

SAFe for Government Programs





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The System is down at the moment.

We're working to resolve the issue as soon as possible. Please try again later.

- 6 people able to register on launched day Oct 1, 2013
- 129,000 registered on closing day, December 23, 2013
- What happened? Who fixed it? And how?

Silicon Valley to the rescue...

Google Site Reliability Engineers!!

- ▶ Did they ask about the IMS?
- ▶ Did they ask about Earned Value?
- ▶ Did they sit by the program manager?

NO!

- ▶ They worked in the trenches
- ▶ Continuously improved the CD pipeline
- ▶ And set up system monitoring



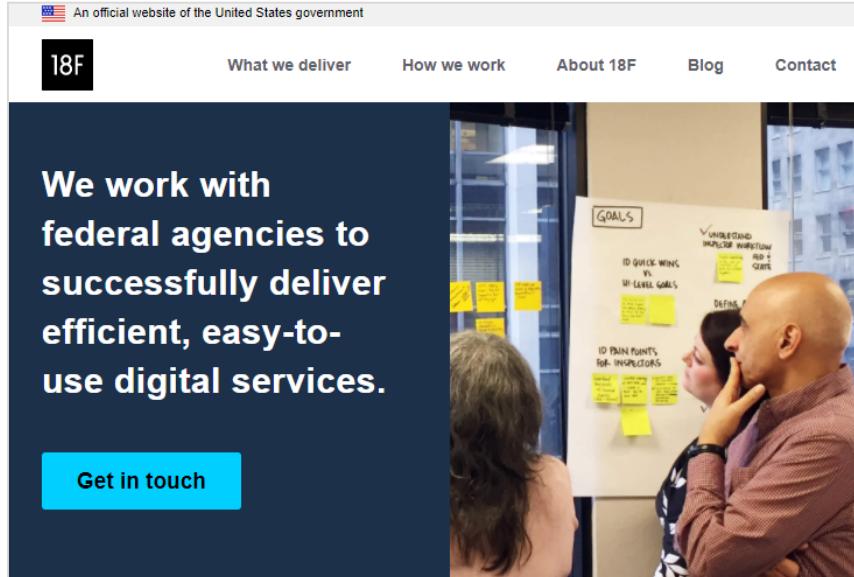
Healthcare.gov accelerated Agile adoption

Mar 2009 Congress commissions Defense Science Board to evaluate DoD IT acquisition process First US CIO First US CTO	Nov 2010 OSD sends NDAA Section 804 response to Congress <ul style="list-style-type: none"> • <i>Deliver Early and Often</i> • <i>Incremental and Iterative Development and Testing</i> • <i>Flexible/Tailored Processes</i> 	Dec 2010 Federal CIO issues 25 Point Plan to Reform Federal IT Management Calls for "Modular Development"	Jun 2012 OMB issues "Contracting Guidance to Support Modular Development as part of implementing the Federal CIO 25 Point Plan <i>"use of one or more contracts to acquire information technology systems in successive increments."</i>	Nov 2012 DoD Under Secretary of Defense for AT&L launches "Better Buying Power 2.0" initiative <ul style="list-style-type: none"> • <i>Reward value</i> • <i>Select appropriate contract types</i> • <i>Eliminate non-value added requirements</i> • <i>Reduce cycle times</i> 	May 2014 GAO issues report "Agencies Need to Establish and Implement Incremental Development Practices"	Sep 2014 TechFAR and Digital Services Playbook launched	Jan 2015 OFPP & USDS start retraining acquisition workforce in Agile contracts
Oct 2009 National Defense Authorization Act 2010 Section 804 called for the Under Secretary of Defense to develop and implement a new acquisition process for IT systems	Nov 2010 OSD issues Interim Acquisition Guidance for Defense Business Systems OMB announces structural changes to agency IT management and acquisition to "better align with the rapid technology cycle"	Apr 2011 EO 13571 Streamlining Service Delivery Jul 2011 EO 13576 Delivering an Efficient, Effective, & Accountable Government	Jul 2012 GAO issues report "Software Development Effective Practices at Federal Agencies Applying Agile Methods" <i>"Make contracts flexible to accommodate your Agile approach. Contracts requiring waterfall-based artifacts and milestone reviews may not support frequent changes.."</i>	Mar 2014 A group of Presidential Innovation Fellows start 18F to extend their efforts to improve and modernize government technology	Aug 2014 WH creates US Digital Service under the Executive Office of the President to create resources, provide consulting, and foster digital services teams in each major government cabinet level department	Jul 2016 GAO forms expert panel to develop a new audit guide for Federal programs following an Agile development model TechFARHub launches	Apr 2017 OMB announces update to Circular A-11 for improving budgeting and buying digital services



