

Achieving Business Aligned Information Technology

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National Fish and Wildlife Database Summit

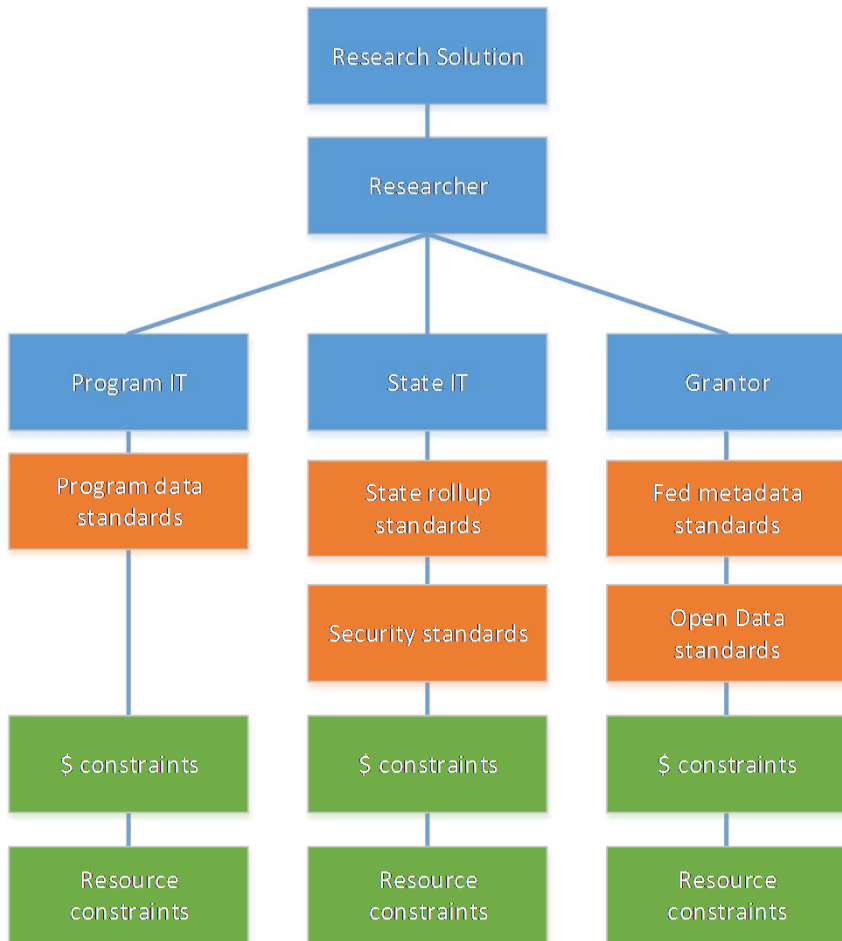
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Final Report – Recommendations and Findings

“Data management activities should be included in strategic plans for implementation within each agency... Agency administrators could benefit from the availability of a 'model strategic plan' for information management as a template to use for strategic planning.” - Leadership and Funding: Action Item A

“IT and resource professionals should work on the same teams rather than in separate, often disparate, parts of the agency. Agency administrators must recognize that with each level that IT personnel are removed from a resource program, the integrity of the information system supporting that program is weakened.” - Agency Culture – Action Item B

Your requirement is my hurdle...



- As you use resources outside of your shop, you can't avoid the standards and constraints that exist outside of your shop
- In reality, you can't avoid the standards
- Some requirements force resources to 'help' you.
- Scalability and long-term stability requires leveraging these outside resources.

What is needed...

- Templates for strategic planning that allow a larger agency to adequately plan for IT resources dedicated to natural resource programs
- Templates provide a common frame of reference when aligning IT to business needs
- Think of them as roadmaps to facilitate discussion
- This presentation begins discussion of how these templates and processes might work.

