

Segment Architecture

Lessons Learned

Department of the Interior (DOI)

*Presented by: Colleen Coggins, Chief Architect,
Department of the Interior (DOI)*

July 10, 2007

Agenda

1. What is a Segment Architecture Approach?
2. Why Use a Segment Architecture Approach?
3. How to Orient the Business to Segment Architecture and Select the Segments to Architect
4. How to Develop Segment Architecture that has an Impact



What is a Segment Architecture Approach?

“Segment architecture development is a collaborative process forming a bridge between enterprise-level planning and the development and implementation of solution architecture.”

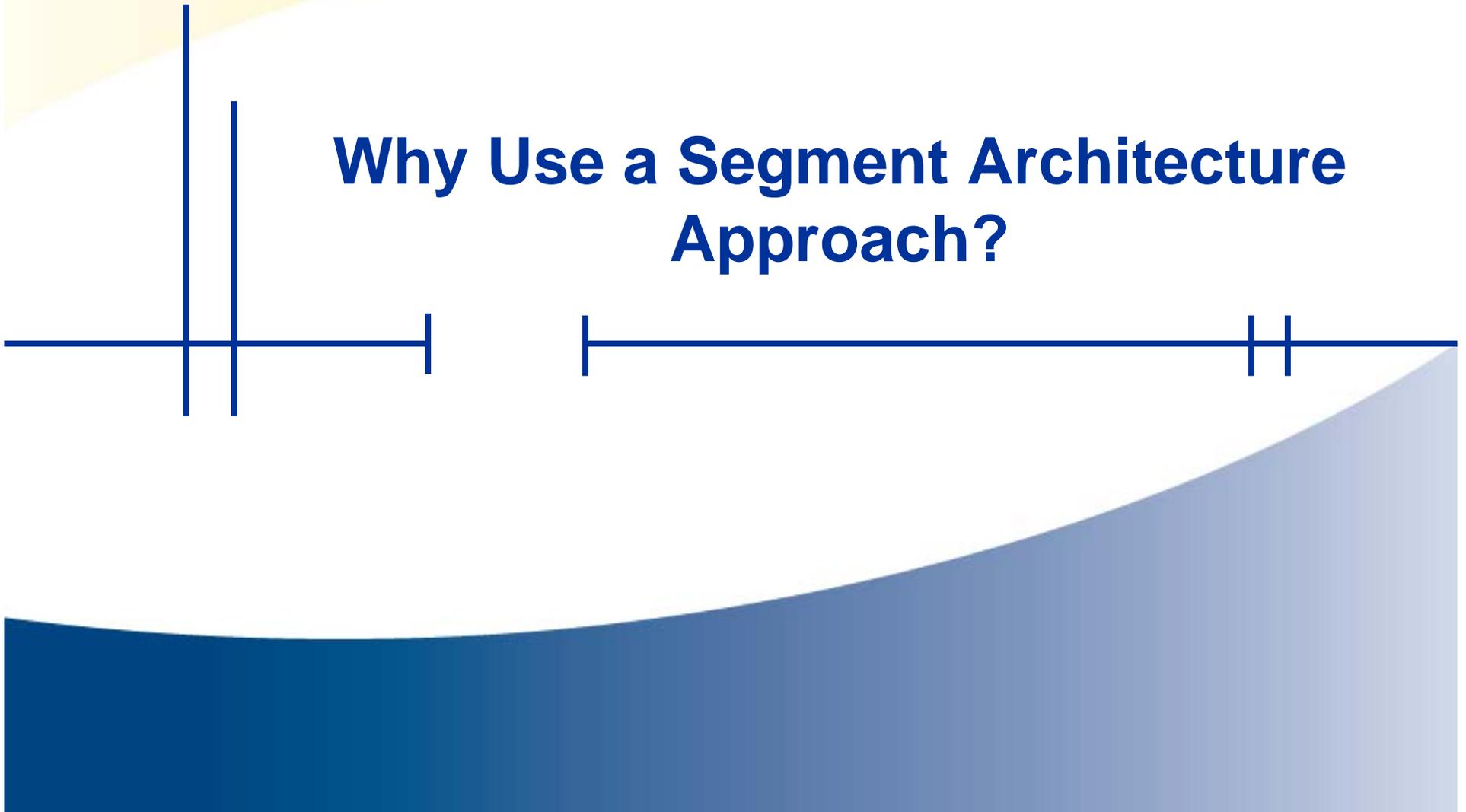
- OMB’s FEA Practice Guidance

Level	Scope	Detail	Impact	Audience
Enterprise Architecture	Agency/ Organization	Low	Strategic Outcomes	All Stakeholders
Segment Architecture	Line of Business	Medium	Business Outcomes	Business Owners
Solution Architecture	Function/ Process	High	Operational Outcomes	Users and Developers

(source: FEA Practice Guidance)



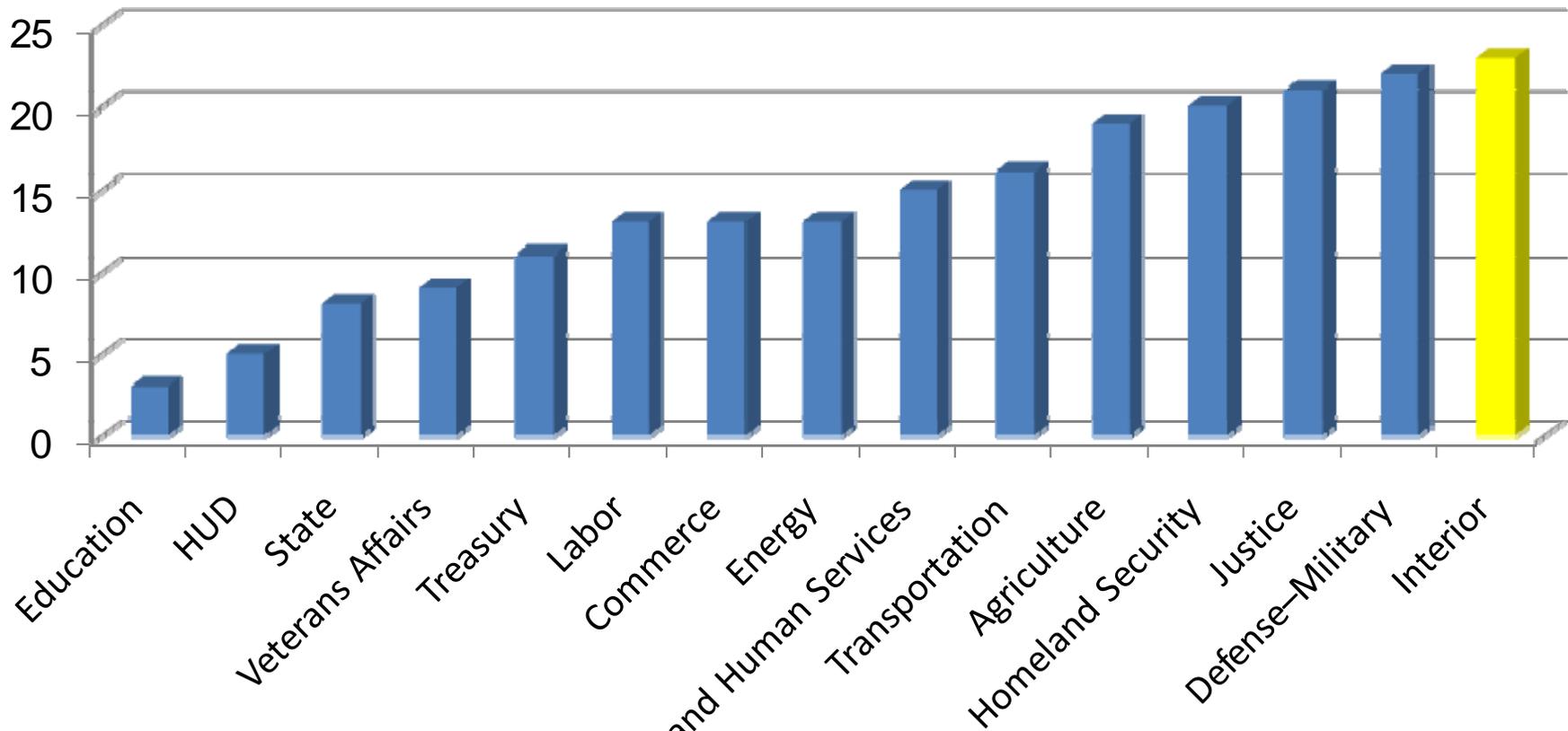
Why Use a Segment Architecture Approach?