Starting with the creation of GSA's 18F

- ▶ Created by White House to modernize digital services and technology products
- ▶ Infusing Lean Startup methods, open source, and modern technologies into government systems development



An official website of the United States government

18F What we deliver How we work About 18F Blog Contact

We work with federal agencies to successfully deliver efficient, easy-to-use digital services.

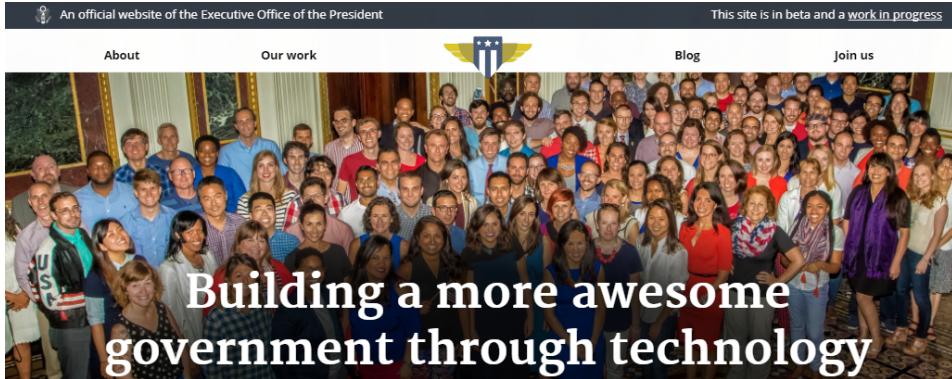
Get in touch

GOALS
✓ UNDERSTAND IMPROVE WORKFLOW ADD + SCALE
ID QUICK WINS VS HI-LEVEL GOALS
ID PAIN POINTS FOR IMPROVEMENTS
DEFINE A STRATEGY

We support your mission

And the US Digital Service + agency digital service teams

- ▶ Consults with agencies and contractors on Lean-Agile practices



Agency Digital Service Teams

- DoD
- VA
- DHS
- HHS
- ED
- GSA
- SBA



Digital Services Playbook

Digital Service Plays

1. Understand what people need
2. Address the whole experience, from start to finish
3. Make it simple and intuitive
4. Build the service using agile and iterative practices
5. Structure budgets and contracts to support delivery
6. Assign one leader and hold that person accountable
7. Bring in experienced teams
8. Choose a modern technology stack
9. Deploy in a flexible hosting environment
10. Automate testing and deployments
11. Manage security and privacy through reusable processes
12. Use data to drive decisions
13. Default to open

We created a playbook of 13 key ‘plays’ drawn from successful practices from the private sector and government that, if followed together, will help government build effective digital services.

Highlights the flexibilities in the FAR to support an iterative, customer-driven software development process, as is routinely done in the private sector.

Traditional Software Development	Agile Software Development
<ul style="list-style-type: none">• Program identifies need - includes Government lead and other Government stakeholders• IPT formation - includes all stakeholders in the process (contracting, program, legal, etc.)• Detailed Requirements - if not using performance-based contracting, technical and system requirements are detailed in the solicitation (Requirements Traceability Matrix is also provided)• Releases - software is delivered at the end of a long, linear development phase• Linear Approach - design, development, and testing usually happens in a linear fashion. Customer is typically involved at the end of the phases	<ul style="list-style-type: none">• Program identifies need - includes Government Product Owner and other Government stakeholders• IPT formation - includes all stakeholders in the process (contracting, program, legal, etc.)• Product Vision - lists the high-level vision of the functionality of the system (see Section C); similar to a Statement of Objectives• Product Road Map - maps out the high level requirements for the system, i.e., compatibility restrictions, 24/7 availability, etc.• User Stories - identifies desired segments of functionality and the "definition of done"; is based on system-level functionality• Release Planning - plans software release schedule• Sprints - turns user stories into implementable code; includes testing and product owner/customer feedback