Gartner's Pace Layered Framework

Observations:

1. You often have the need to innovate in an agile fashion (driven by):
 1. Exploration of new ways of doing things
 2. Specialization of data captured
 3. "First to market" opportunity
2. The larger organization is bound to standards:
 1. External regulations
 2. Financial constraints
 3. Resource & Organization sharing on scalable, supportable systems

Systems of Innovation

Amazon's "1-click ordering" smart buttons

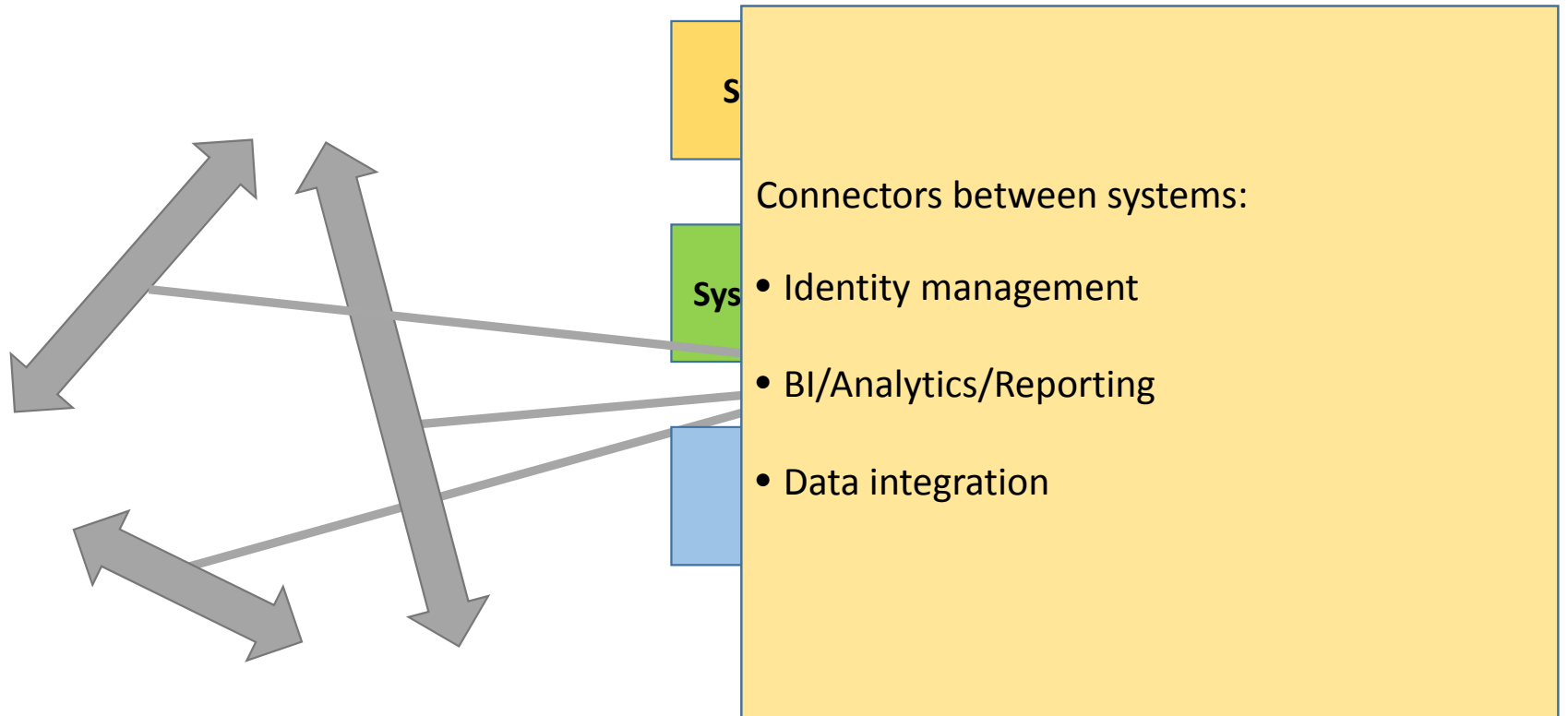
Systems of Differentiation

Shopping recommendation system

Systems of Record

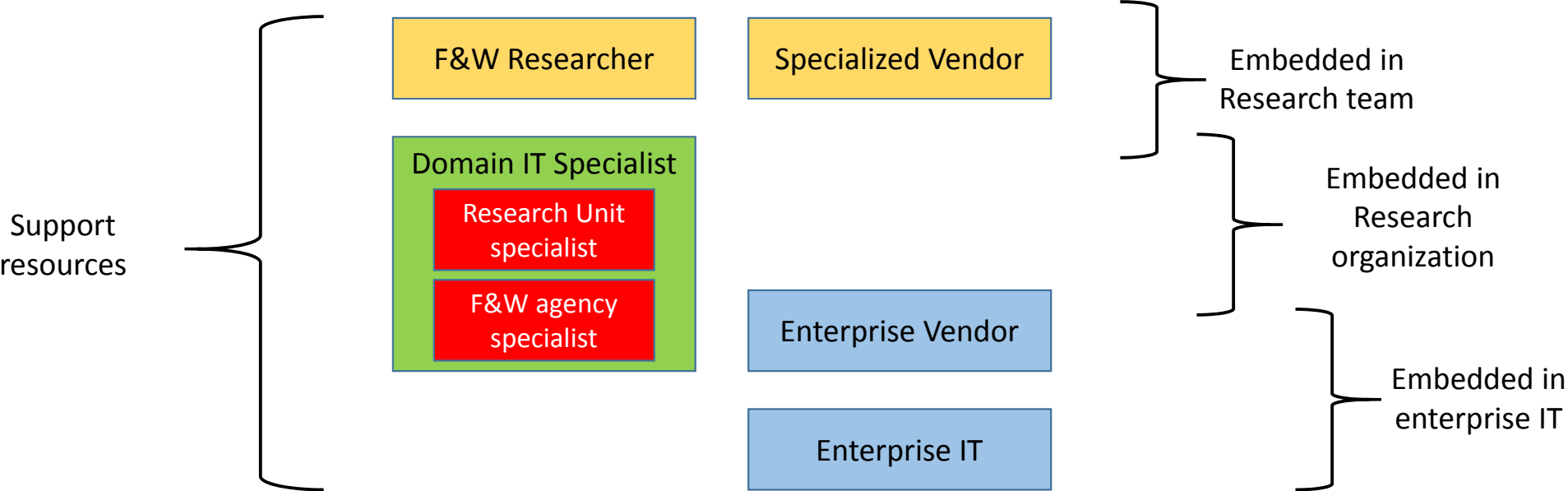
E-Commerce system, Warehouse fulfillment system

Plan for integration across layers



Plan for Lifecycle Support / EOL funding

Pace Layer	Gartner lifecycle	Alternate lifecycle
Systems of innovation	0 - 12 months	0 – 24 months
Systems of Differentiation	1 – 3 years	2 - 5 years
Systems of Record	3+ years	5+ years



Template for strategy: Mobile effort mapping solution

Solution	Innovation?	Differentiation?	Record?
Input device			
Application			
Application server			
Database system			
Database server			
Connective Tissue			
Master data mgmt.			
Analytics/Reporting			
Data integration			
Identity mgmt.			
Data Governance			
Localized data			
“Suite” data			
Centralized? data			

Template for strategy: Mobile effort mapping solution

Solution	Innovation?	Differentiation?	Record?
Input device			IPAD
Application		ESRI SDK	C#
Application server			.NET/IIS
Database system			MS-SQL Enterprise
Database server			Windows
Connective Tissue			
Master data mgmt.		[user?]	[Resource unit?]
Analytics/Reporting			MS-SQL Server Ent. (powerview)
Data integration			MS SQL Server Integration Services (SSIS)
Identity mgmt.			SAML
Data Governance			
