

FAA Enterprise Architecture

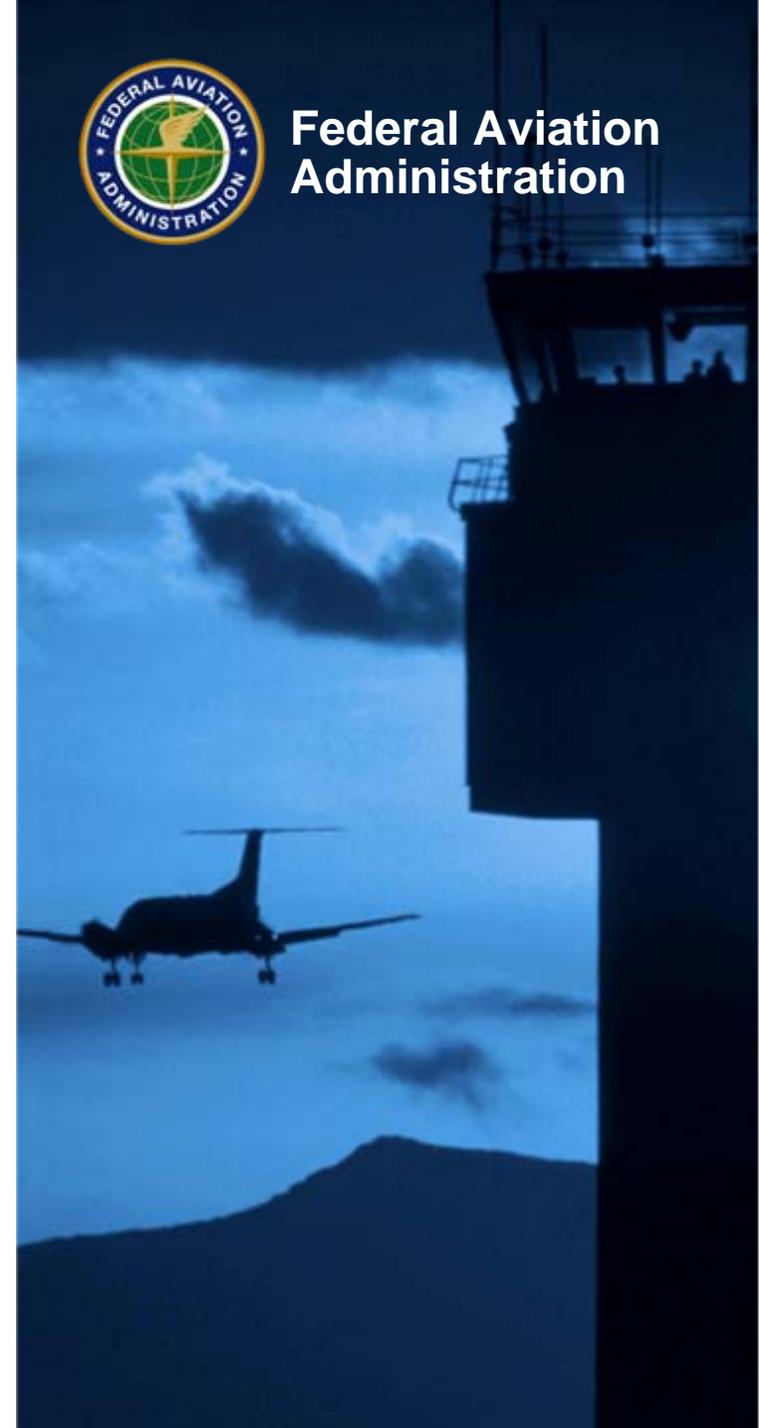
NAS EA Conference

Dave Bowen, CIO

June 23, 2009



**Federal Aviation
Administration**



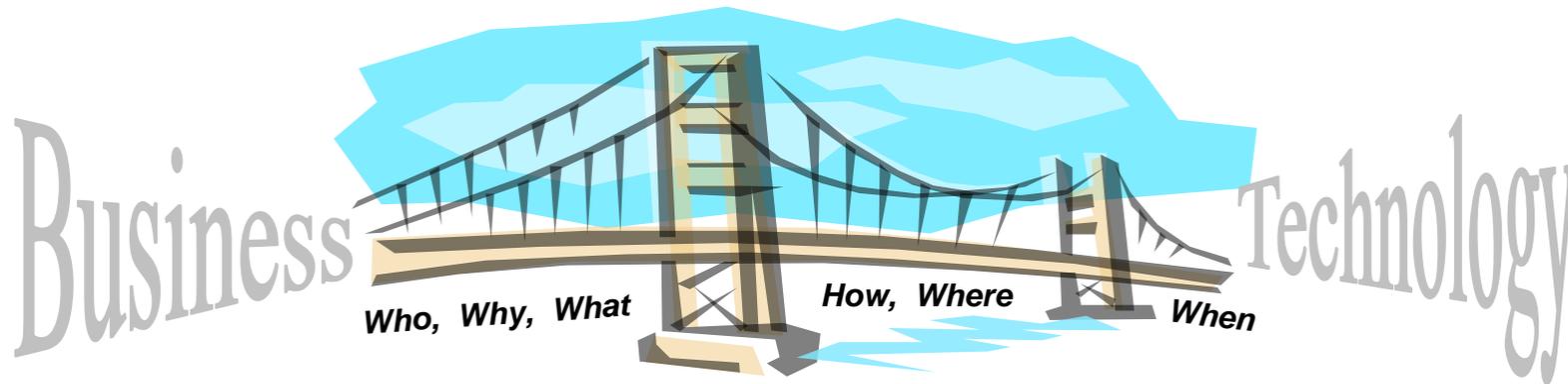
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EA Overview

Enterprise Architecture is the bridge between Business Strategy and IT Strategy. EA enables the effective utilization of IT assets for increasing ROI and meeting business needs on an ongoing basis.

Enterprise Architecture



Why Do EA ? – The Winchester Mystery House - California



- ▶ 160 room Victorian mansion
