



Department of Veteran Affairs CIO Conference

Enterprise Architecture



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Enterprise Architecture -- Background

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- **Clinger-Cohen Act of 1996**
 - Section 5125 (b) (2) - [The Agency CIO is responsible for:]
"developing, maintaining, and facilitating the implementation of a sound and integrated information technology architecture for the executive agency;"
 - **OMB A-130 Enterprise Architecture Guidance**
 - An Enterprise Architecture (EA) is the explicit description and documentation of the current and desired relationships among business and management processes and information technology. It describes the "current architecture" and "target architecture" to include the rules and standards and systems life cycle information to optimize and maintain the environment which the agency wishes to create and maintain by managing its IT portfolio.



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Enterprise Architecture -- Guidance



- **Secretary Principi, before Congress on April 4, 2001:**
 - “..... I have instructed my staff to convene a panel of world experts in the area of systems architecture to team with key business unit decision makers in each of our Administrations and staff offices to develop a comprehensive Integrated Enterprise Architecture Plan.....”
- **Secretary Principi established an EA Innovation Team with the following direction:**
 - The EA will be developed with unanimous concurrence,
 - The EA will present a One-VA view,
 - The EA will place service to veterans before all other considerations.



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Enterprise Architecture -- Issues

- VA IT management is distributed across the Administrations, the field facilities and the Central Office Services.
- Each Entity has had the authority to build or buy information systems without department coordination.
- While this approach has been effective for the acquiring entity, it tends to:
 - stovepipe information
 - create redundant, potentially inconsistent data stores,
 - propagate duplicate systems,
 - inhibit interoperability,
 - exaggerate the cost to develop and maintain IT assets, and
 - increase the workload on veterans in obtaining services.
- The lack of enforced standards and uniform practices has resulted in a WAN and common service layer, which cannot predictably support high availability and crisis management requirements.



VA CIO Conference Enterprise Architecture -- Objectives

- Improve IT accountability and cost containment,
- Eliminate redundant or duplicate systems across administrations and service divisions,
- Build an IT asset base using widely accepted industry standards emphasizing component reuse, interoperability, and scalability.
- Improve performance levels and the availability of common resources such as the WAN and security services, and
- Improve and enhance VA's delivery of service to veterans.



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Enterprise Architecture -- Methodology

- Replace separate architectures with a One-VA integrated architecture,
- Institute collaborative governance, involving business and technical experts from all administrations and staff functions,
- Streamline the Capital Investment review and approval of all IT initiatives prior to funding,
- Preserve decentralized development and administration of IT projects at the appropriate organization level.



VA CIO Conference Enterprise Architecture -- OCA



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- **Office of the Chief Architect (OCA) will:**
 - Build suitable models to characterize VA's As-Is and To-Be architecture,
 - Develop Requirements Analysis and Gap-Analysis assessments and sequencing plans to articulate and achieve the To-Be state,
 - Perform Business alignment assessments, and technology assessments,
 - Recommend and enforce technical standards,
 - Develop and apply metrics for service improvement measurement.
 - Assist project sponsors in obtaining project approval within the combined EA/CIP/PMO review process,



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Enterprise Architecture -- EAC



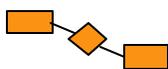
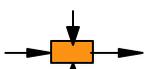
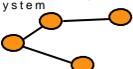
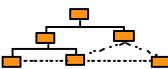
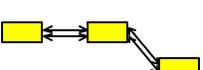
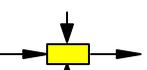
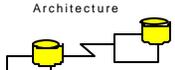
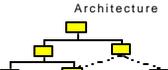
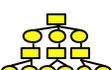
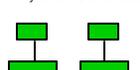
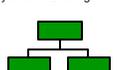
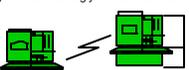
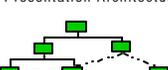
- The Enterprise Architecture Council (EAC) consists of the VA Chief Architect and Business and Technical representatives from each Administration and Service Area.
- The EAC provides collaborative participation and a peer-review process for the VA administrations and service areas.
- The Enterprise Architecture Council:
 - Develops, reviews and adopts technical standards
 - Performs IRM proposed project architectural evaluations
 - Identifies, develops and sponsors crosscutting or department-wide IT initiatives which lack specific administration sponsorship.
 - Reports to the Information Technology Board (ITB)



