



"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

NAIP Business Model Innovations: Concepts and Implementation

Stephen Lowe
Geospatial Information Officer
US Department of Agricultural
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*Enterprise Geospatial Management Office
Office of the Chief Information Officer*

Stephen Lowe

Where is NAIP Program Going?

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

Solution Alliance or Partnership

Extent of IT Service Change

	Research and Development	New Core Service	Next-Generation of Core Service	Addition to Service Family	Derivatives and Enhancements
Extent of Business Process Change	New Core Process	Radical Breakthrough			
	Next-Generation Process		Next Generation or Platform		
	Single Enterprise Upgrade Tuning and Incremental Changes			Enhancements, Hybrids, and Derivatives	



What are Components of Business Models?

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- **Identify a market segment; users and purpose of use**
- **Articulate the value proposition of the offering**
- **Define the value chain to deliver the offering**
- **Create a way to get paid through cost structure**
- **Establish the value network needed to sustain the model**
- **Models represent the dominate structure used to conduct enterprise operations in a marketplace and preserve competitive advantage. They perform two key functions:**
 - **Creates value by defining a series of activities that deliver products and services to end consumers**
 - **Captures value by maintaining unique resources, assets, or positions within a series of activities**



Traditional APFO Business Models

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- **Broker/Intermediary Model:**
 - Coordinate industry supply and consumer demand activities to satisfy requirements, e.g. data set acquisition
- **Transformer Model:**
 - Change value of product by codifying data, standardizing format, and optimizing consumer access, e.g. aerial and satellite imagery supporting CLU
- **Value Chain Model:**
 - Process (assembly) integration of products and/or services to meet specific consumer needs, e.g. science, research, policy, disaster response, performance measurement....



IFTN Managing Partner NAIP Solutions

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- **FY 2012 Base Year**

- Phase 1 IFTN Delivery
- Drive down unit costs
- Reduce time-to-market
- Build analytics capability
- Optimize existing business model & markets:
 - Federal
 - State
- Identify residual demand:
 - Constituent
 - Academic
 - Local
 - Tribal

- **Out Years 2013-2016**

- Enhance APFO Offerings
- Extend IFTN Services
- Expand IFTN Products
- Open/Create new markets:
 - Commercial Industry
 - NGO
 - Actuarial
 - Litigation
 - News Media
 - IT Innovation Testing
 - Cross-sell other USDA Products & Services
 - Government Mashups



Complex Strategic Challenges

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- **Business model maturity and fit to demand**
- **Tension between balancing strategic direction**
- **Unknown customer experience and product use**
- **Develop the means of sustaining program growth**
- **Adoption of new business model(s)**

Chesbrough Diagnostic: Model Maturity Stages

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Model Questions

Platform-Ecosystem

Assess your company's strategy using this business-model framework

	Type 1: Undifferentiated	Type 2: Somewhat differentiated	Type 3: Segmented	Type 4: Externally aware	Type 5: Integrated innovation process	Type 6: Fully open and adaptive
Examples	Mom-and-pop restaurants	Technology startups	Technology push companies	Mature, industrial R&D companies	Leading financial firms	Dell, Intel, Wal-Mart Stores
Diagnostic questions	<ol style="list-style-type: none"> How can we differentiate our business? Why do customers buy from us? Why do customers leave us? What control do we have over our future direction? 	<ol style="list-style-type: none"> Do we earn a price premium for our product or service? How long can we sustain our differentiation? When are we likely to develop a second successful offering? 	<ol style="list-style-type: none"> Are we an engineering-driven company? Have we created new market segments, or did our customers find us? Can we further segment and/or extend our markets? 	<ol style="list-style-type: none"> Do we regularly look outside for new ideas? Do our key customers and suppliers know about our future road maps? Is marketing an equal partner in the innovation process? 	<ol style="list-style-type: none"> Is our business model widely understood within our company? Do our key customers and suppliers share their road maps with us? Is innovation managed as a business or as a technology function? 	<ol style="list-style-type: none"> Can we direct the evolution of our markets? Will customers and suppliers fit their business models to our own? Do others routinely invest in projects that require our technology as a platform?