- ▶ Built over 38 years, starting in 1884 without concern for what was already built



- ▶ **Started with no blueprint in place**
- ▶ **Maze of individual rooms**
- ▶ **Includes stairs that lead nowhere, half built fireplaces, and other unexplained oddities**

Evolved in an additive fashion from independent sources over time

Why Do Enterprise Architecture

▶ **Makes Good Business Sense**

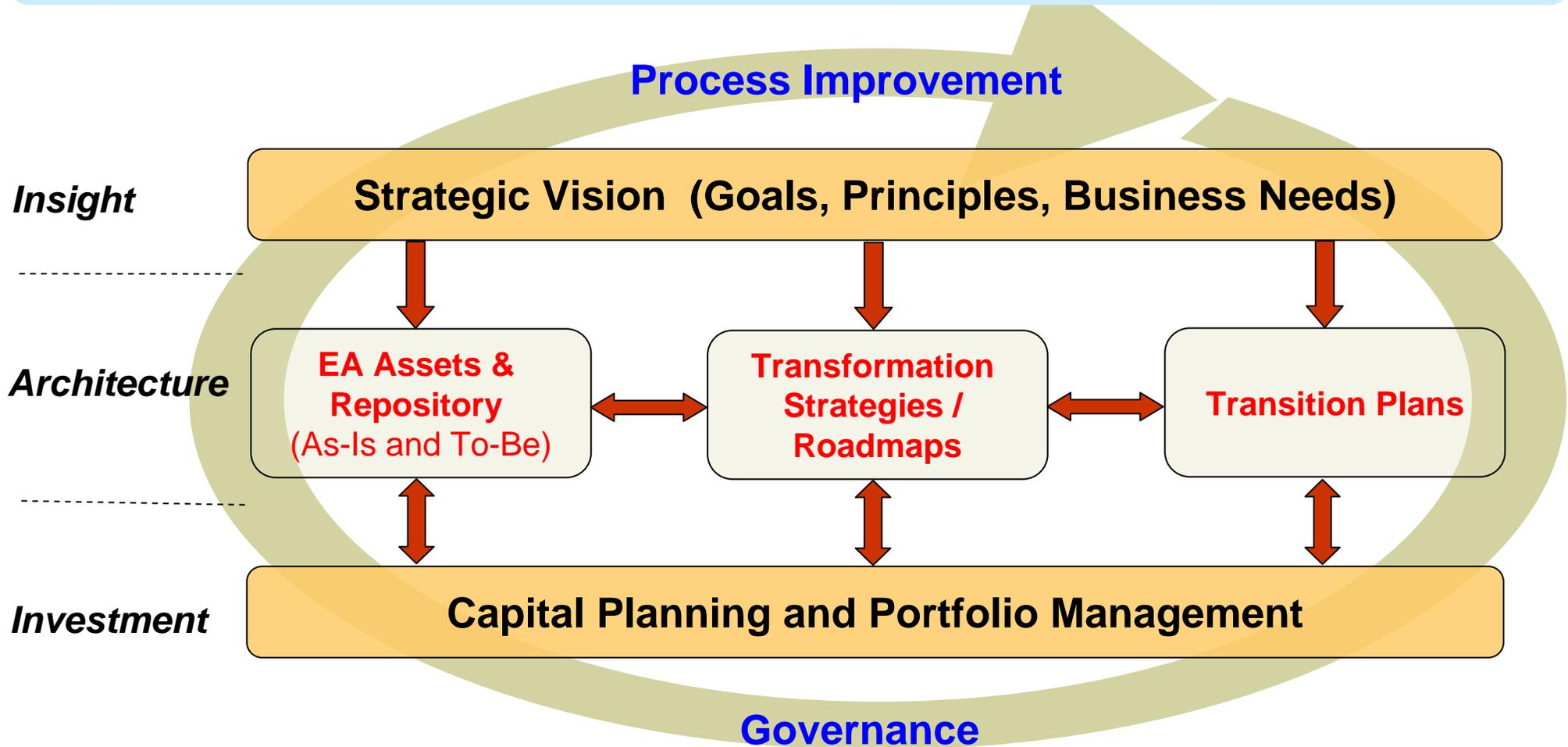
- Provides the information base to optimize IT investment decisions
- Reduces cost and complexity
- Enables faster organizational response
- Improves system security
- Avoids misaligned disparate systems that do not trace to mission goals