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Enterprise Architecture -- Framework

ENTERPRISE ARCHITECTURE - A FRAMEWORK TM

	DATA <i>What</i>	FUNCTION <i>How</i>	NETWORK <i>Where</i>	PEOPLE <i>Who</i>	TIME <i>When</i>	MOTIVATION <i>Why</i>	
SCOPE (CONTEXTUAL) <i>Planner</i>	List of Things Important to the Business  ENTITY = Class of Business Thing	List of Processes the Business Performs  Function = Class of Business Process	List of Locations in which the Business Operates  Node = Major Business Location	List of Organizations Important to the Business  People = Major Organizations	List of Events Significant to the Business  Time = Major Business Event	List of Business Goals/Strat  Ends/Mean=Major Bus. Goal/ Critical Success Factor	SCOPE (CONTEXTUAL) <i>Planner</i>
ENTERPRISE MODEL (CONCEPTUAL) <i>Owner</i>	e.g. Semantic Model  Ent = Business Entity ReIn = Business Relationship	e.g. Business Process Model  Proc. = Business Process I/O = Business Resources	e.g. Business Logistics System  Node = Business Location Link = Business Linkage	e.g. Work Flow Model  People = Organization Unit Work = Work Product	e.g. Master Schedule  Time = Business Event Cycle = Business Cycle	e.g. Business Plan  End = Business Objective Means = Business Strategy	ENTERPRISE MODEL (CONCEPTUAL) <i>Owner</i>
SYSTEM MODEL (LOGICAL) <i>Designer</i>	e.g. Logical Data Model  Ent = Data Entity ReIn = Data Relationship	e.g. Application Architecture  Proc. = Application Function I/O = User Views	e.g. Distributed System Architecture  Node = I/S Function (Processor, Storage, etc) Link = Line Characteristics	e.g. Human Interface Architecture  People = Role Work = Deliverable	e.g. Processing Structure  Time = System Event Cycle = processing Cycle	e.g., Business Rule Model  End = Structural Assertion Means = Action Assertion	SYSTEM MODEL (LOGICAL) <i>Designer</i>
TECHNOLOGY MODEL (PHYSICAL) <i>Builder</i>	e.g. Physical Data Model  Ent = Segment/Table/etc. ReIn = Pointer/Key/etc.	e.g. System Design  Proc. = Computer Function I/O = Data Elements/Sets	e.g. Technology Architecture  Node = Hardware/System Software Link = Line Specifications	e.g. Presentation Architecture  People = User Work = Screen Format	e.g. Control Structure  Time = Execute Cycle = Component Cycle	e.g. Rule Design  End = Condition Means = Action	TECHNOLOGY MODEL (PHYSICAL) <i>Builder</i>
DETAILED REPRESENTATIONS (OUT-OF-CONTEXT) <i>Sub-Contractor</i>	e.g. Data Definition  Ent = Field ReIn = Address	e.g. Program  Proc. = Language Stmt I/O = Control Block	e.g. Network Architecture  Node = Addresses Link = Protocols	e.g. Security Architecture  People = Identity Work = Job	e.g. Timing Definition  Time = Interrupt Cycle = Machine Cycle	e.g. Rule Specification  End = Sub-condition Means = Step	DETAILED REPRESENTATIONS (OUT-OF-CONTEXT) <i>Sub-Contractor</i>
FUNCTIONING ENTERPRISE	e.g. DATA	e.g. FUNCTION	e.g. NETWORK	e.g. ORGANIZATION	e.g. SCHEDULE	e.g. STRATEGY	FUNCTIONING ENTERPRISE



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Enterprise Architecture -- Framework