<http://www.youtube.com/watch?v=2UDBaDtwXfl>

SOURCE: Henry Chesbrough, *Open Business Models*

Business Model Strategic Direction

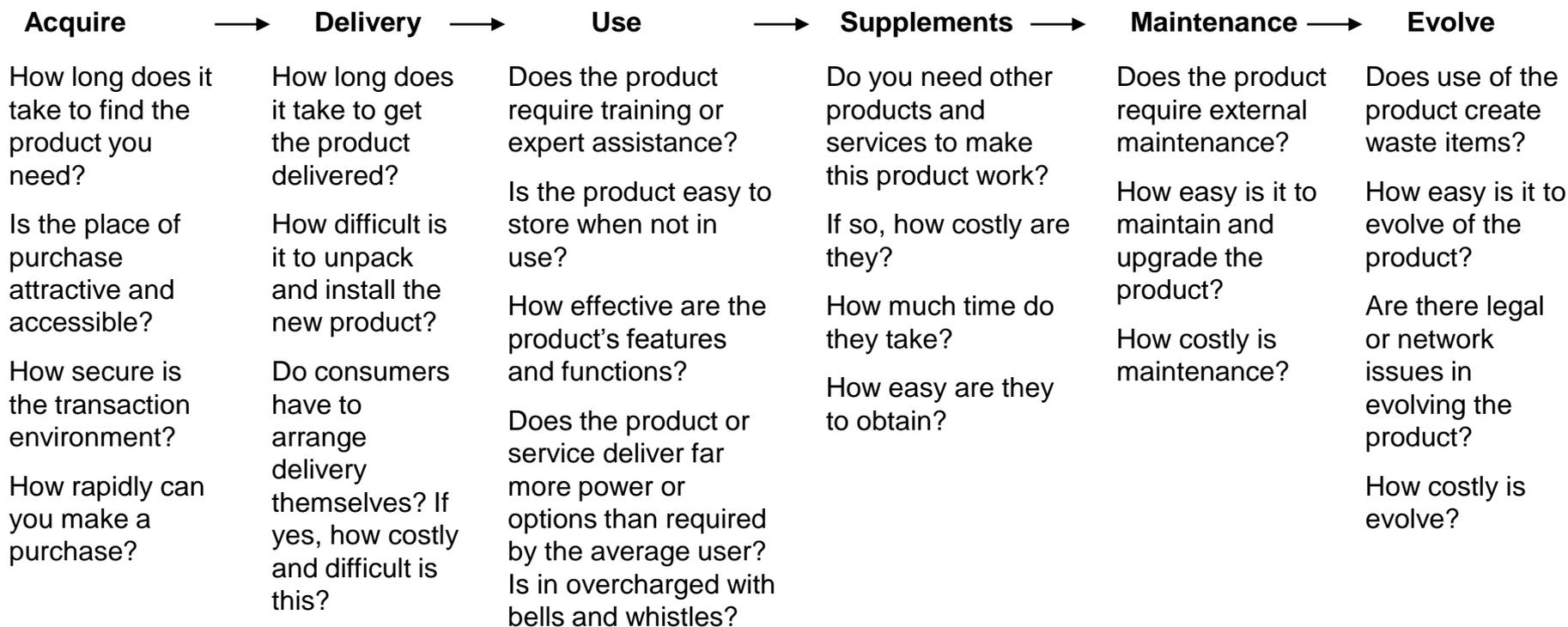
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	Operational Excellence	Customer Intimacy	Product Leadership
Focus	<ul style="list-style-type: none"> • Information Processing • Reliable Products • Minimize Costs, Obstacles • Standardize, Simplify, Centralize • Reliability, high-speed transactions • Limited product variety and customer segmentation 	<ul style="list-style-type: none"> • Relationship Building • Share Knowledge • Customer Service • Expert at Customer’s Business • Centralization • Detailed Systems • Extensive HR investment • Responsiveness 	<ul style="list-style-type: none"> • Innovation, Continuous Improvement • Fluid Organization • Best Performance • People Capability Maturity
Culture	<ul style="list-style-type: none"> • Tight Management • Efficiency oriented • Standardization • Information technology • High Quality 	<ul style="list-style-type: none"> • Strong client-oriented culture • Training, Talent are hallmarks • Adaptable, Flexible, Multi-talented people • Broad Skills and Specialization • Coordinated Expertise 	<ul style="list-style-type: none"> • Positive, Comfortable Environment • Internally Challenging • High-Performance Teams • Invention and Development Culture • Encourage Individual Behavior • Entrepreneurial



“Blue Ocean” Consumer Experience Stages

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<http://www.blueoceanstrategy.com/>

<http://www.youtube.com/watch?v=bYbZfBPrgyk>



Creating Sustainable Program Growth

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Organic

Organic methods provide ongoing but incremental growth based on expanding business through use of owned resources and sales

Acquisition

Acquisition methods expand access to key capabilities and assets to open growth in new areas of opportunity

Innovation

Innovation methods generate growth in self-sustaining and market creation capacity with higher returns



Example Approaches to Innovation

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Type:	Attributes:
Strategy-Driven	Top-down approach relying on strategic objectives to lead into new markets/segments, create deliverables
Product-Driven	Middle-out new product design/develop/deliver processes supported by product lifecycle management
Idea-Driven	Bottom-up triggering/harvesting/developing ideas after identifying potential solutions
Customer-Driven	Beneficiaries become collaborative partners ensuring product/service decision foster value and growth
Open-Market	Import/exchange new ideas with outside environment, community, culture, etc. regarding products/services



Implementing a Sustainable Innovation Culture

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- **Identify and eliminate Obsolete Business Rules**
- **Find a significant APFO Opportunity to Fail Together**
- **Establish and nurture a NAIP Talent Network**
- **Build visual Storyboard Scenarios and Scripts**
- **Create a space for Unfinished Products**
- **Facilitate design of Technology Game Boards**
- **Incentivize collection of Adjacencies and Complements to the NAIP Core Brand**