▶ **Compliance with FAA Policy, Federal Law, and other Mandates**

- AMS - Changes made to AMS in 2006 require EA
- Clinger Cohen Act - All Federal Departments must have an Architecture
- OMB Circular A–130 - A framework must be used to describe Agency's architecture
- OMB Circular A–11 - Agency investments must be related to the architecture
- GAO
 - GAO audit reports impact Congressional decisions
 - EA Improvements contributed to getting off the High Risk List

EA Operational Model (How we implement EA)

Provides a tactical, or operational level view of the EA Strategy Model, depicting dependencies and interactions across its component parts and processes.



EA Benefits

EA Artifacts

Business Arch.

EA Benefits

Increased reuse and process standardization by identifying duplicate business processes
Reduced cost and time-to-market by eliminating redundant systems

Technology Arch.

Optimized utilization of IT resources by using an enterprise view and through process and technology standardization

Roadmaps

Better Portfolio Management with visibility into future initiatives and dependencies between them

Governance

Improved IT Governance by ensuring alignment with FAA IT policies, standards, and Federal requirements

Segment Arch.

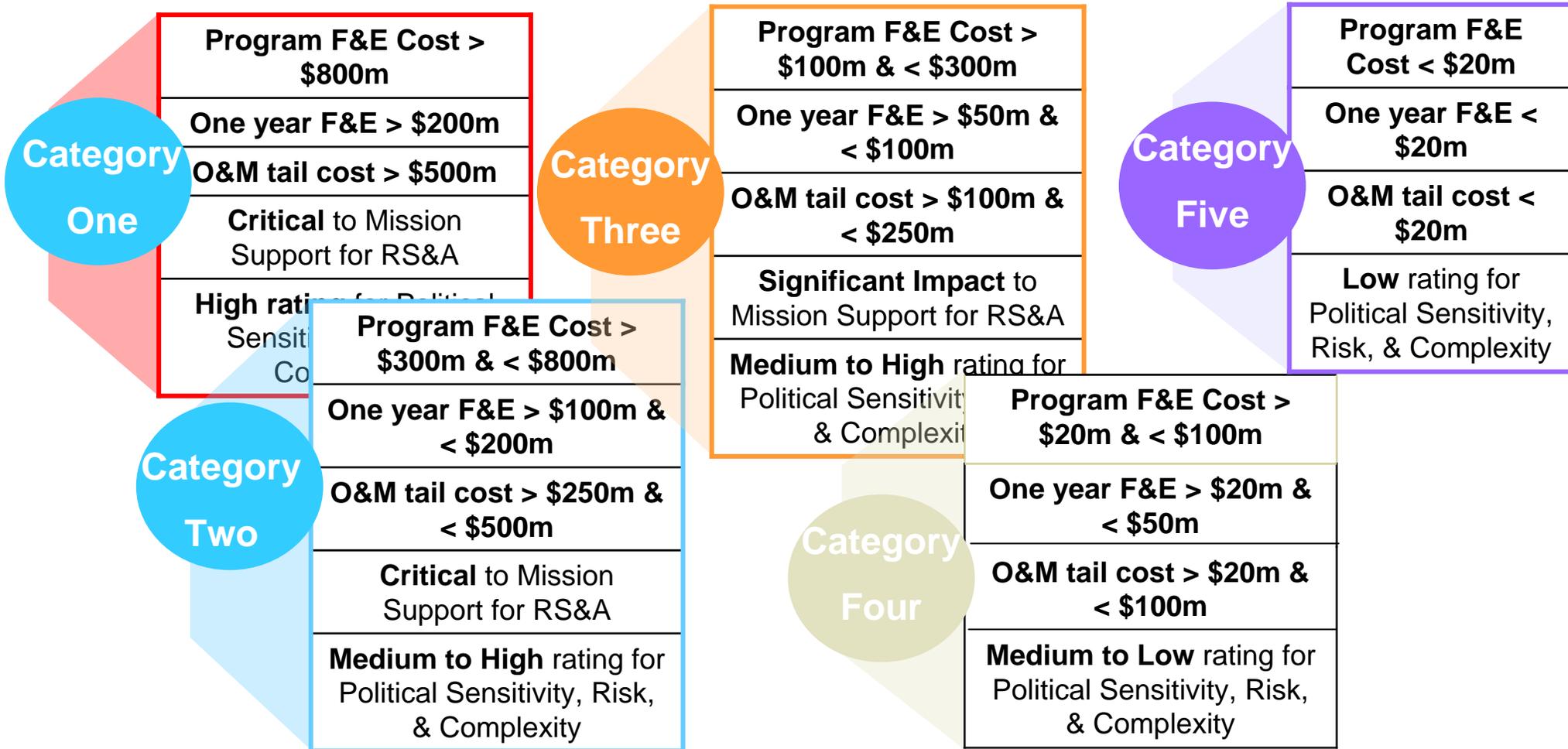
Clearly defined boundary for EA, usually for a specific service area in an agency with a Business Stakeholder.