Many Agencies, including DOI, have the challenge of architecting an enterprise with an unusually wide set of mission responsibilities.

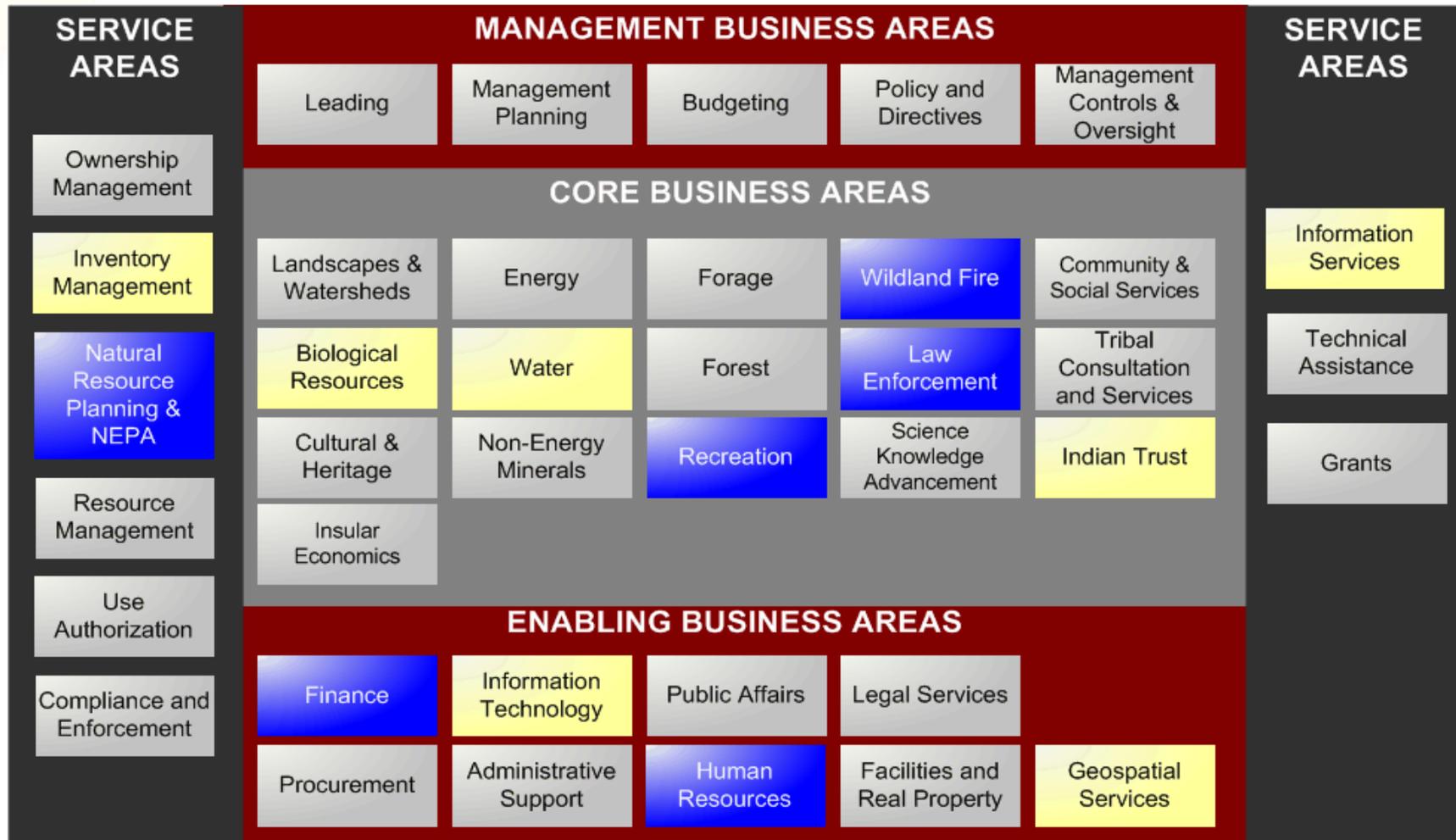
Count of Services for Citizen Sub-Functions for Cabinet Agencies



SOURCE: OMB Report on Information Technology (IT) Spending for the Federal Government For Fiscal Years 2005, 2006, and 2007
http://www.whitehouse.gov/omb/budget/fy2007/sheets/itspending_new.xls



DOI embraced a segment architecture approach to produce business-driven, actionable architectures and ensure a sustainable rate of transformation.