PARCA - Agile Program Management and EVM

- ▶ PARCA – the DoD focal point for all policy, guidance, and competency relating to EVM
- ▶ Reference: Agile and EVM: A Program Manager's Desk Guide

1.1	Prime Mission Subsystem		
1.1.1	Computer Software Configuration Item A		
1.1.1.1	CSCI Requirements Analysis		
1.1.1.2	CSCI Design		
1.1.1.3	CSCI Code and Unit Test		
1.1.1.4	CSCI Integration and Test		
1.1.2	Computer Software Configuration Item B		
1.1.3	High level Integration, Assembly, Test, and Checkout		
1.1.4	...		

Figure 1 - SW Development MIL-STD-881C Appendix K WBS breakout

1.1	Prime Mission Subsystem		
1.1.1	Capability A		
1.1.1.1	Feature A1		
1.1.1.2	Feature A2		
1.1.1.3	Feature A3		
1.1.1.4	Feature A4		
1.1.2	Capability B		
1.1.3	High level Integration, Assembly, Test, and Checkout		
1.1.4	...		

Figure 2 - Possible Agile SW Development MIL-STD-881C WBS breakout. Not prescriptive.

Other recent Agile guidance examples ...

- ▶ **TechHUB** - provides agency personnel involved in the procurement process with **practical tools and resources** for applying industry best practices to digital service acquisitions
- ▶ **Digital Acquisitions Playbook** - equip smarter government buyers of digital products and services with specific guidance for transforming digital acquisitions
- ▶ **Digital Contracting Cookbook** - information and suggestions about how to acquire digital services based on **field experiences**
- ▶ **Acquisition Innovation Labs** - provide a pathway to test and implement more innovative approaches to acquisitions, with a strong emphasis on improving IT investments
- ▶ **Digital IT Acquisition Professional Training** - intensive **six-month hands-on training program** to learn how to buy IT software and systems development services

Other recent Agile guidance examples...

- ▶ **Digital Acquisitions Accelerator** - pilot program aimed at helping agencies accelerate the adoption of digital acquisition practices
- ▶ **Agile Acquisitions 101** - **online video training for procurement professionals** on how to implement agile contracting to acquire agile development services
- ▶ **GAO Agile Audit Guide (in development)** - new guide to be used by GAO to audit Lean / Agile / DevOps practices in Government programs
- ▶ **Updated OMB Circular A-11 (coming soon)** - standardize the way organizations measure and manage IT costs to include alignment to Lean-Agile practices

Agency level Agile guidance is also emerging

GSA – OMB – GAO - OFPP

TechHUB	Tech-FAR	Digital Services Playbook
Agile Acquisitions 101	GAO Agile Audit Guide	Digital Contracting Cookbook
Digital IT Acquisition Professional Training	Digital Acquisitions Playbook	Digital Acquisitions Accelerator

Agency

PARCA Agile EMV	DHS Agile Guidebook	EPA Developers Guidance - Agile
VA VIP	DODI 5000.2	FAA Agile Acquisition Principles & Practices

Government Success Stories

SAFe adoption in the Federal government



Federal Aviation
Administration



U.S. Customs and
Border Protection



FAA ESC Financial Systems



**Federal Aviation
Administration**

ESC 
*Enterprise
Services Center*

- ▶ FAA ESC - one of four shared service providers competing for government financial management systems
- ▶ Significant challenges of quality, time-to-market, cost pressures
- ▶ Trained 1,200+ personnel in SAFe® as their enterprise model for improved software/systems delivery & DevOps
- ▶ Launched their first ART w/11 Agile teams in Nov 2016, 2nd ART in January 2017, expansion continues today. Immediate benefits in defect reduction and more.