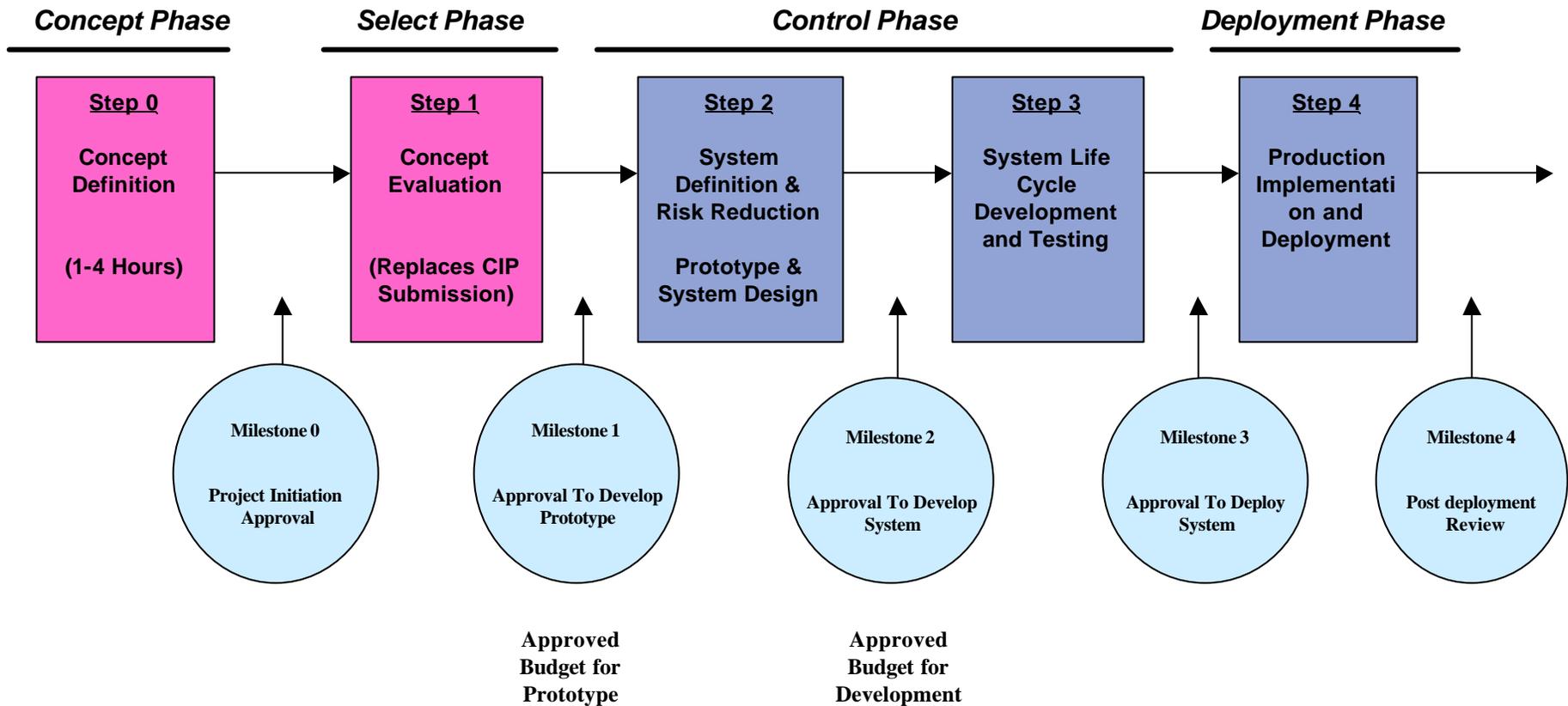
- The Zachman Framework defines 36 engineering disciplines that will promote interoperability, reuse, and minimum “rework”.
- The 36 cells of the Zachman Framework will be defined and maintained for the One-VA “to be” Enterprise Architecture by the OCA.
- IT project sponsors will provide input to the architecture process through the combined EA/CIP/PMO review process, and the through the normal course of project development.
- IT project sponsors will use the architecture to identify reusable components and common business processes applicable to their projects.
- The EA will evolve as business rules and technology change