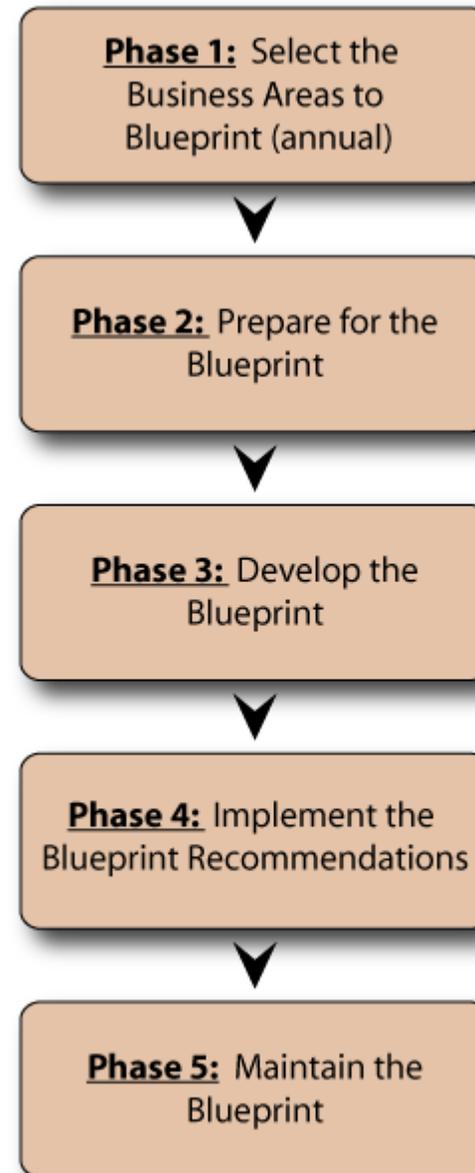


www.doi.gov/ocio/architecture

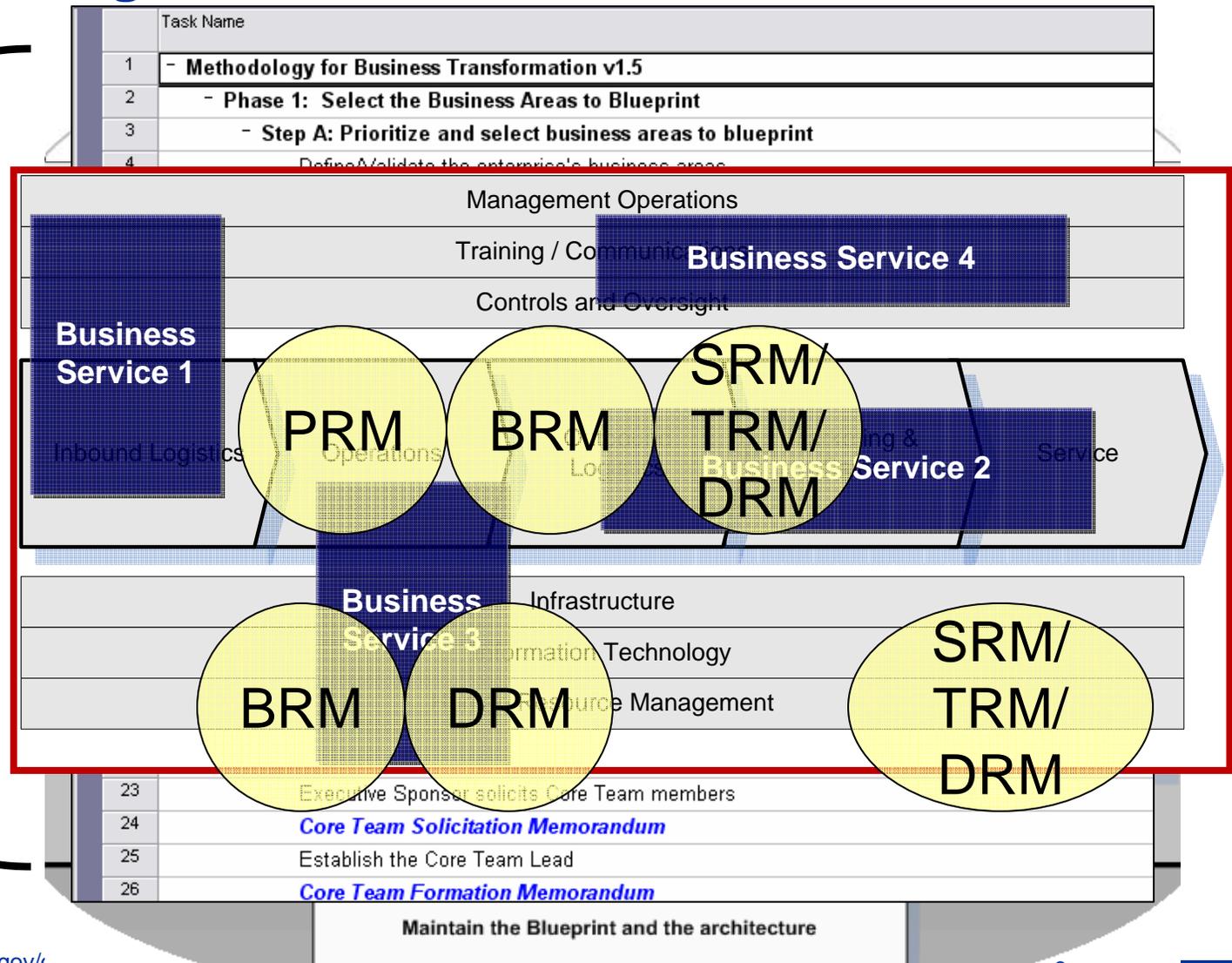
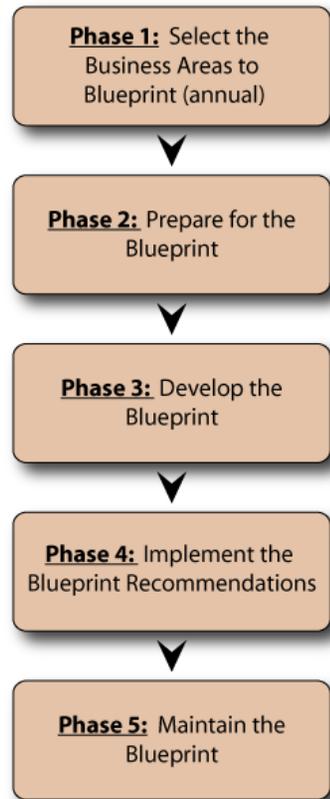
LEGEND:

Blueprint Schedule TBD	In Progress Blueprint	Completed Blueprint
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DOI developed the Methodology for Business Transformation (MBT) so that segment architecture quality was consistent throughout the Agency.



The MBT includes a toolkit of resources to accelerate and strengthen your segment architecture work.



Opportunity: Chief Architects may consider establishing a community of practice to leverage best practices and lessons learned on segment architecture methodologies.

OMB states that segment architecture guidance:

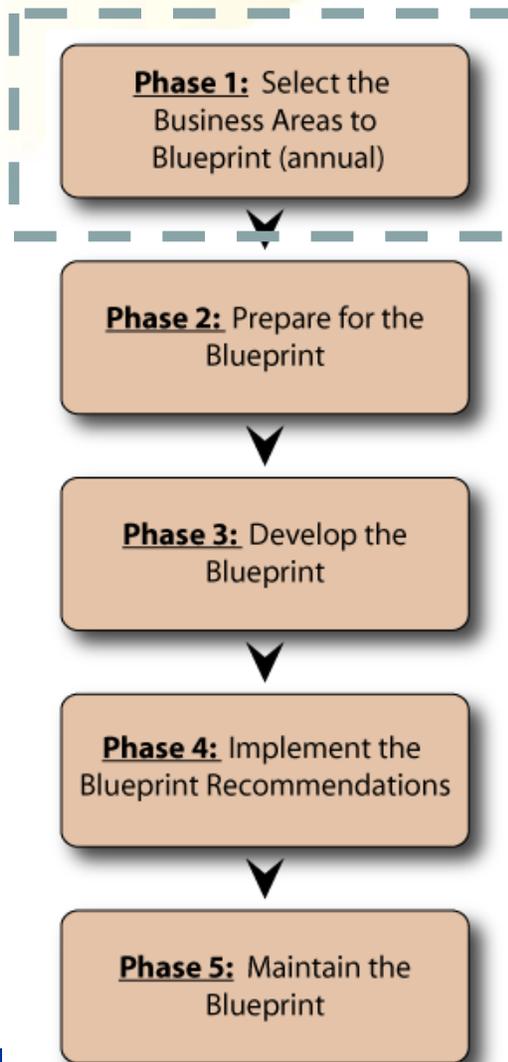
We can learn from best practices and move towards a standard approach

“is not meant to be prescriptive, but to offer concepts to be applied using a variety of architectural frameworks and methodologies.”



How to Orient the Business to Segment Architecture and Select the Segments to Architect

The first phases of the MBT is designed to select what segment will be developed.



- Business leaders are engaged to determine what business areas are high priority for transformation.
- DOI has evaluated candidate Business Areas based on are on spending and performance (Budget & PAR/PART).
- Business leaders then issue a record of decision to initiate the development of a modernization blueprint (segment architecture)

Business areas are analyzed to facilitate a business prioritization decision.

Business Area Prioritization Scoring

Financial Spending		Performance Results		
% of Overall DOI Labor Costs Score 1-4 Weight: 70%	% of IT Portfolio Score 1-4 Weight: 30%	PART Outcome Score 1-4 Weight: 50%	PAR Results Score 1-4 Weight: 50%	Executive Sponsor for Study Yes = 4 No = 1