Localized data	[specific research survey][project driven data]		
“Suite” data		[established geo-units][grantor driven data]	
Centralized? data			[users][counties][agency sharing]

Template for strategy: Mobile effort mapping solution

Solution	Innovation?	Differentiation?	Record?
Input device			IPAD
Application		ESRI SDK Enterprise Vendor	C#
Application server		Specialized Vendor	.NET/IIS
Database system			MS-SQL Enterprise
Database server			Windows
Connective Tissue			
Master data mgmt.		[user?]	[Resource unit?]
Analytics/Reporting			MS-SQL Server Ent. (pow
Data integration			MS SQL Server Integratio (SSIS)
Identity mgmt.			SAML
Data Governance	F&W Researcher		
Localized data	[specific research survey][project driven data]	Domain IT Specialist Research Unit specialist F&W agency specialist	Enterprise Vendor
“Suite” data		[established geo-units][grantor driven data]	
Centralized? data		Specialized Vendor	[users][counties][agency sharing]

Enterprise IT

Template for strategy: Mobile effort mapping solution

Solution	Innovation?	Differentiation?	Record?
Input device	Trimble Specialized Vendor		IPAD
Application	F&W Researcher	ESRI SDK Enterprise Vendor	C#
Application server		Specialized Vendor	.NET/IIS
Database system			MS-SQL Enterprise
Database server			Windows
Connective Tissue			
Master data mgmt.		[user?]	[Resource unit?]
Analytics/Reporting			MS-SQL Server Ent. (pow
Data integration			MS SQL Server Integratio (SSIS)
Identity mgmt.		Domain IT Specialist	SAML
Data Governance	F&W Researcher	Research Unit specialist F&W agency specialist	
Localized data	[specific research survey][project driven data]		Enterprise Vendor
“Suite” data		[established geo-units][grantor driven data]	
Centralized? data		Specialized Vendor	[users][counties][agency sharing]