CBP ACE – A government SAFe Case Study



U.S. Customs and Border Protection



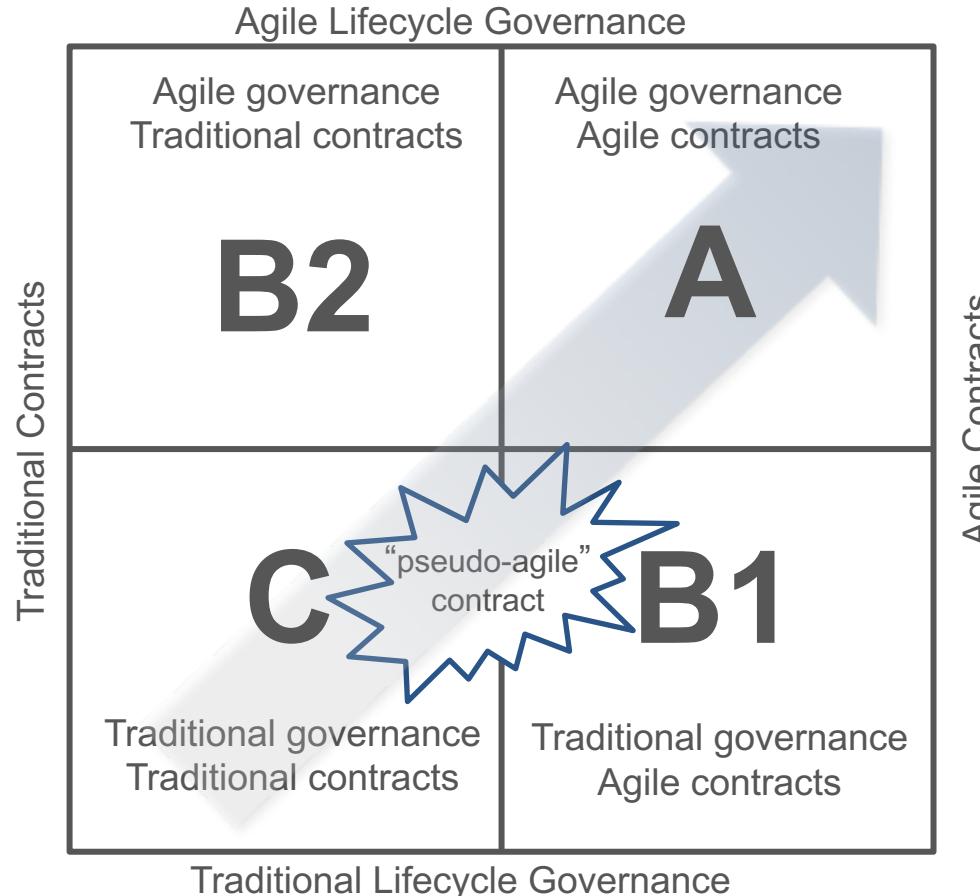
- ▶ Automated Commercial Environment (ACE) – manages all imported goods into the U.S.
- ▶ CBP is the second largest generator of revenue for the U.S. (after IRS)
- ▶ Legacy system was fragile, inflexible, difficult to maintain, costly, could not be enhanced
- ▶ Previous modernization efforts failed at a total cost of \$3.2B, zero value delivered
- ▶ 3rd time using SAFe - completed on time, on budget, with high quality, increased functionality, and exceptional customer satisfaction

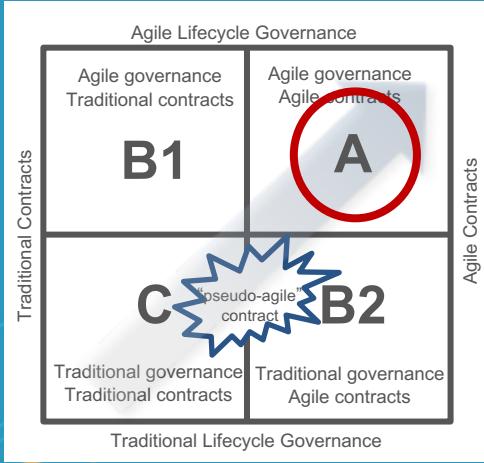
We're not completely there yet...