Line of Sight

Ability to do **“What-If” analysis** to evaluate impact of cut in Investments, changes in Goals, and Technology Upgrades

Architecture Review Process

- ▶ Architecture reviews are conducted throughout the program lifecycle.
- ▶ The level of detail in the review process is based on the Acquisition Category (ACAT)



Greater EA Emphasis on Security

- ▶ **Continue to Use the FEA Security and Privacy Profile (SPP)**

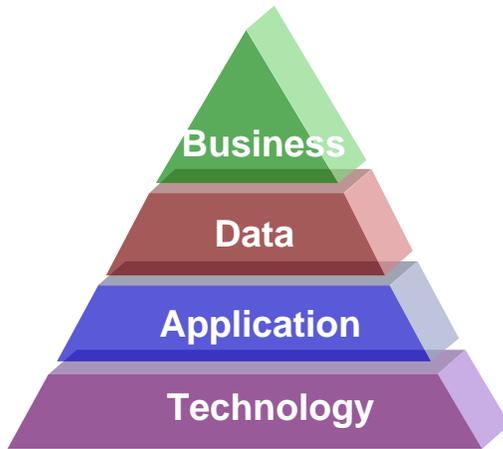
http://www.cio.gov/documents/Security_and_Privacy_Profile_v2.pdf

- ▶ **Support Security through Ensuring that EA Knowledge Base Includes Information such as**
 - **Categorization of Information**
 - **Categorization of Information Systems**
 - **Categorization of Shared Services**
 - **Information System Boundaries**
 - **Segment and Solution Architectures Should Address Security Control Inheritance**

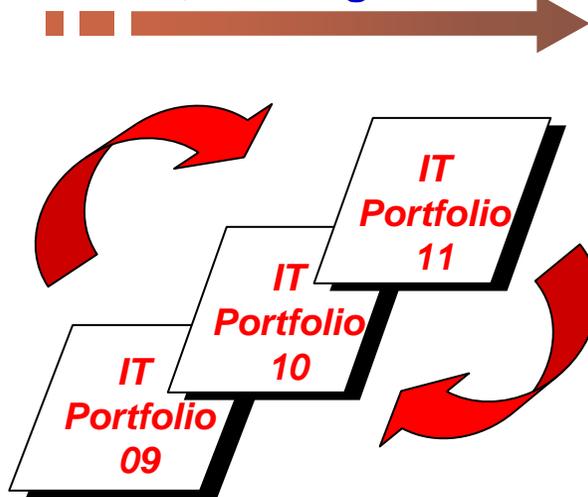
EA Usage

EA artifacts like Roadmaps and Segment Architectures provide useful information to the Capital Planning process. This enables the cyclical evaluation, selection, and management of IT initiatives in the portfolio.