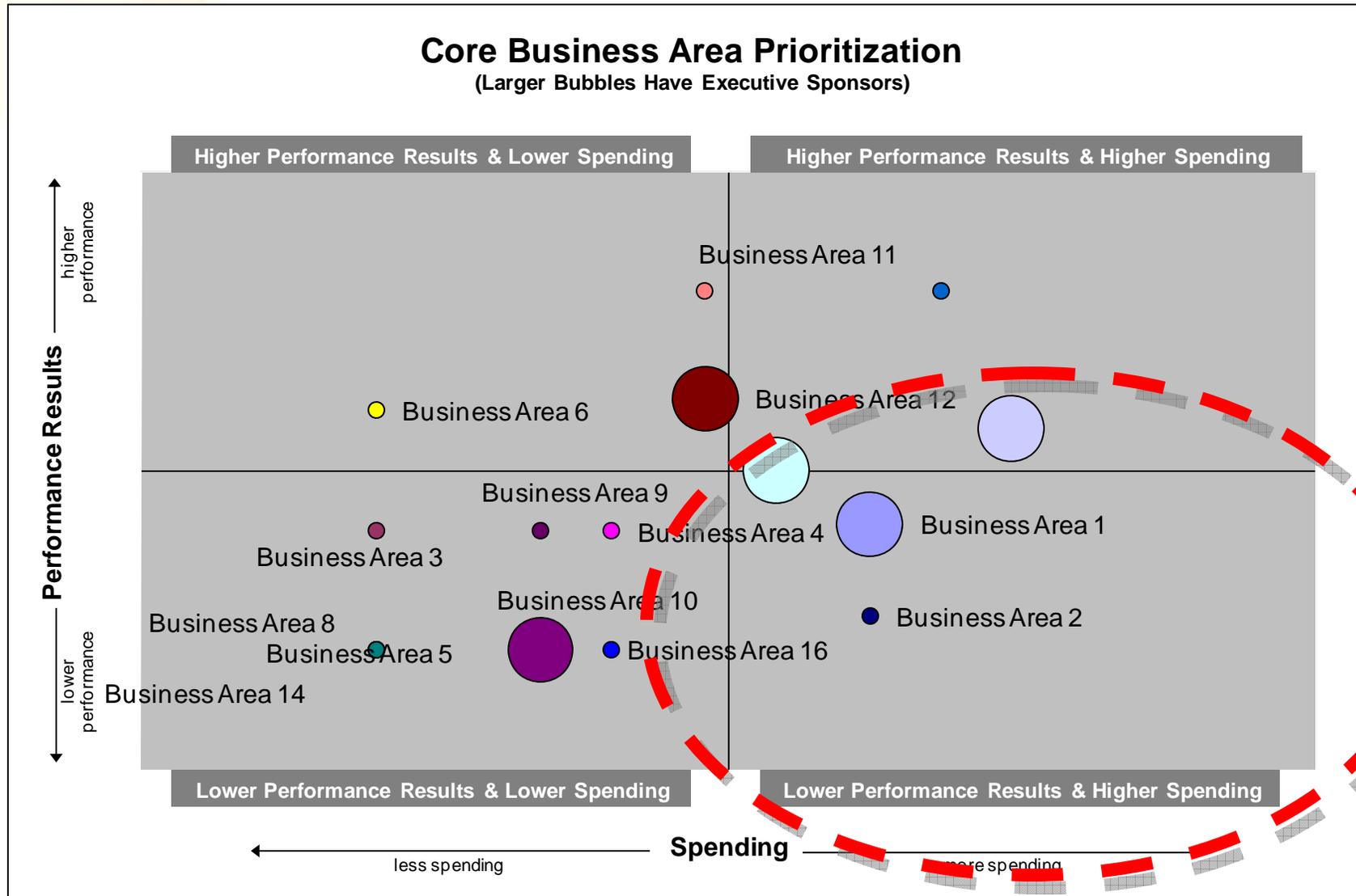
CORE BUSINESS AREAS

“Financial Spending” is a weighted score based on Labor Costs and IT Portfolio Costs

“Performance Results” is a weighted score based on PART and PAR

1	1	4
1	1	1
2	1	1
1	1	1
1	1	1
2	4	1
1	1	1
1	1	1

Low Performance and High Cost Business Areas are highest candidates for Architecting



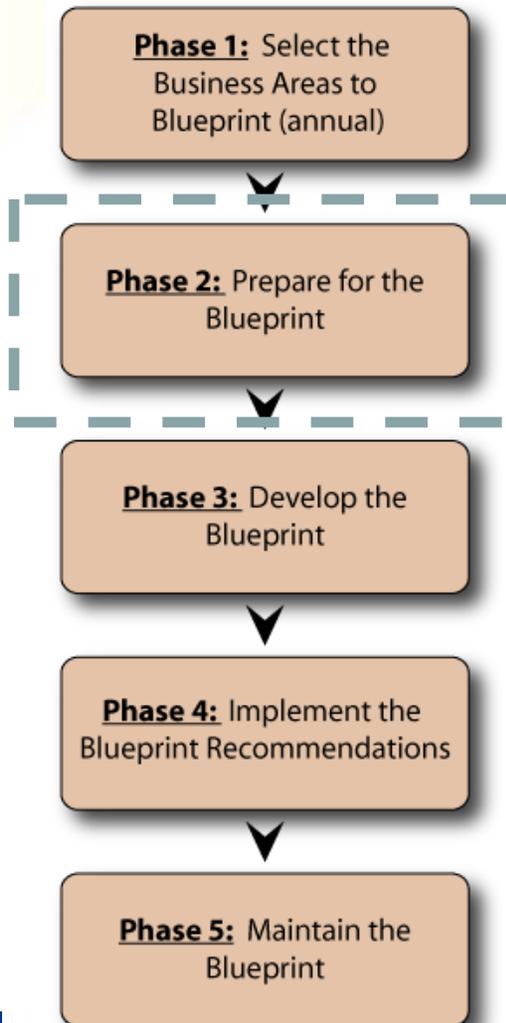
Business leadership then issues a record of decision to initiate the segment architecture development.

	
Record of Decision: DOI Investment Review Board	
Date of Decision: XXXXXXXX	
Briefing Presenter: Jane Doe	
Overview of Approach	<p>The IBAT determined that there are 31 business areas within DOI. This is the same set of business areas that were assessed last year during this Blueprint prioritization process.</p> <p>The IBAT reviewed the criteria for prioritization and maintained the same criteria of assessing based on performance (PAR, PART data) and spending (IT Portfolio and Labor Cost data).</p>
Recommendations	<p>Based on the business area scoring, it is recommended that DOI create the following Blueprints:</p> <ul style="list-style-type: none"> • Business Area 1 • Business Area 2
Decision: <input type="checkbox"/> Approved <input type="checkbox"/> Not Approved <input type="checkbox"/> Conditional Approval	
Conditions: <hr/> <hr/> <hr/> <hr/>	
Signature Co-Chair: Name _____ Date: _____	
Signature Co-Chair: Name _____ Date: _____	

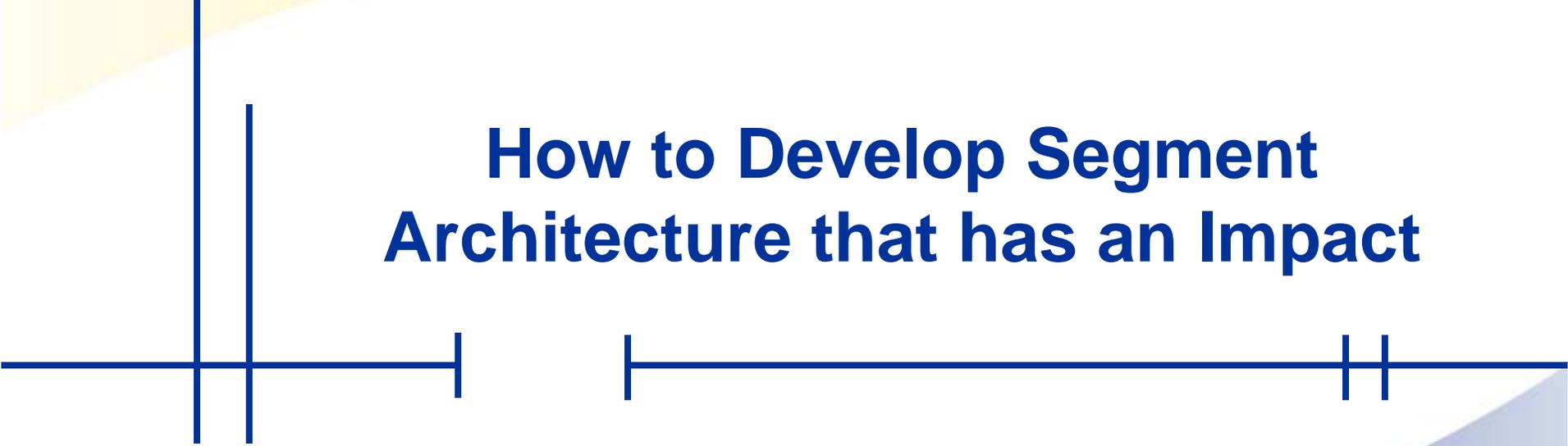


The MBT includes standard templates such as this record of decision template.

The second phase of the MBT is where organizational participation is secured.