- ▶ There is **no government-wide mandate** to use Agile—only permission (or strong suggestion)
- ▶ **Poor implementations** of Agile have made some Government programs skeptical
- ▶ Individual agencies and programs **can still choose traditional methods**
- ▶ Most **agency lifecycle models** and governance still assume a waterfall approach
- ▶ Many **contracting shops** still don't understand how to solicit for and manage acquisitions for digital (Agile) services, not aware of updated guidance
- ▶ **Project orientation** vs. long lived value streams is deeply engrained in the government context
- ▶ **Long acquisition lifecycles**, multiple contractors, agency silos, etc. create impediments to Agile adoption
- ▶ **Change is hard...** especially in government

Guidance Applying SAFe and Lean-Agile in Government

Impediments adopting Agile in government

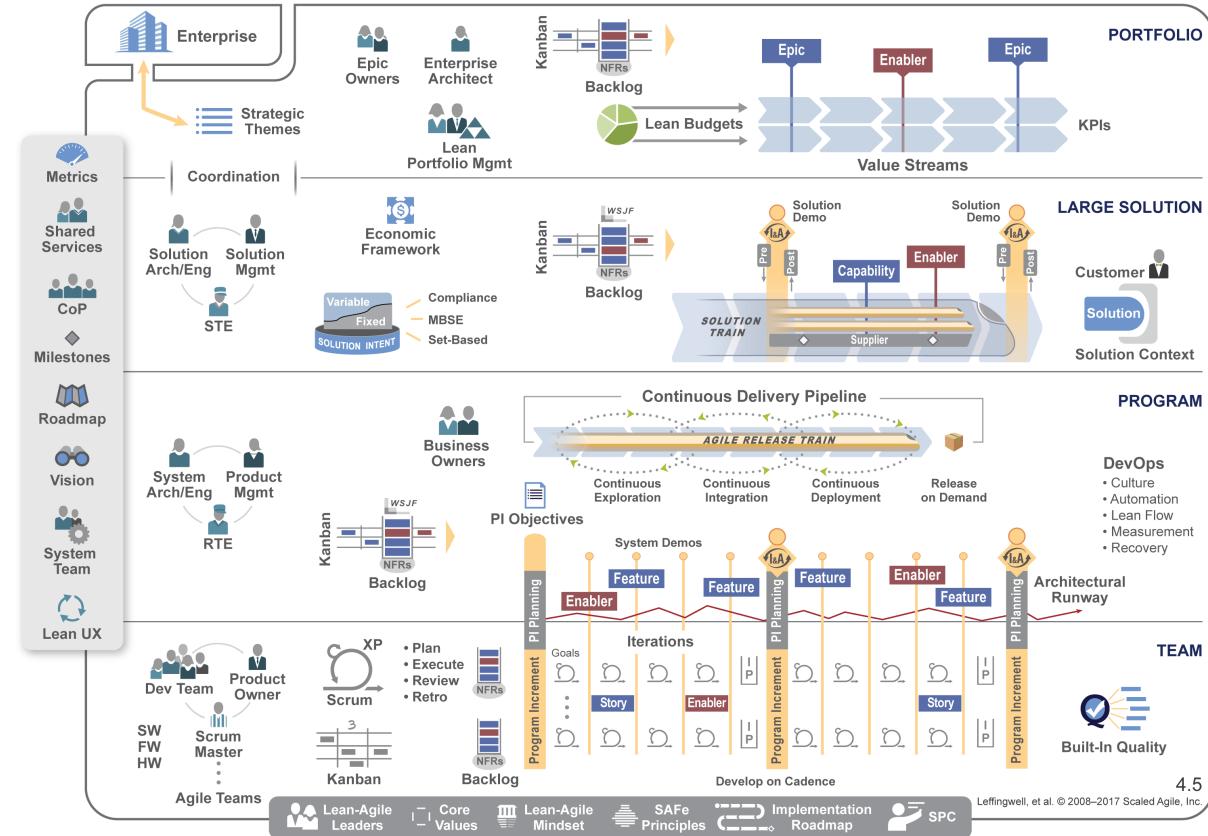




Thriving in A

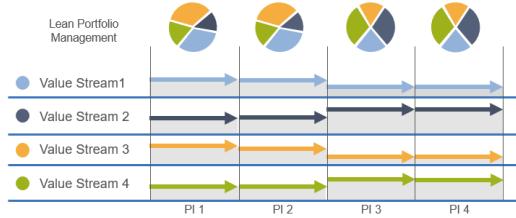
- Agency has a Lean-Agile mindset
- Governance supports flow-based development
- Contracts awarded as time boxed task orders to deliver high performing teams to ARTs
- Budgets fund value streams that can be adjusted based on agency need
- Performance measured based on objective milestones

Use SAFe!!!