Enterprise IT

Template for strategy

Solution	Innovation?	Differentiation?	Record?
Input device			
Application	Tomcat/ Windows	Ruby on Rails	
Application server		EGIS	
Database system	HaDooop		
Database server			
Connective Tissue			
Master data mgmt.	Home grown		
Analytics/Reporting			
Data integration			
Identity mgmt.			
Data Governance			
Localized data			
“Suite” data	Silo duplicate regional data		
Centralized? data			

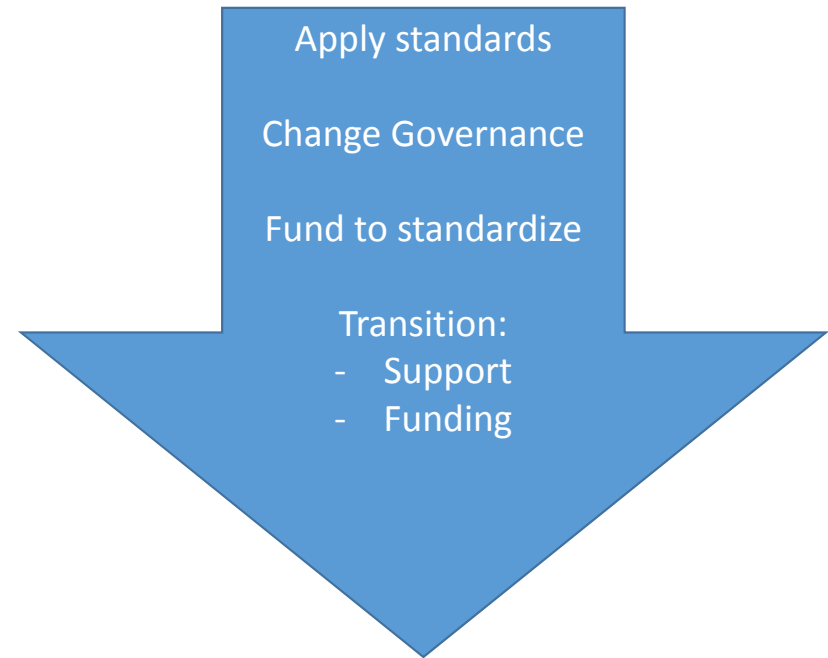
Establish promotion criteria

Today's innovative pilot may be tomorrow's system of record.

Systems of Innovation

Systems of Differentiation

Systems of Record



Processes and Governance are also needed

- Templates are a great start
- To leverage effective comprehensive use of templates, you need processes and governance

MT FWP Example

- Chartered by the CIO to improve integration of IT with the business
- Performed comprehensive business executive, management, business and technical interviews
- Performed detailed analysis of the organization
- Resulted in a roadmap for capability improvements in:
 - Governance
 - Enterprise Architecture (EA)
 - Project, Program, Portfolio Management (P3M)
 - Solutions Delivery
- Presently transitioning to roadmap execution phase

Information Architecture

- Information as an enterprise asset
 - Transform data into information assets
 - Use and protect information assets as true business assets (data lifecycle)
- Beneficiaries:
 - Public access— duty to provide data to both consumptive and non-consumptive users
 - Legislators/commissions/executive branch
 - Other governmental and non-governmental stakeholders
- Benefits:
 - Scientific discovery
 - Policy decisions
 - Business innovation
 - And endless others

Information Technology Governance and Enterprise Architecture

- Establishes a business-driven governance model
 - Business priorities, direction, and constraints
 - Cross enterprise standardization through guiding principles
 - Forms a true partnership/integration with IT
- Operating model for IT resource application
 - Governance structure founded in the business
 - Roles, responsibilities, authorities, accountability
 - Interaction model (governance workflow)
 - Communications and transparency
 - Resource strategy

Business Drivers and Guiding Principles

- Business drivers derived from mission, strategies, objectives etc.
 - SWOT analysis - Strengths, Weaknesses, Opportunities, Threats
- Business drivers synthesized into business information requirements
- Business information requirements distilled into guiding principles
- Guiding principles form the common foundation for enterprise decision-making regarding information management
 - Rules of the game
- Jointly created by the business collaborating with IT
- Consumed by executives, management, and execution staff in context of governance, management, and delivery processes