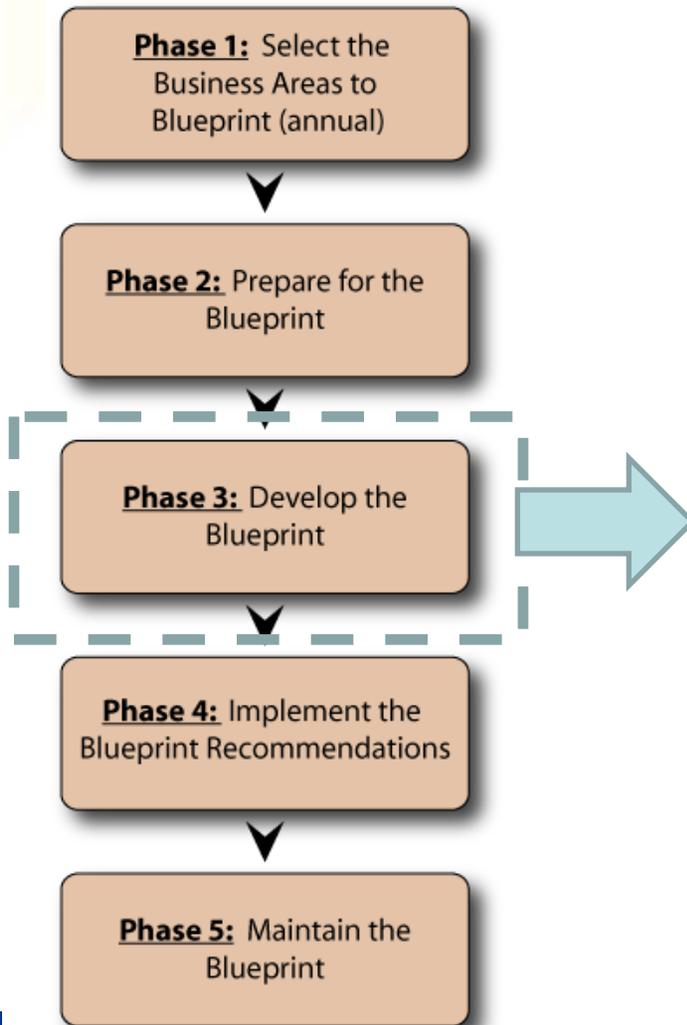


- Business leaders formally appoint an executive sponsor for the segment.
- Business leaders formally publish a purpose statement for the development of the segment architecture.
- A core team of business representatives encompassing all Affected DOI Bureaus is appointed and they ratify a commitment agreement for developing the segment architecture.



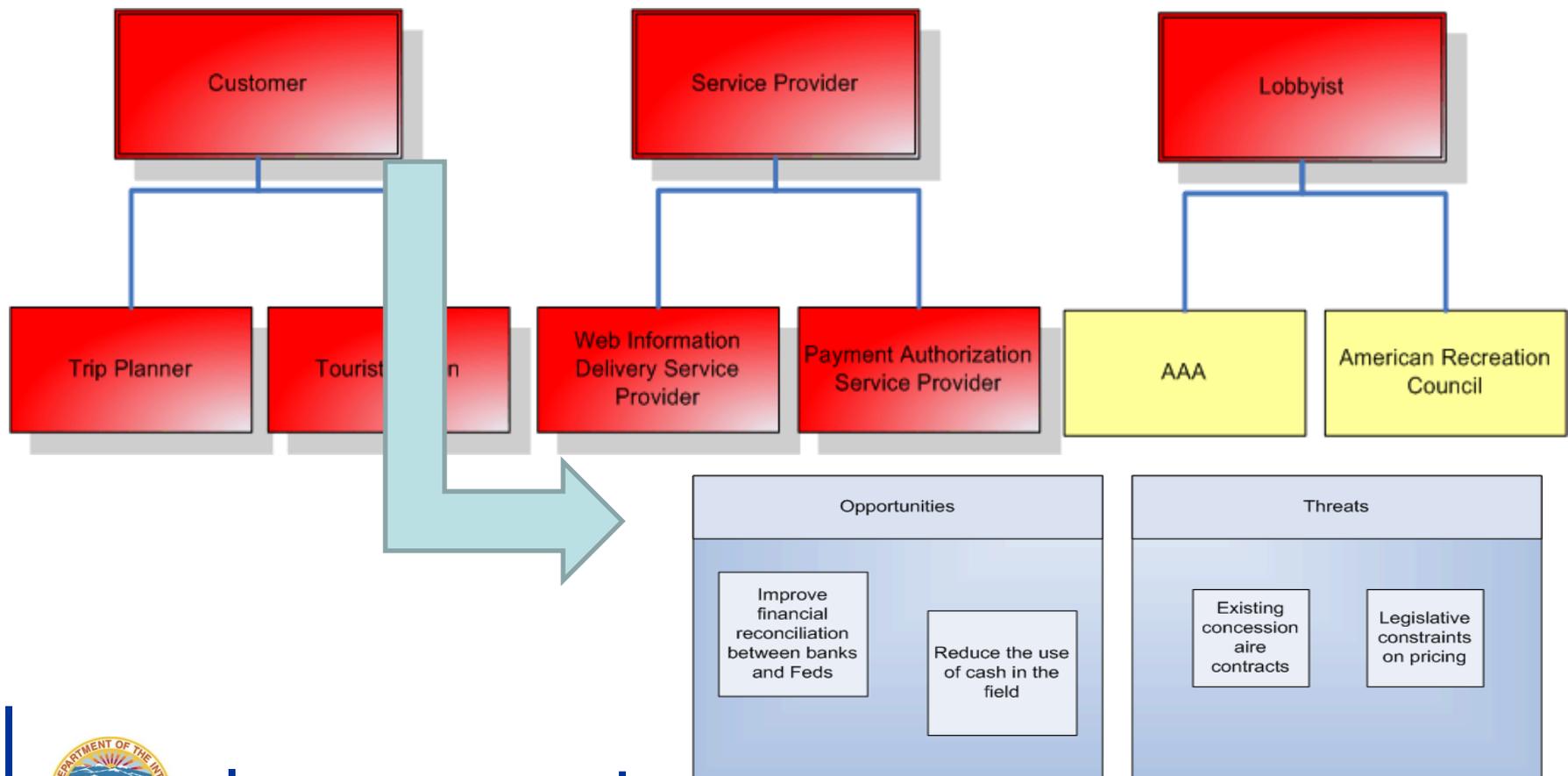
How to Develop Segment Architecture that has an Impact

The third phase of the MBT is a step by step guide to develop a segment architecture.