Possible APFO Business Models (inside-out)

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- **Industry Expert Model:**
 - Deliver high-focus expertise in agriculture products and services, e.g. emerging markets, non-profits, security
- **Distribution Network Model:**
 - Facilitate acquisition and allocation process by managing search, discovery, exchange, and delivery of value among provisioners and consumers, e.g. web services, mashups
- **Infrastructure Provider Model:**
 - Deliver trusted horizontal/vertical services offering scalability, integration, data management, e.g. platform



Possible APFO Business Models (outside-in)

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- **Consumer Participation Model:**
 - Turn customer relationship into experiences characterized by initiative, e.g. collaboration, VGI, and co-evolution
- **Aggregation Channel Model:**
 - Match market needs; create new markets, e.g. lifecycle selection, convenience, price discovery, and performance
- **Devolution Model:**
 - Transfer product and service enhancement activities vertically to local government practitioners, e.g. diverse consumption, transaction costs, and behavior change

Service Bundle Approach to Costing

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	Level 1: Low End	Level 2: Moderate	Level 3: Standard	Level 4: High End
Recommended Usage	Low-activity data	Low-cost focused application	High-performance application	Business critical applications
Provisioning	Low	Low	Medium	High
Operations	9x5	9x5	12x5	24x7
Expert Services	n/a	9x5	12x5	24x7
Online Storage	Low - < 500GB	Medium – 10TB	Medium - >100TB	High ->1PB
Storage Network Connection	T-1	OC3	OC12	OC12.5
Cost	\$50 unit	\$150 unit	\$210 unit	\$320 unit
Disaster Management/COOP	Low	Low	Medium-High	High
Data Lifecycle Management	Weekly	Daily	Hourly	Real-time Demand Managed
Archiving	None	On-Demand	Automatic	Automatic

List of Services

- 1. Requirements
- 2. Acquisition
- 3. Platform
- 4. Analytics
- 5.

Base Products

Some service level upgrades possible for certain products

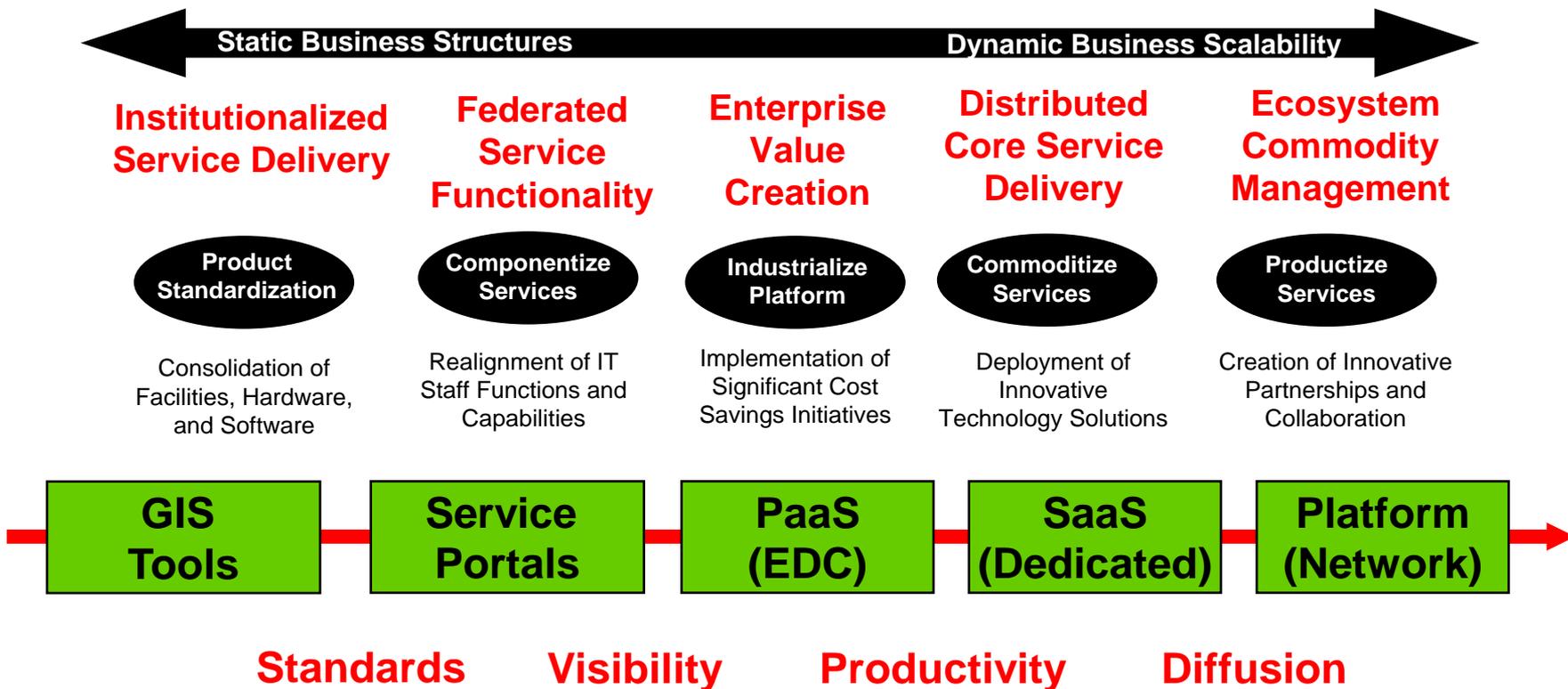
Add-On Products

Each product carries an additional cost

USDA Geospatial Maturity Model

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Continuum of Virtual Solutions Transformation