EA Baseline Architecture

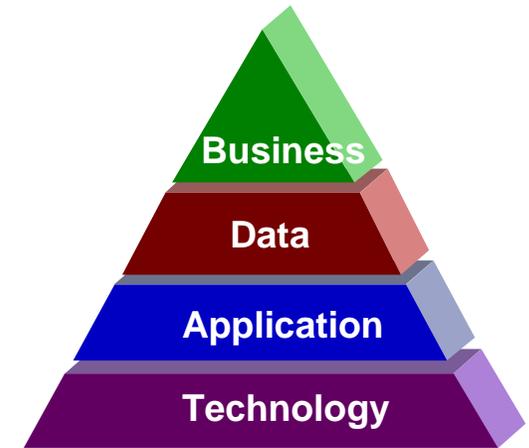


EA Transformation Strategies/Roadmaps, Transition Plans, and Segment Architectures



Capital Planning and Portfolio Mgmt.

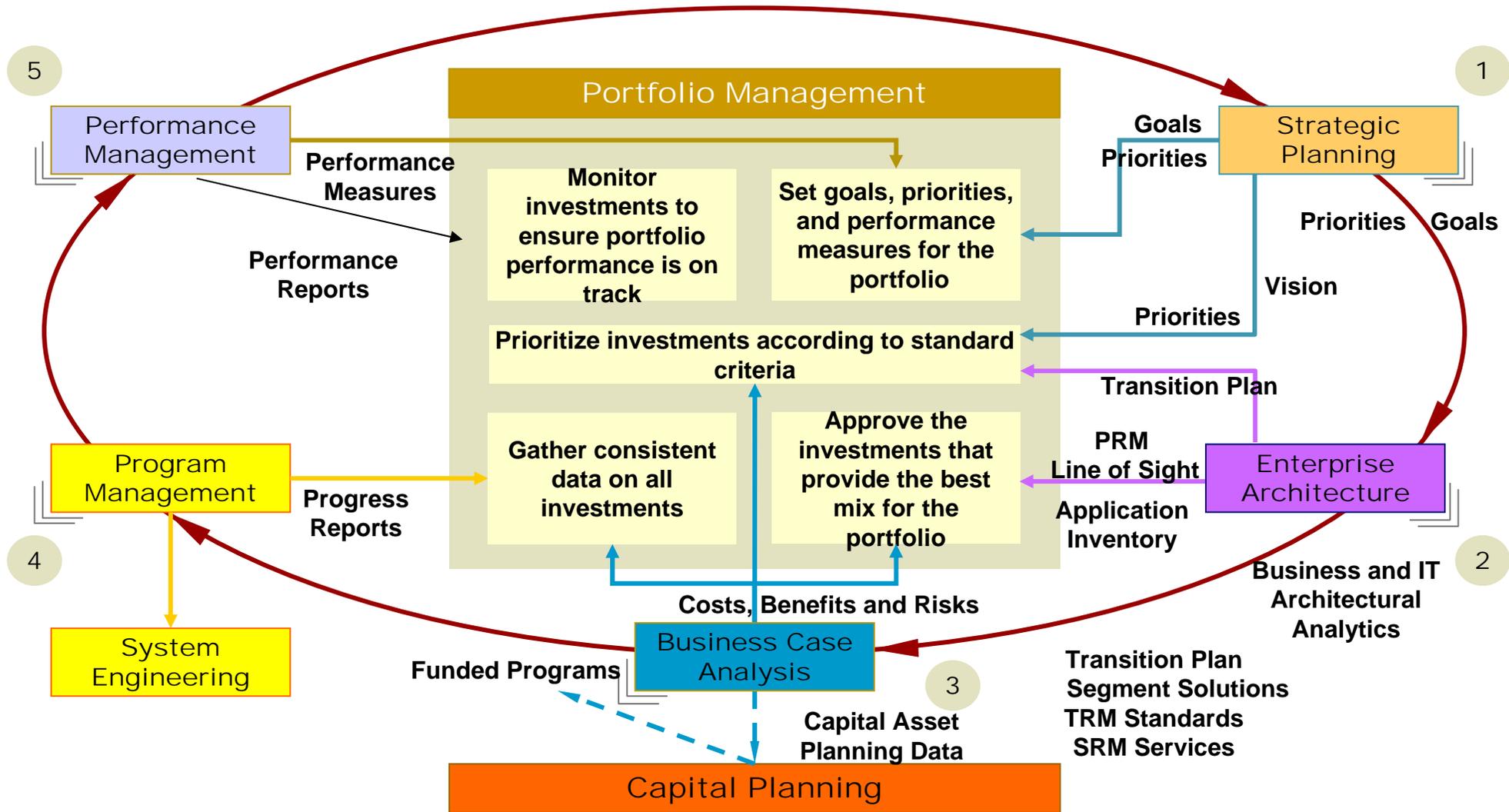
EA Target Architecture



What will my future business be and how should it be supported by IT?