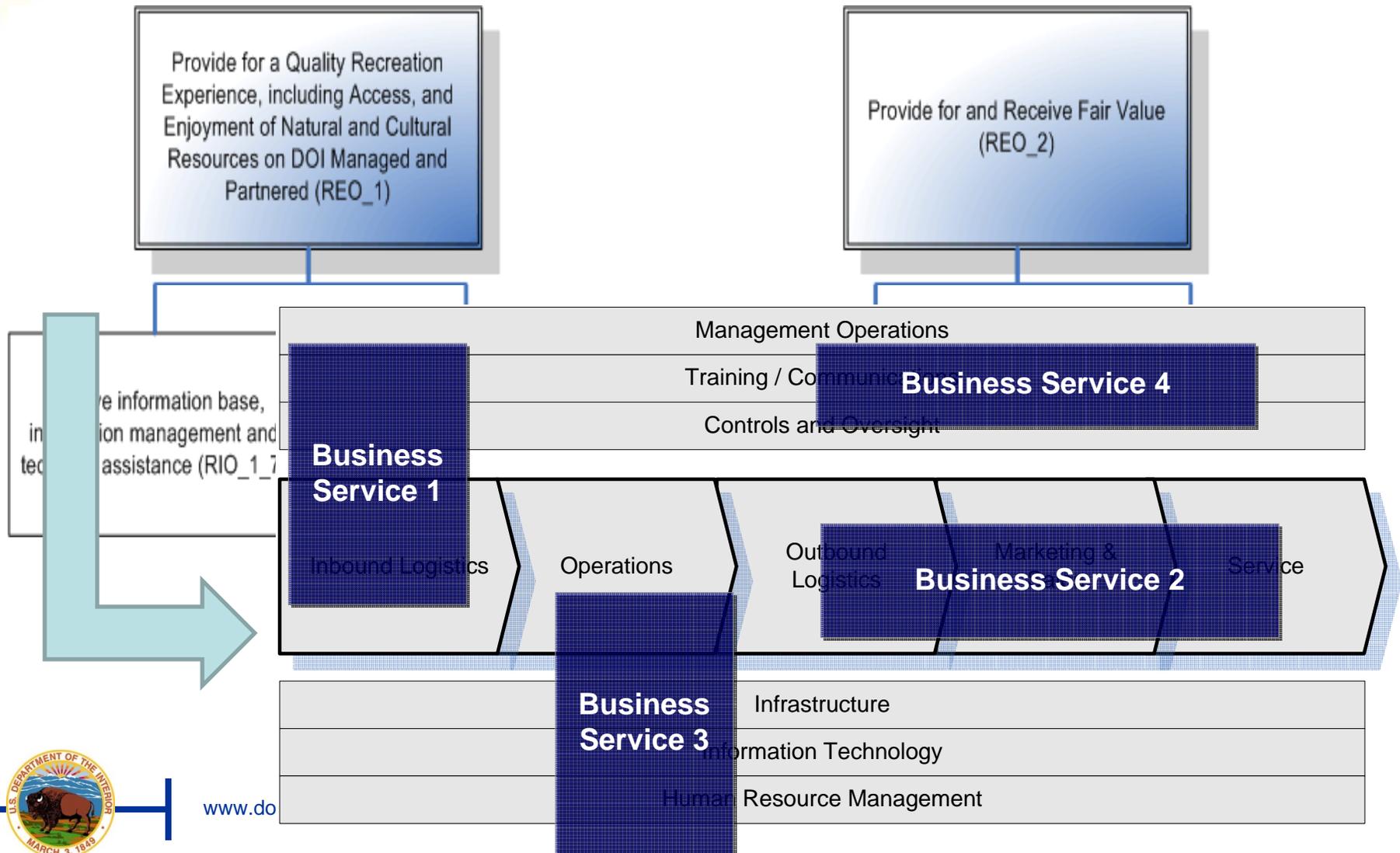


- Stakeholder interviews/analysis.
- Performance architecture development.
- Analysis of products and services.
- Analysis of the business architecture (functions, processes, organizations).
- Analysis of solutions, services, and technologies.
- Analysis of data, data stewardship, data sharing, and authoritative data sources.

Stakeholders are interviewed and analyzed to determine the SWOT for the business area.



The performance architecture is defined then the target value chain is developed.





The MBT contains scoring templates that include scoring criteria

Criteria	Description	Low (1)	Medium (3)	High (5)
P1	Business processes supported by the system.	Business processes automated are not defined.	Business processes automated are partial documented.	Business processes automated and stakeholders supported are clearly defined and documented.
P2	Extent of system support of DOI and BLM strategies, goals, and objectives.	No linkages between system functionality and DOI & BLM strategies and goals.	Some linkages between system functionality and DOI & BLM strategies and goals.	There is a direct link between the functionality provided by the system and DOI & BLM strategies and goals.
P3	Extent of stakeholders feedback for performance measurement and system refinement.	Customers? What customers? Who cares? Customers and users are never consulted as to their satisfaction with the system. No performance measurement.	System managers have a vague idea of who their customers might be (or used to be), guess about their needs and interests. Customers and users are occasionally consulted as to their satisfaction with the system. Minor performance measures and system refinements.	Customer groups and individuals are clearly identified; their needs are documented; data collection and management systems are linked to those needs. Customers and users are regularly consulted as to their satisfaction with the system. Performance measurement is continuous, and used to refine the system.
P4	Lack of functional overlap with other systems.	Significant overlap between system functionality and available COTS, GOTS products, and other BLM systems.	Some overlap between system functionality and COTS, GOTS products, and other BLM systems TAA.	Minimal overlap between system functionality and available COTS, GOTS products, and other BLM systems.
P5	Degree to which system training and support opportunities have been addressed.	No training, support, or documentation available; users have to study the code to figure out what the system does.	No comprehensive training materials available, but experienced users and some documentation exist to help determine user navigation the system.	Comprehensive training materials available and documented. Users are trained and supported.
Criteria	Description	Low (1)	Medium (3)	High (5)
D1	Existence and documentation of data standards and protocols.	Data standards are not defined, or are in a constant state of flux. No documentation exists outside of personal files and notes of the system developers to implement QAVOC systems.	Data standards are defined and documented. Information is shared and consistent.	Data standards are defined, documented, and consistent. Information is shared and consistent.
D2	Relative maturity and accessibility of system's data storage and access methods.	Data stored and maintained in proprietary databases and/or unique formats that preclude access or use by other systems.	Data stored and maintained in standard formats that allow access or use by other systems.	Data stored and maintained in standard formats that allow access or use by other systems.
D3	Relative data entity access or modification overlap with other systems.	Significant overlap of data subject to other systems.	Some overlap of data subject to other systems.	Minimal overlap of data subject to other systems.
Criteria	Description	Low (1)	Medium (3)	High (5)
A1	Degree of architectural compliance with the conceptual Target Architecture.	System and its development plan are not aligned with the BLM's Target system Architecture.	System and its development plan are partially aligned with the BLM's Target system Architecture.	System and its development plan are fully aligned with the BLM's Target system Architecture.
A2	Extent to which system design requirements are defined and documented.	System design requirements are not defined and documented.	System design requirements are partially defined and documented.	System design requirements are fully defined and documented.
A3	Extent to which systems interfaces are defined and documented.	System interfaces, APIs, and dependencies are not defined and documented.	System interfaces, APIs, and dependencies are partially defined and documented.	System interfaces, APIs, and dependencies are fully defined and documented.
A4	Extent to which high-level design or operational concepts are defined.	No high-level design or operational concepts are defined.	High-level design or operational concepts are partially defined.	High-level design or operational concepts are fully defined and documented and accessible.