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Backup Slides

Geospatial Lifecycle Capabilities

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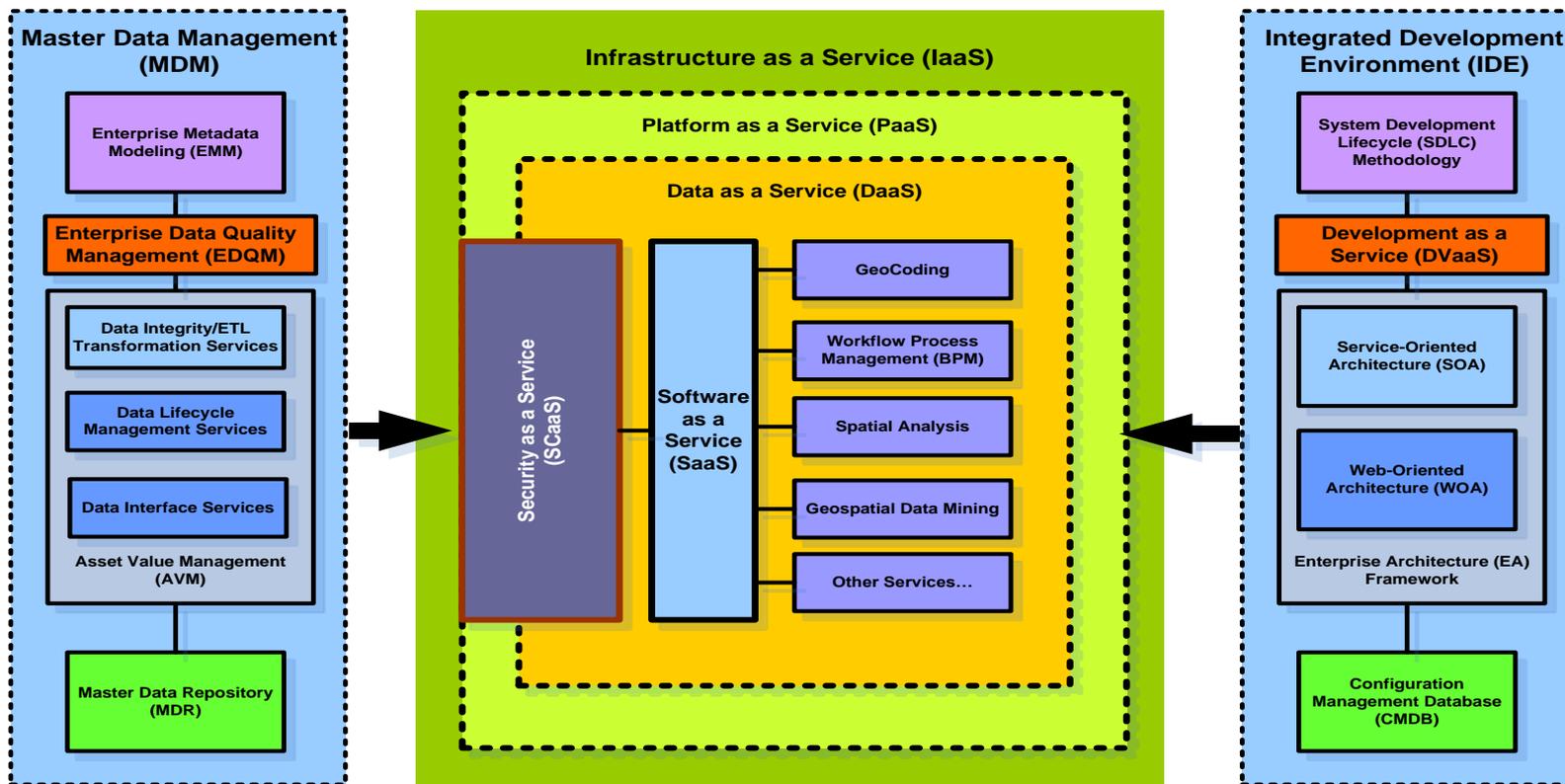
Managing Partner (Programs/Services)

Managing Partner (Technical Solutions)