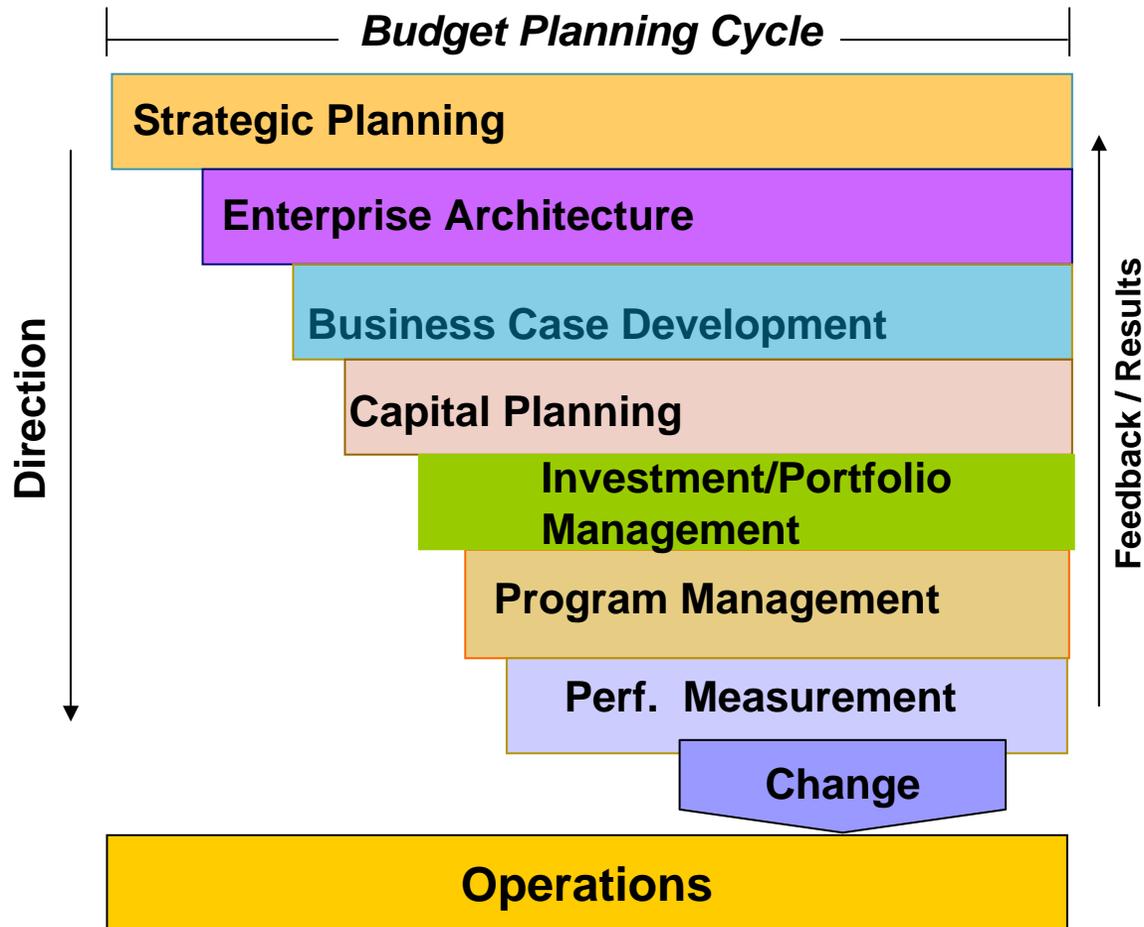
What is my business today and how is it supported by IT?

Integration of EA and Portfolio Management.