Systems are Scored Based on Established Criteria

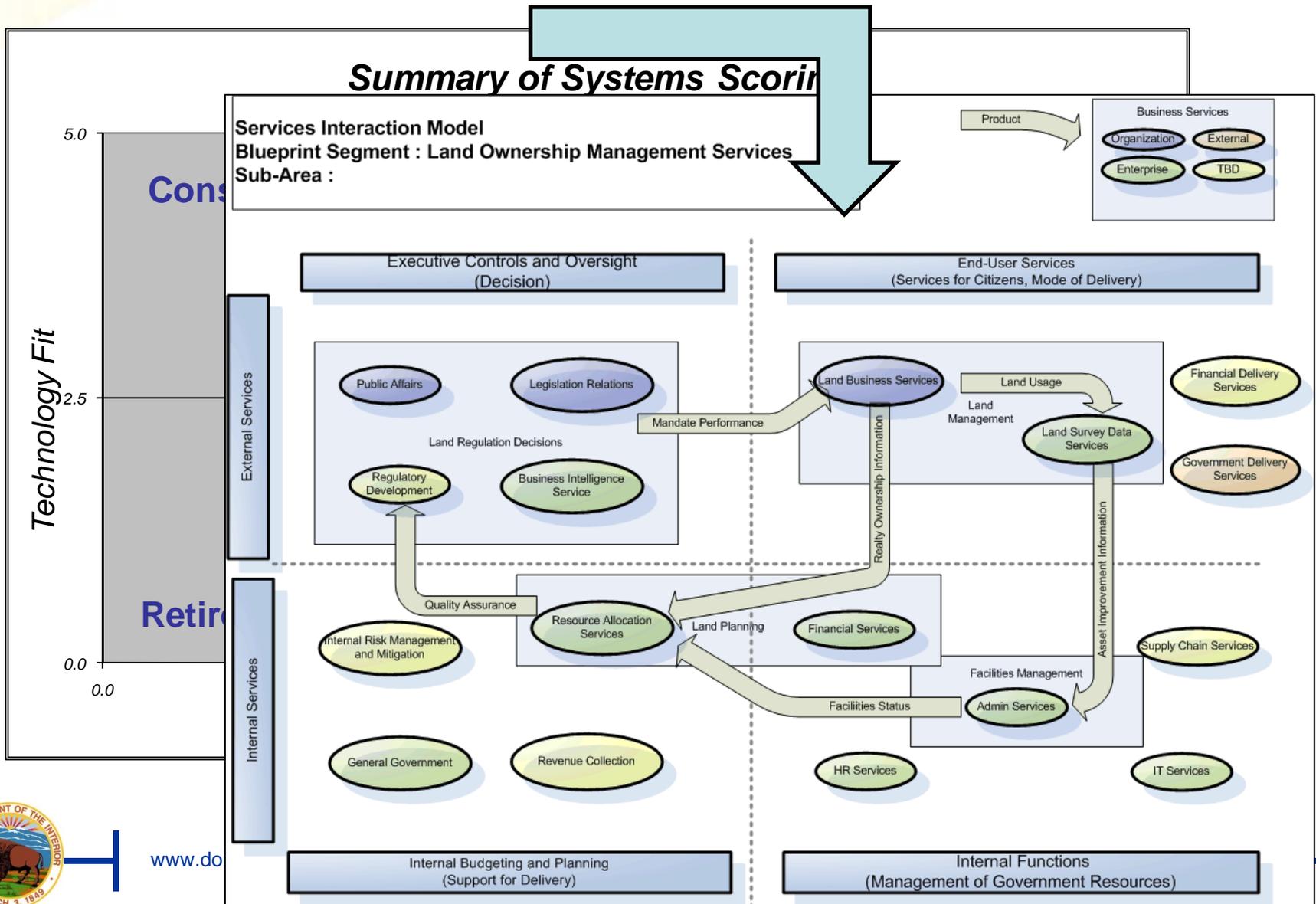
Portfolio	System	D1	D2	D3	A1	A2	A3	A4	Application TAA Criteria Weight	Data TAA Criteria Weight	Process TAA Criteria Weight	Technical TAA Criteria Weight	Fit Score	TRM/TAA Score	AVERAGE(Application Score + Technology Score) - Scale of 1 to 5	Overall As-is TAA Weighted Criteria Assessment Score (Out of 15)
200	RIPS	1	1	1	1	1	1	1	1.0	2.00	1.25	1.63	5.92			
200	RAS	4	3	4	1	1	1	1	1.0	3.75	3.94	3.84	11.36			
200	RIS	1	2	2	1	1	1	1	1.0	3.50	3.30	3.44	9.54			
200	IDS	4	4	2	1	1	1	1	1.0	1.25	2.06	1.66	4.98			
200	WDB (As-is)	5	2	1	2	1	2	1	1.0	1.50	1.13	1.31	4.29			
200	WBIS	6	3	3	3	1	3	1	1.0	2.25	2.31	2.28	7.56			
200	RMS	7	4	2	4	1	3	3	1.0	2.75	2.69	2.72	8.77			
200	TSIS	8	4	3	3	1	3	3	1.0	3.00	2.50	2.75	8.83			
200	FORVIS	9	4	3	3	1	2	1	1.0	1.50	1.88	1.69	6.04			
200	eGIS	10	FSA	FSA	FSA	FSA	FSA	FSA	1.0	FSA	FSA	FSA	FSA	FSA	FSA	FSA
200	NSeedW	11	FSA	FSA	FSA	FSA	FSA	FSA	1.0	FSA	FSA	FSA	FSA	FSA	FSA	FSA
200	EPS	12	FSA	FSA	FSA	FSA	FSA	FSA	1.0	FSA	FSA	FSA	FSA	FSA	FSA	FSA
200	WDB	13	FSA	FSA	FSA	FSA	FSA	FSA	1.0	FSA	FSA	FSA	FSA	FSA	FSA	FSA
200	WBPS	14	FSA	FSA	FSA	FSA	FSA	FSA	1.0	FSA	FSA	FSA	FSA	FSA	FSA	FSA
200	WFIS	15	FSA	FSA	FSA	FSA	FSA	FSA	1.0	FSA	FSA	FSA	FSA	FSA	FSA	FSA
200	ePlanning	16	FSA	FSA	FSA	FSA	FSA	FSA	1.0	FSA	FSA	FSA	FSA	FSA	FSA	FSA

Templates for uniform system scoring

Well-defined criteria for assessing alignment



Systems are analyzed based on business and technology fit to define the target solution.





The final recommendations are packaged into a modernization blueprint and signed off by business and IT leadership.

Investment Review Board (IRB) Recommendation for Approval and Implementation of the DOI Financial Management Modernization Blueprint – January 12, 2007

Record of Decision (ROD):

The IRB approves the recommendations encompassed in the Financial Management Modernization Blueprint dated January 8, 2007 including identified system retirements and interfaces (see attached Affected Systems List). This Modernization Blueprint is approved with the stipulation that no systems will be retired from service until the appropriate level of functionality is implemented within the target FBMS solution.

All systems scheduled for retirement or interface will be centrally tracked within the Office of the CIO with Bureau input as to progress with defined milestones.

The approved Blueprint will be used by the Bureaus for their Capital Planning and Investment Control (CPIIC) planning so that associated investments and project schedules are consistent with the FBMS schedule and the FBMS Affected Systems List included in this Record of Decision and imbedded in the Financial Management Modernization Blueprint.

The Financial Management Modernization Blueprint will be updated regularly to reflect any changes associated with the Financial Management Line of Business and/or the FBMS deployment. Updates to the Financial Management Modernization Blueprint will be created in partnership between the DOI IEA program, FBMS PMO, DOI PFM, and DOI PAM offices. All changes to the Blueprint must be approved by the Financial Management business owners and the DOI Investment Review Board.

The IRB is requesting, to the maximum extent possible, that the FBMS project team supply regular updates to FBMS planning and architecture artifacts. The FBMS planning and architecture artifacts should be consistent with artifacts that are regularly documented as part of DOI EA.

This Record of Decision (ROD) serves to approve the target architecture as outlined in the Financial Management Modernization Blueprint and serves as a commitment by the organizations represented on the Investment Review Board to participate actively in the FBMS implementation.

Approved: _____ Approved with Stipulations: *J*

Stipulations: *FOR FERM SYSTEM WILL BE NOTED AS POTENTIALLY HAVING TRUST DATA SUBJECT TO REFINEMENTS ON AFFECTED SYSTEMS LIST. BLUEPRINT IS REQUESTED TO ENCOMPASS BLM SYSTEMS IN ORDER TO ACHIEVE BUDGET EXECUTION & BUDGET PERFORMANCE INTEGRATION.*

Michael J. Howell
 Michael J. Howell
 DOI Acting CIO
 Chair, ITMC
 Co-Chair, IRB

Paul Hoffman
 Paul Hoffman
 Deputy Assistant Secretary for Performance, Accountability, and Human Resources
 Chair, DOI E-Gov Team
 Co-Chair, IRB

United States Department of the Interior
 OFFICE OF THE SECRETARY
 Washington, DC 20240

FEB 16 2007

Memorandum

Michael Howell, Acting CIO, Department of the Interior
 Business Owners for Financial, Acquisition and Property Management

Subject: Approval of DOI Financial Management Modernization Blueprint

The undersigned business owners for the functions contained in the DOI Financial Management Blueprint January 8, 2007, the undersigned are pleased to approve this document. This blueprint is so approved by the DOI Investment Review Board.

John Sonderman
 Sonderman, Director
 of Acquisition and Property Management

Paul Fletcher
 Fletcher, Director
 of Financial Management

Paul Hatfield
 Hatfield, Deputy Assistant Secretary
 for Business Management and Wildland Fire