Phase	EGMO	COE (APFO)	AGENCIES (Stakeholders)	NITC	ITS
Discovery	<ul style="list-style-type: none"> Enterprise Geospatial Strategy National Geospatial Platform 	<ul style="list-style-type: none"> Best Practice Repository Enterprise Product Alignment 	<ul style="list-style-type: none"> Business Requirements Mission Value Proposition 	<ul style="list-style-type: none"> Business Model Efficiency/ Effectiveness Improvements 	<ul style="list-style-type: none"> Service Level Alignment SCA Requirements Normalization
Design	<ul style="list-style-type: none"> Geospatial Policy/Guidance Metadata/Data Standards GIS/Cartographic Standards Enterprise Architecture Portfolio Management Governance Geospatial Pilots 	<ul style="list-style-type: none"> Geospatial Centers of Excellence Models Imagery Lifecycle Management Geospatial Training Current Year Project Budget Alignment Innovation Sandbox 	<ul style="list-style-type: none"> Centers of Excellence Planning Task Ordering Geospatial Analytics Process Workflows Business Activity Monitoring Program/Customer Education Outyear Project Investment Budget Quality Control Frameworks 	<ul style="list-style-type: none"> Virtualization Extensibility Mobilization Sustainability COOP Legacy Migration Green Computing Storage Management Solution Lifecycle Management 	<ul style="list-style-type: none"> Platform/Network Optimization Telecon/Mobile Solutions Geospatial Security IT Service Management (ITSM) Product Support Levels
Develop	<ul style="list-style-type: none"> Geo Methodologies Asset Management Capacity Building Industry Innovations Concept Prototypes 	<ul style="list-style-type: none"> Emerging Issues Response Configuration Management Change Management Design Prototypes 	<ul style="list-style-type: none"> GIS Solutions Development Cartographic Product Development Pilots/ Proofs of Concept Demo Prototypes 	<ul style="list-style-type: none"> Business Applications Pilots/Proofs of Concept Demo Prototypes Systems Integration Capacity/Demand Management 	<ul style="list-style-type: none"> Tier Support Maintenance Schedules Documentation
Deploy	<ul style="list-style-type: none"> Knowledge Management Social Media/ Network Refresh 	<ul style="list-style-type: none"> Geocoding Geospatial Service Catalog GIS Services Repository Product Management Enterprise License Agreements 	<ul style="list-style-type: none"> Geospatial Analysis Performance Management Data.gov Reuse Patterns 	<ul style="list-style-type: none"> Software as a Service Platform as a Service Data as a Service Infrastructure as a Service 	<ul style="list-style-type: none"> Help Desk Service Personnel
Disposition	<ul style="list-style-type: none"> Legacy Retirement Planning 	<ul style="list-style-type: none"> Legacy Transition Planning 	<ul style="list-style-type: none"> Legacy Migration Planning 	<ul style="list-style-type: none"> Legacy Transition/ Migration Implementation 	<ul style="list-style-type: none"> Legacy Transition/ Migration Implementation

USDA Geospatial Solutions Reference Model

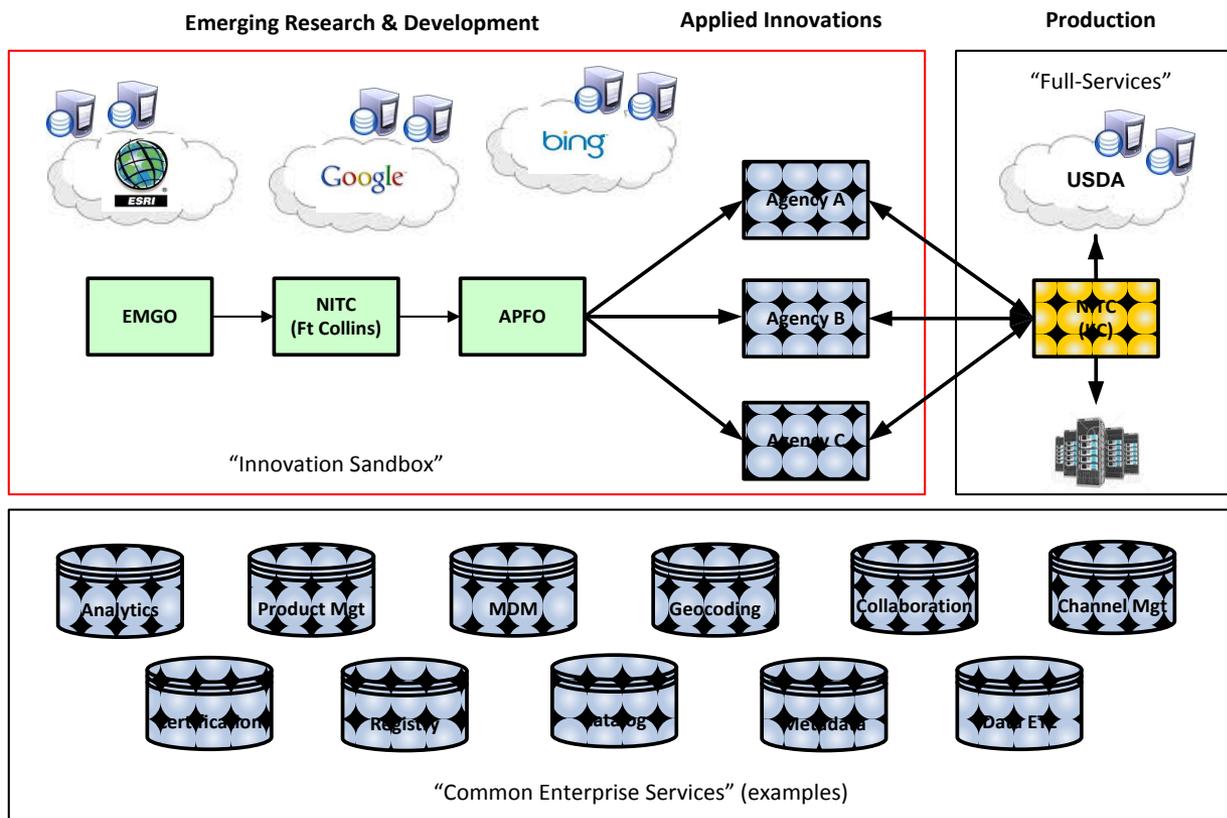
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Stephen Lowe – USDA GIO March 2010