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Enterprise Architecture

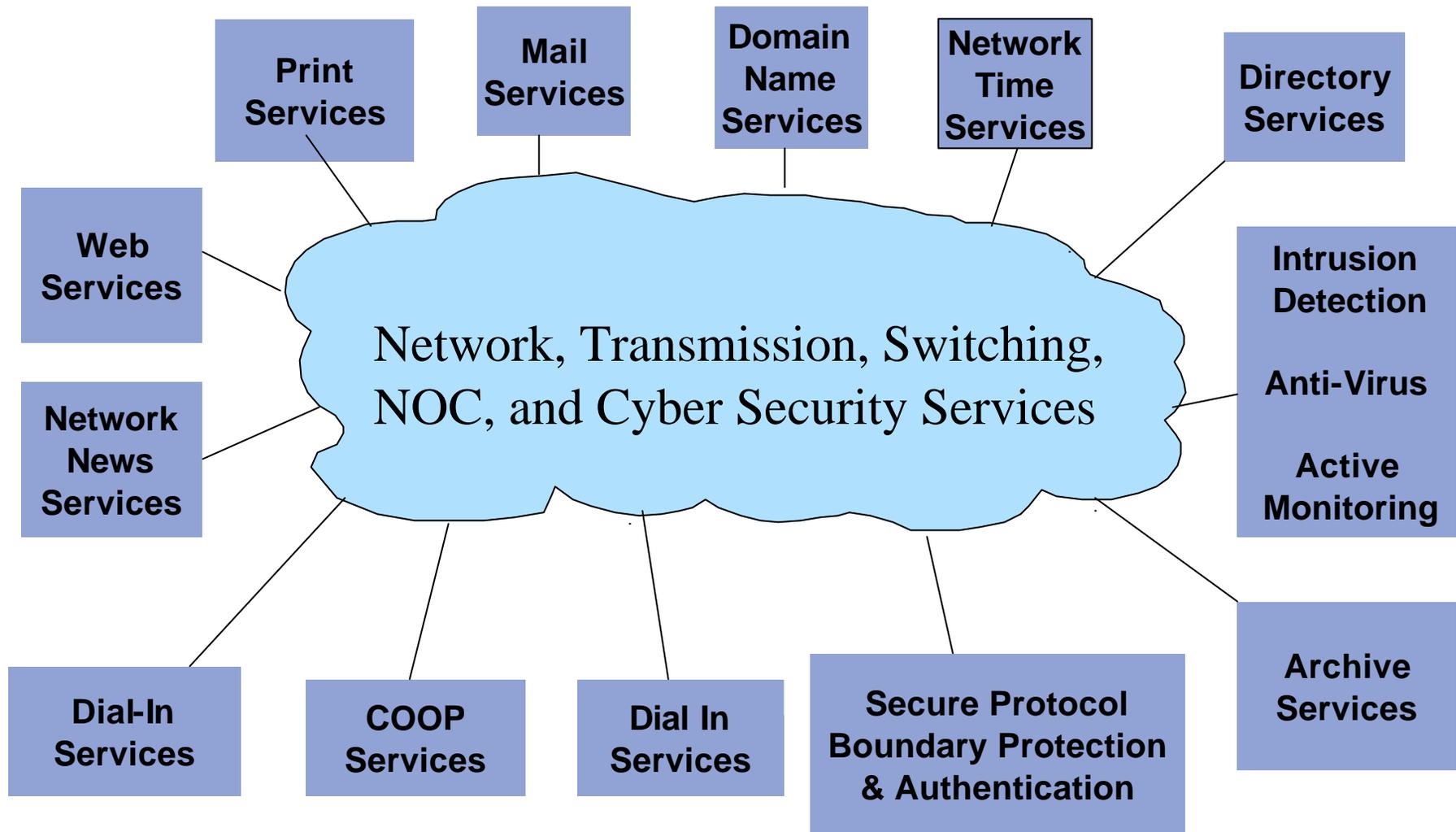
EA, CIP & PMO Integration





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Enterprise Architecture --Services





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Enterprise Architecture -- Next Steps

- Establish the Office of the Chief Architect.....Complete
- Develop Staffing Plan and Budget for FY-2003...Complete
- Obtain redirected Funding for FY-2002.....Ongoing
- Charter the Architecture Review Board.....Complete
- Develop the OCA Implementation plan.....Ongoing
- Develop the EA Users Guide and WEB-Site.....Ongoing
- Develop the As-Is Baseline Architecture.....Ongoing
- Develop an IRM Project Review Web-App.....Ongoing
- Conduct IRM Project Reviews.....Interim Procedure