Information Technology Operating Model

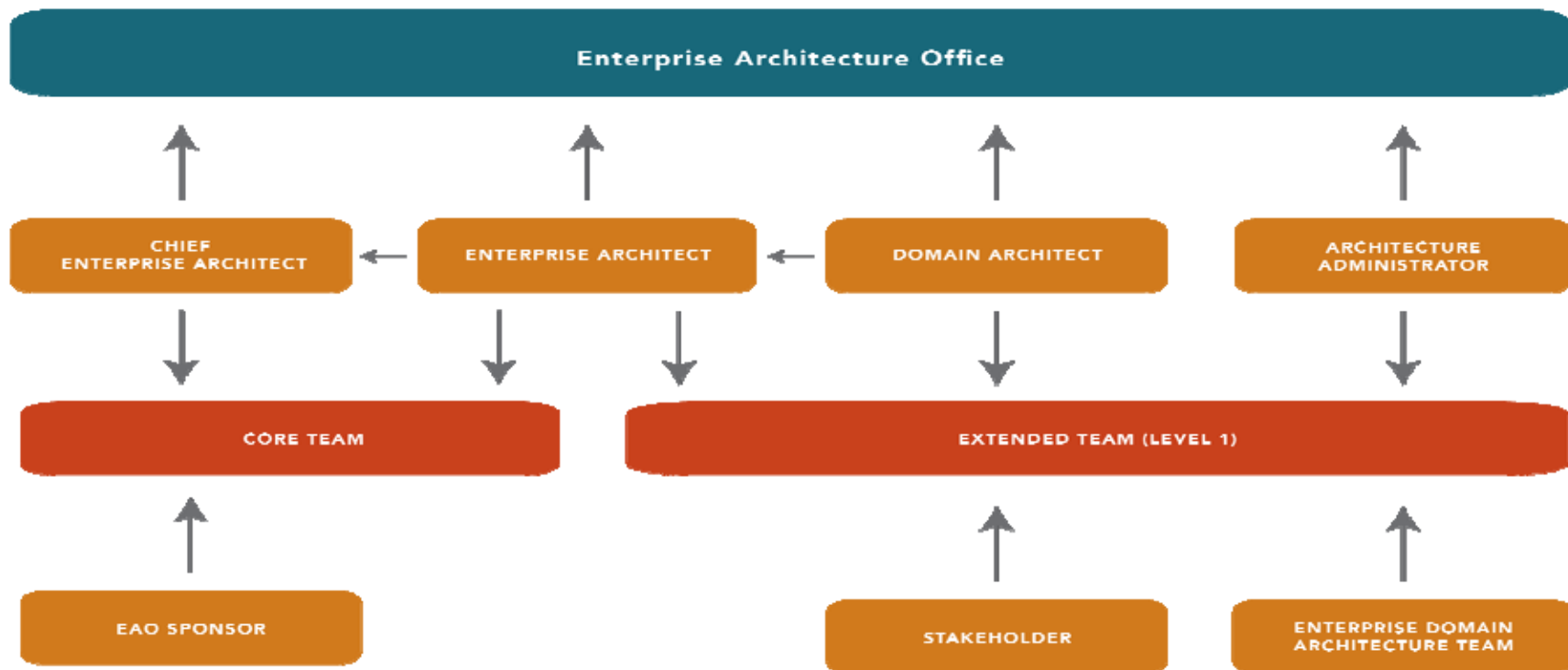
- Structure to reflect the enterprise's mission
 - Business driven and balanced participation and authorities
 - Support functions to ensure process adherence, information sharing, transparency, and communications
 - Aim is to gain consensus but must have escalation processes
- Interaction model and process integration
 - Decision processes consume the guiding principles
 - Decisions pass on to procurement, PMO, executing teams
 - Execution governance through PMO
 - Operationalizes the governance (data management)
 - Transparency, communications, and discoverability
- Resource strategy
 - Resource commitments yield returns in enterprise efficiency
 - Governance that is not resourced is not governance

Enterprise Architecture Capability

- Keeper of the guiding principles
- Owns the enterprise standards, models, and reference architectures
- Facilitates the governance processes
- Oversees use of the architecture artifacts and process
- Ensures participation, communication, and transparency



Enterprise Architecture Roles



How it all works