2/9/07
Date

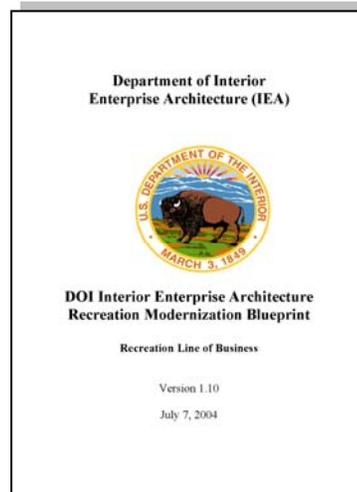
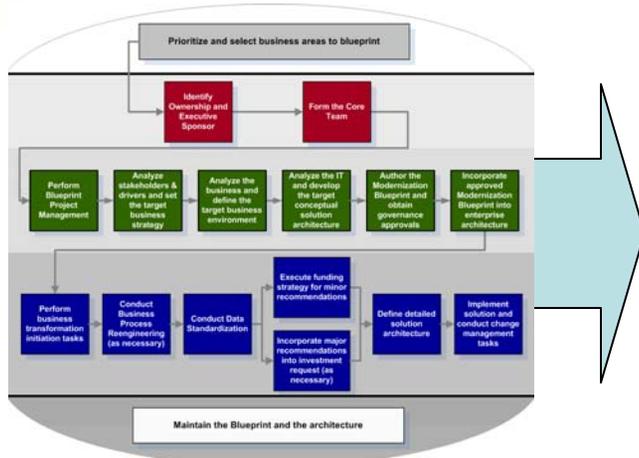
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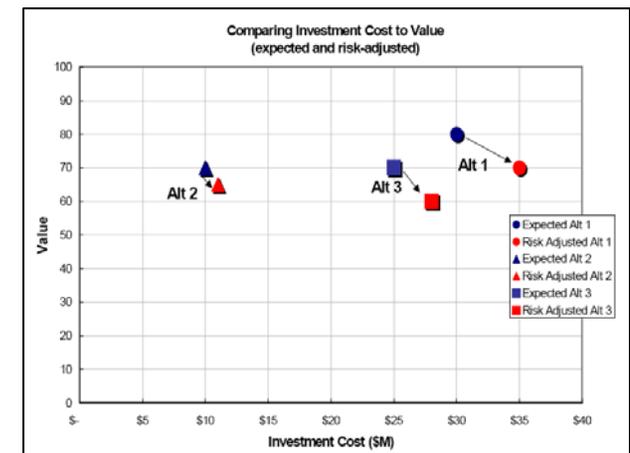


Recommendations from the segments are prioritized using the Value Measuring Methodology to feed into CPIC.

EA Produces Modernization Blueprints



Recommendations are prioritized using VMM



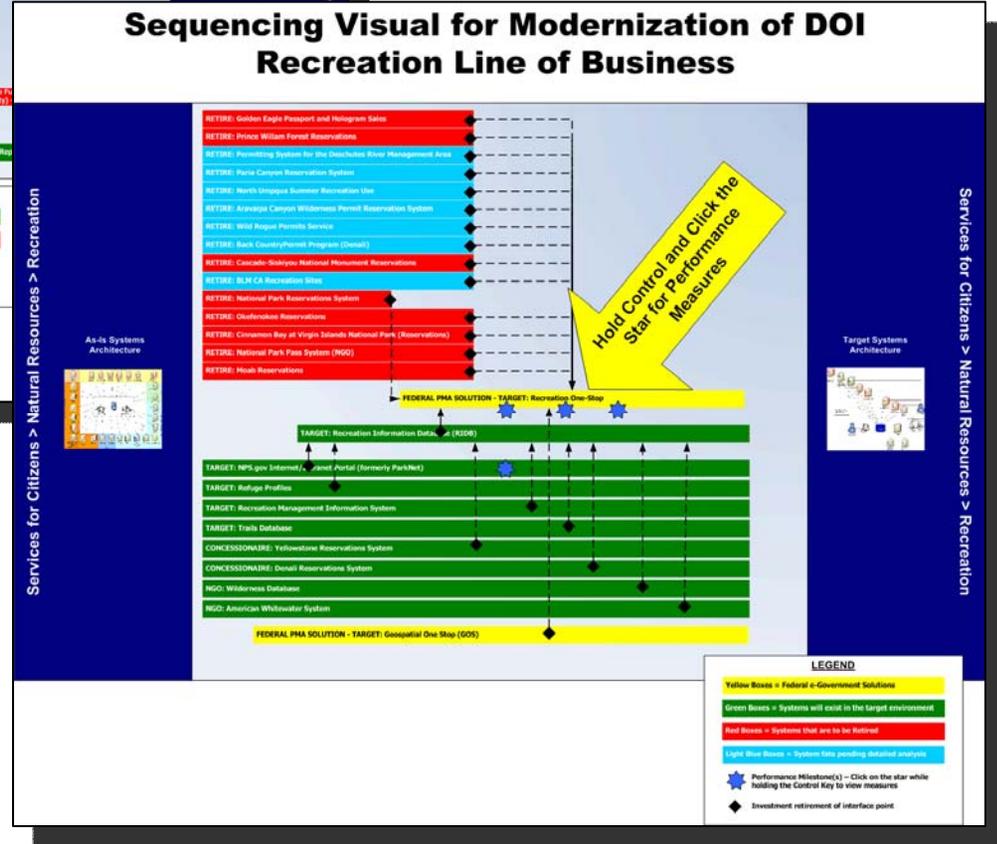
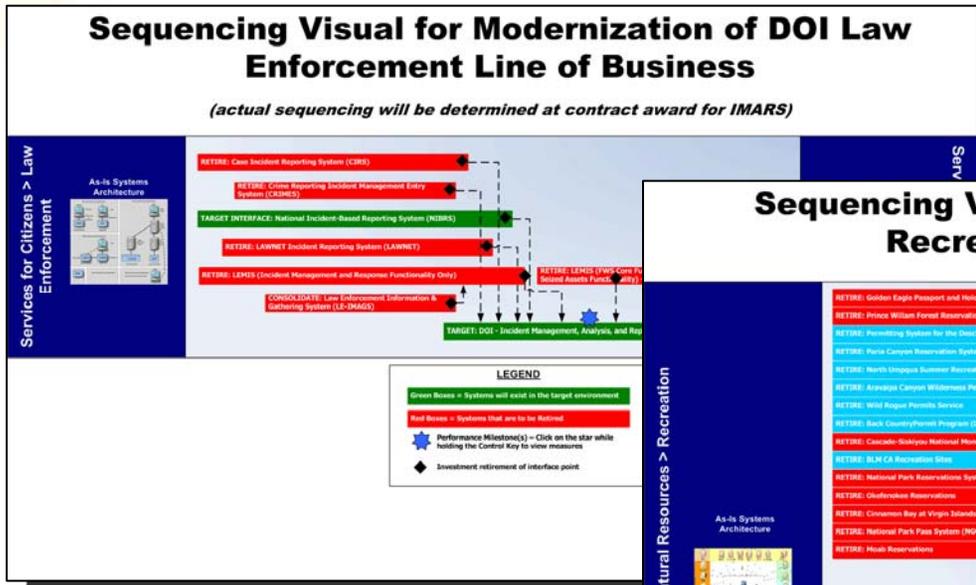
Mission Needs Statements Flow Into CPIC During the Pre-Select Stage



Mission Needs Statements

Prioritized Recommendations Result In Mission Needs Statements

Approved segment architectures are tracked in the *DOI Enterprise Transition Strategy* which impact CPIC as well as budget.





The adoption of a standard segment architecture approach has yielded many results at DOI.

The screenshot shows the Recreation.gov website interface. At the top, it says "RECREATION.GOV" and "Explore your America™". Below this is a navigation bar with links for Home, Recreation Area, Camping, Tours, Day Use, Search by Map, and Wilderness. A welcome message asks if the user is already a member (with a "Sign In" link) or not a member yet (with a "Sign Up" link). The main content area features a "Reserve Your Place Under the Stars™" section with search filters: "Looking for" (Any camping site), "State" (Any camping site), "Park or Facility name" ((required)), and "Camping dates (optional)" with radio buttons for "Specific" and "Range", and input fields for "Arrival date" and "Length of stay". To the right, there is a large image of a Yosemite National Park rock formation with the text "YOSEMITE NATIONAL PARK CALIFORNIA" and a description: "YOSEMITE NATIONAL PARK, ONE OF THE FIRST wilderness parks in the United States, is best known for its waterfalls, but within its nearly 1,200 square miles, you can find deep valleys, grand meadows, ancient giant sequoias, a vast wilderness area, and much more." Below this is a smaller image of a building with the text "Boundary Waters Canoe Area Wilderness" and another image of a lake with a canoe.

DOI's Recreation Modernization Blueprint features the target state of a one-stop shopping experience for recreation customers. This target state has been implemented at Recreation.gov



Proposed Next Steps....

Determine if the CAF sees benefit in forming a community of practice or sub-team to investigate:

- Best practices, lessons learned from available segment architecture development methodologies.
- Examine possible endorsement/adoption of a standard approach.



Questions?