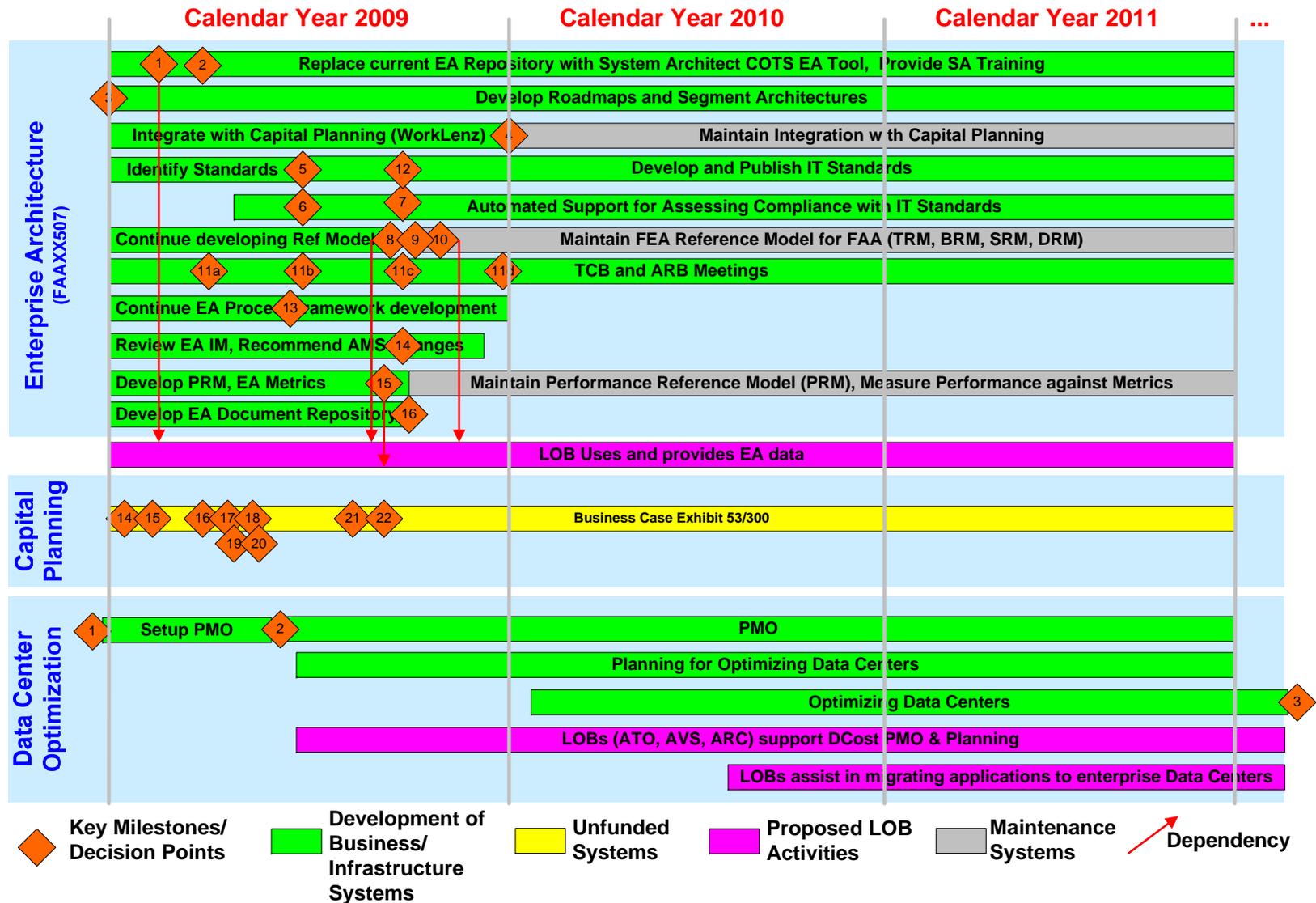
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Plan to Further Integrate EA into Portfolio Management