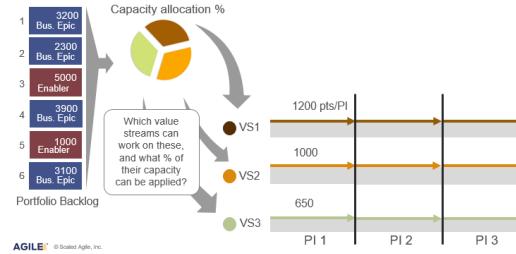


Apply SAFe budgeting, forecasting, and milestones

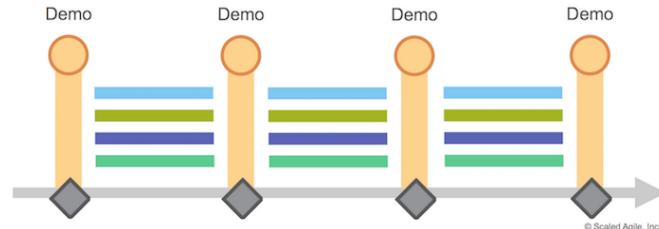
- ▶ Fund Value Streams

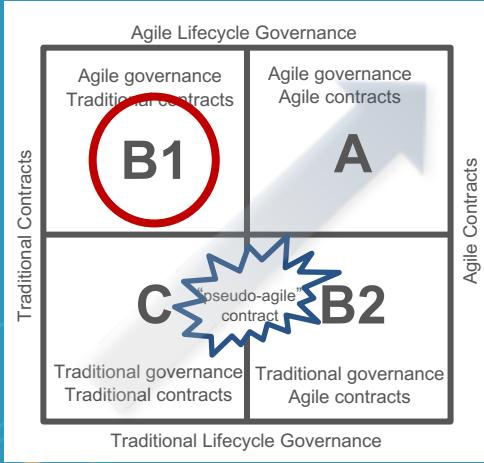


- ▶ Forecast with rolling wave planning across PIs



- ▶ Base milestones on objective evaluation of working systems



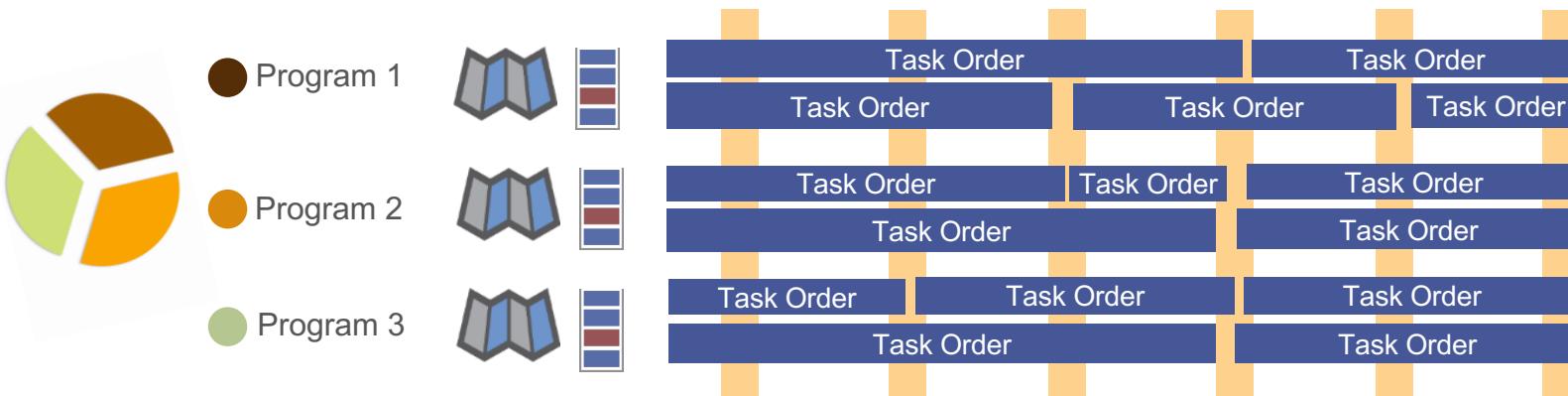


Striving in B1

- Agency is evolving towards Agile
- Governance supports flow-based development
- Contracts awarded as projects and programs
- Budgets are organized around programs and projects
- Governance allows for Lean-Agile progress metrics but contract language still requires traditional documentation and CDRLs

