused on updates and refinements to the P2P and H2R E2E process models using Primitives, this work will continue for the other E2E processes. Primitives provides a core set of “building block” modeling elements and recommended modeling techniques that are integral to effective architecture development, adoption, integration and federation.

Planning for BEA 9.0 represents a shift in the BEA life-cycle. The BTA is looking to transform the way requirements are identified, defined, and prioritized to drive BEA development. BEA 9.0 will continue to publish informational releases through the use of an enhanced tool suite intended to enable a streamlined BEA development methodology while also meeting the user's needs for architecture information. BEA is planning to adopt and implement a methodology to capture and make available BEA content that enables solution developers to "build federation into their solutions" through use of semantics ontologies and open source technologies.

Continuously improving the BEA and the key drivers and methodology used to guide its development is just another example of the BTA maintaining its vision to be the champion for driving and accelerating improvements to business operations across the Department of Defense.

7.3 Configuration Management Document (CMD)

The Configuration Management Document (CMD) defines the processes associated with establishing, documenting, maintaining, and controlling BEA-related program deliverables, BEA-associated products (tools/databases) and BEA-related plans, processes and procedures. It also describes the processes used to identify, capture and track all changes to the BEA and is provided on the BEA public web site to promote best practices for architecture development efforts. These processes and procedures are an integral part of the BEA development effort, and assist all users of the BEA in identifying changes from one release to the next. Rigorous configuration control of the architectural development process is necessary to fully enable the concepts of re-use to support sharing of information across the Department and other Federal Agencies.

The architecture configuration management process is based on the use of the following configuration mechanisms that are recorded and managed in the Enterprise Elements configuration management tool:

- BEA Improvement Proposals (BIPs) capture requirements and analysis information to support modifications or enhancements of the BEA in support of a business need.
- Change Requests (CRs) identify a planned capability improvement such as adding new capabilities, addressing identified architecture gaps, addressing enterprise changes across CBMs, or addressing updates to the compliance requirements. CRs are organized into four categories: visualizations, content, metadata, and clean up.
- Tickets provide a mechanism for capturing identified errors in the website that need correction, along with suggestions for improvement which come from both internal and external organizational member's comments. They are never created to cause the addition of new content to the architecture. Tickets are normally created after a workshop is completed as the result of voting comments as feedback from the Stakeholder, CIO, or DBSMC Reviews.