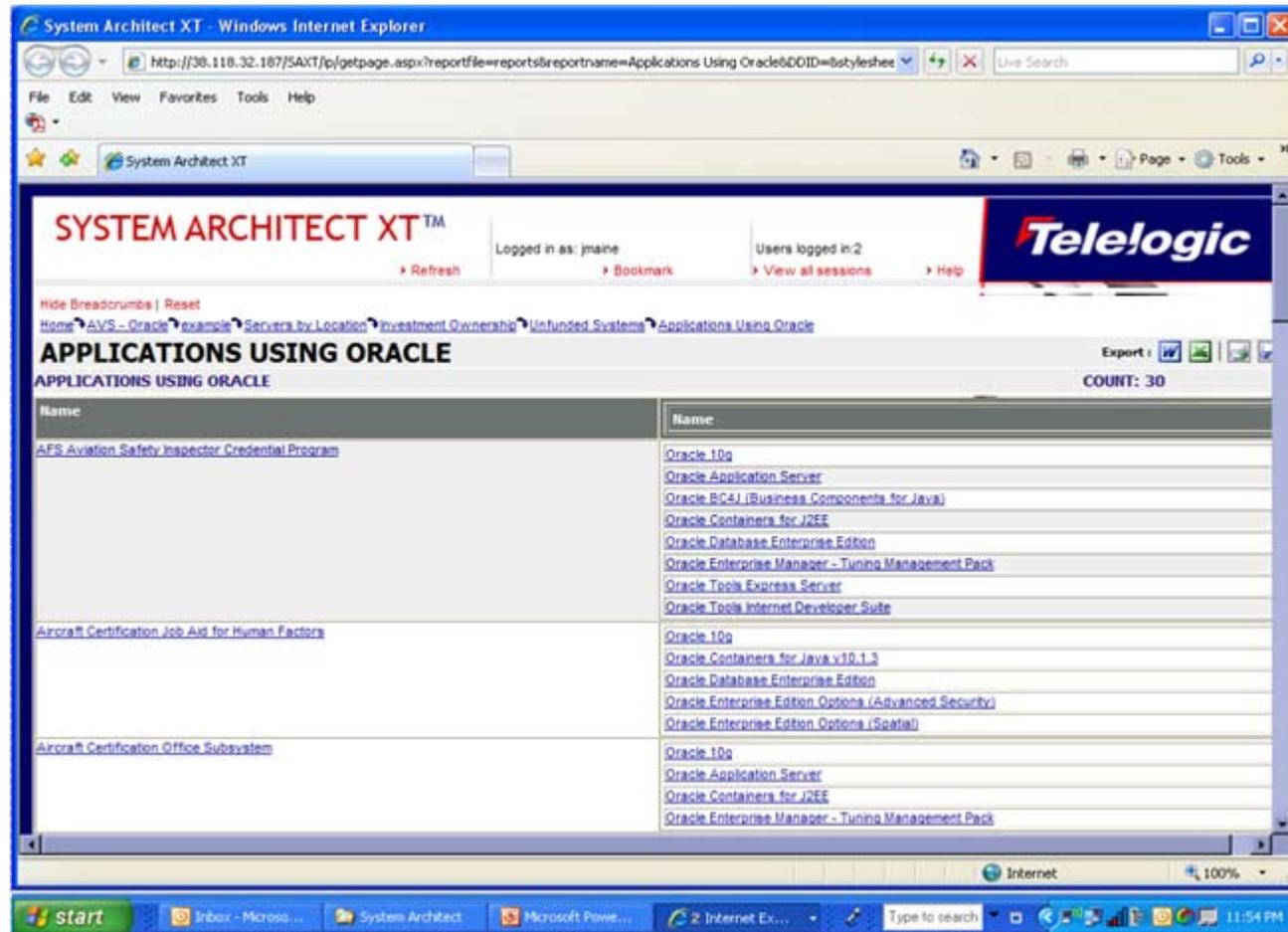
- 1) Strategic Planning - establishes vision, mission, goals, objectives, & enterprise performance measures
- 2) Enterprise Architecture – Develops modernization blueprints to meet strategic goals
- 3) Business Case Development – Creates the OMB 300s from selected blueprint initiatives
- 4) Capital Planning – Selects which initiative business cases will be funded
- 5) Investment/Portfolio Management – Compares investment options and guides decision making
- 6) Program Management – Implements the funding decisions to change the operational environment according to the modernization blueprint
- 7) Performance Measurement – Measure execution performance against targets for continuous improvement

EA Roadmap Example



New System Architect (SA) Toolset

- ▶ Flexible full-featured tool enabling effective Federated architecture
- ▶ Initial reports to answer business questions identified by FAA EA Counterparts group
- ▶ Models and many mappings (e.g. applications x technology)
- ▶ Request access by email to: 9-awa-ard-001-EA-Request @faa.gov
- ▶ Free training available



FAA Non-NAS Implementation Viewable at SA Booth Wednesday, 6/24

Summary

- ▶ **Enterprise Architecture is a growing discipline within the FAA**
- ▶ **Significant benefits have already been realized**
- ▶ **We will continue to incorporate EA into our IT review, approval and acceptance processes**
- ▶ **Continue to Use the FEA Security and Privacy Profile (SPP)**
- ▶ **Enterprise Architecture is a discipline adopted by most mature IT organizations as a way to better manage their IT resources**

Why do Enterprise Architecture ?

You can't afford not to !