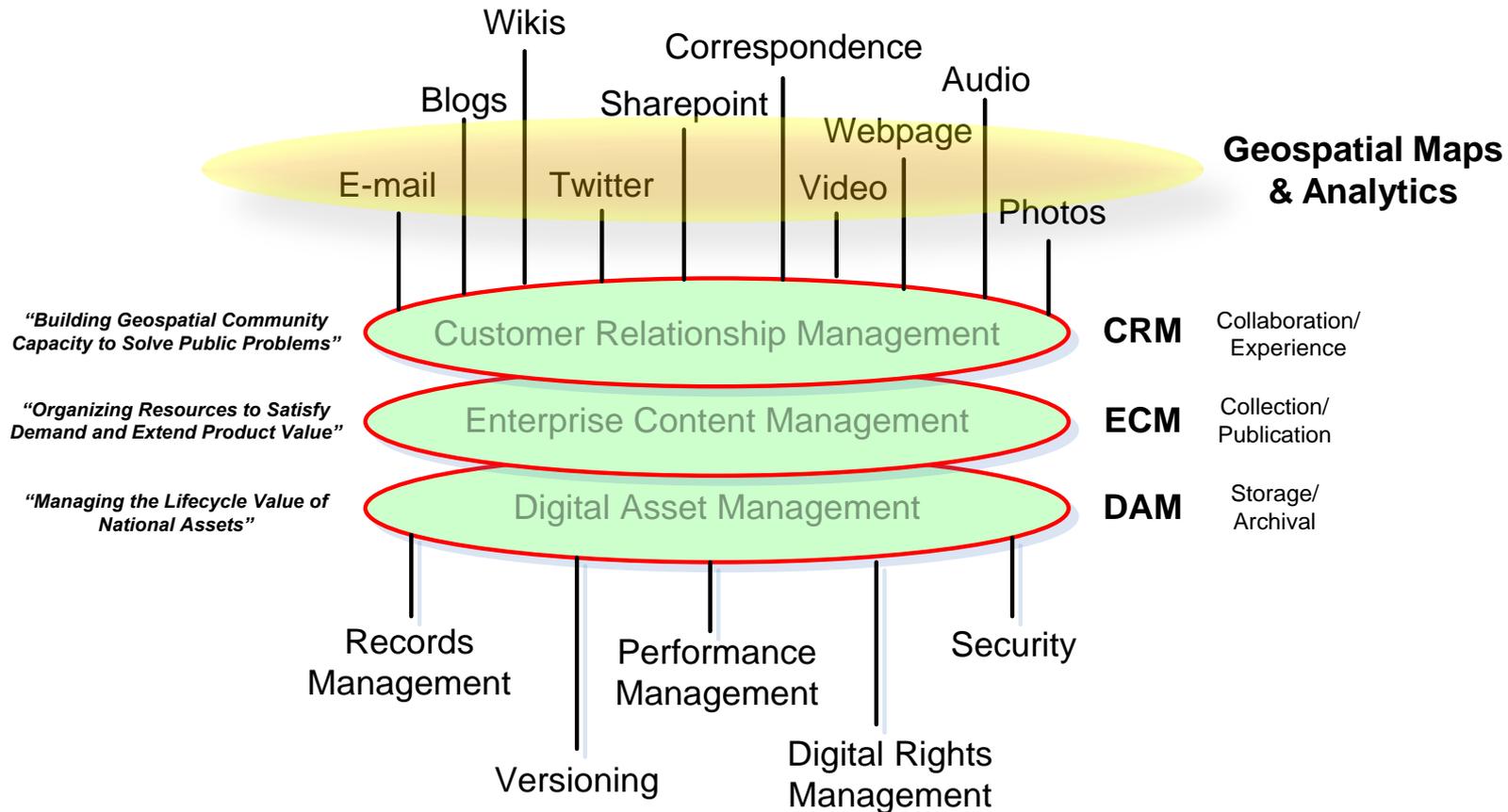
Products & Services Concept Model

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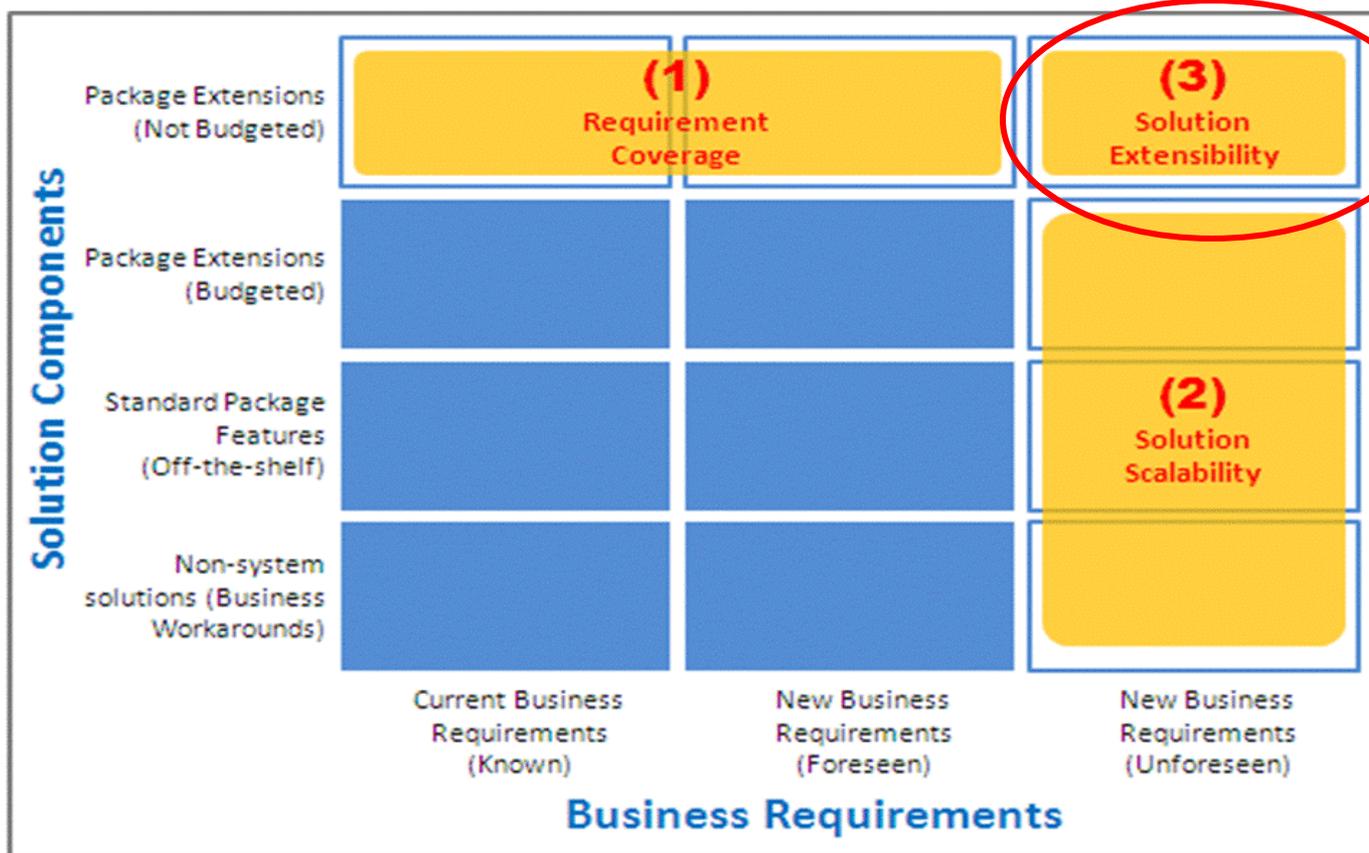
Content Value Management Model

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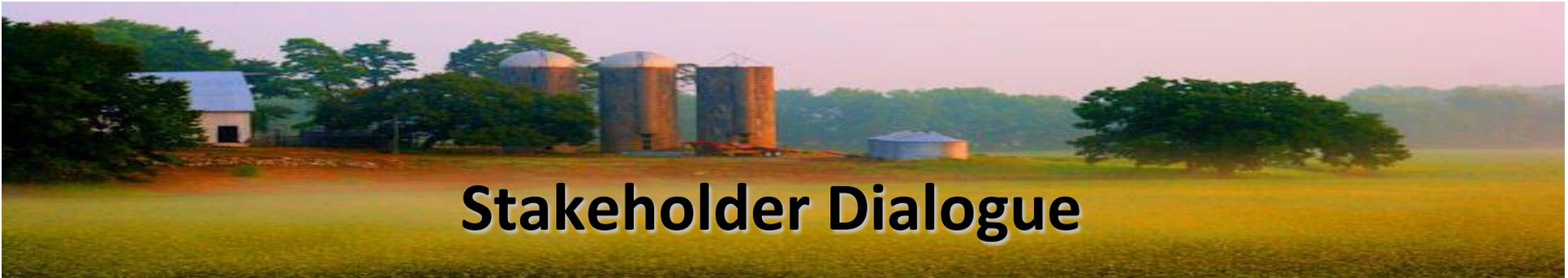


Emerging NAIP Consumer Requirements

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Greatest ROI Value



Stakeholder Dialogue

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1 open/free area	2 blind area
3 hidden area	4 unknown area

1 Known Self Things we know about ourselves and others know about us	2 Hidden Self Things we know about ourselves that others do not know
3 Blind Self Things others know about us that we do not know	4 Unknown Self Things neither we nor others know about us



Capturing NAIP Stakeholder's Attention

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- To receive a lot of attention, *personalization* is the single most important factor; second is keeping it *short and concise*; third is *emotion*, having either positive or negative emotion being evoked by the message; and the fourth one is making it come from a *trustworthy source*.
 - Understand “Chain of Attention”
 - Create attention agendas
 - Focus attention on novel ideas and their implementation
 - Reward for attention
 - Create attention guards

Managing Partner FY2011 Core Tasks: Program

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Task Area	Managing Partner	Stakeholders	Industry	Other
Finalize IFTN CONOPS	L, C, E	P	P	International, Academic, Citizens, Non-Profit
Establish PMO	L, C, E	A	A	
Establish Governance Board & Charter	L, C, E	P	A	
Develop Outreach & Communication Plan	A, P	A	L, C	International, Academic, Citizens, Non-Profit
Establish Formal MOUs with Stakeholders (Fed, State, Local, Tribal)	L, C, E	C, P, E	A	
Create Performance Management Plan	A	L, C	C, P	Citizens
Project Life-cycle Activities (Scope, Risk, Schedule, Staffing, etc.)	L, C, E	P, A	P, A	
Refine IFTN FY2013 Business Case w/ OMB Passback	L, C, E	A	A	



Lead (L), Create (C), Participate (P), Advise (A), and Execute (E)

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Managing Partner FY2011 Core Tasks: Technical

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

Task Area	Managing Partner	Stakeholders	Industry	Other
Refine IFTN Solution Offerings within Geospatial Platform Architecture	L, C	P, A	P, A	International, Academic, Citizens, Non-Profit
Establish a Federal-wide H/W-S/W Configuration Management and Performance specification	A	L, E	P, A, E	
Develop & Mature Delivery of IFTN Data, Web Services, and Infrastructure through various Business Models	L, A, E	C, P, A	P, A	
Identify & Optimize IFTN Licensed Products & Services w/Industry Partners	L, C, E	A	P, A	
Certify IFTN Development & Production in CMMI 2	A	L, E	P, A, E	
Establish Automated Stakeholder Relationship Management	L, C, E	P, A	P, A	Academic, Citizens, Non-Profit
Publish Technical Guidance: Standards, Data Stewardship, Service Registry, etc .	L, A	C, E	P, A	



Lead (L), Create (C), Participate (P), Advise (A), and Execute (E)

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Managing Partner FY2012 Core Tasks: Program

“Enabling Agriculture Innovation and Service Excellence through Geographic Solutions.”

Task Area	Managing Partner	Stakeholders	Industry	Other
Fully Implement & Deploy Organization Structure, Processes, Competencies	L, C, E	P, A	P, A	
Convene & Accomplish IFTN Governance Agenda	L, C, A	C, P, A, E	A	
Develop & Facilitate IFTN Communities of Practice	C, A	L, P, A	A, E	International, Academic, Citizens, Non-Profit
Implement Quality Control Framework & Internal Controls	L, E	P, A	P, A	
Mature Portfolio Management	L, C	P, A, E	A	
Measure & Optimize IFTN Performance	C, A	L, P, A, E	P, A	
Deploy Research & Best Practices Exchange	L, C, E	P, A	P, A	International, Academic, Citizens, Non-Profit



Lead (L), Create (C), Participate (P), Advise (A), and Execute (E)

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Managing Partner FY2012 Core Tasks: Technical

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Task Area	Managing Partner	Stakeholders	Industry	Other
Fully Deploy Scalable IFTN Technical Architecture	L, C, E	P, A	P, A	
Certify IFTN Development & Production in CMMI 3	L, C, E	P, A, E	P, A	
Establish Enterprise Data Quality Lifecycle Management Solutions	L, A	C, P, A, E	P, A	
Build Web Services Assembly Workflows	L, A	C, P, A, E	P, A, E	International, Academic, Citizens, Non-Profit
Increase Demand & Capacity Management Capability Maturity	L, C	P, A, E	P, A, E	International, Academic, Citizens, Non-Profit
Establish IFTN Integrated Development Environment	L, C	P, A	A, E	
Create API & Mashups to standardize open product integration and delivery	P, A	L	A, C, E	



Lead (L), Create (C), Participate (P), Advise (A), and Execute (E)

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