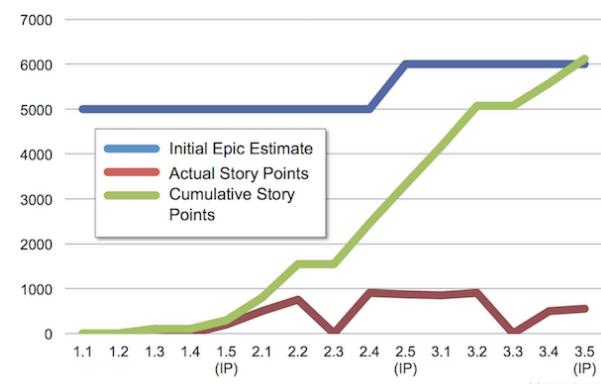
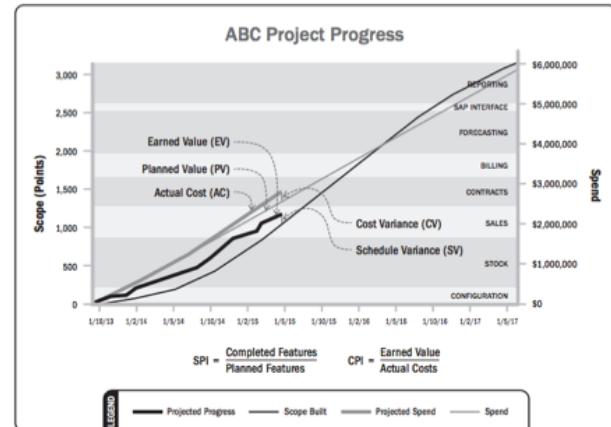
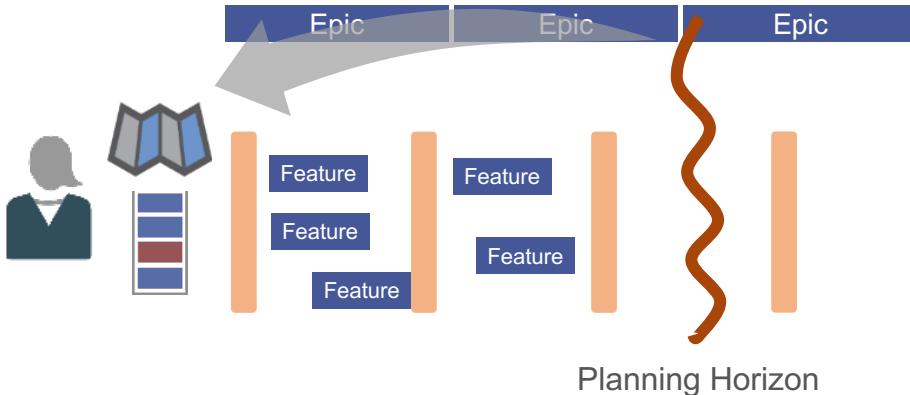
Option B1: Forecast with aligned roadmaps

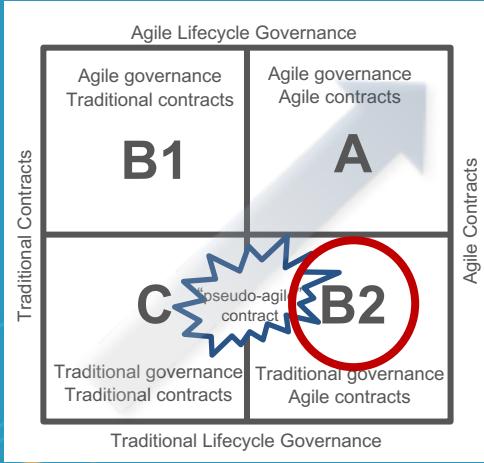
- ▶ Align entire organization on common PDCA cycles
 - ▶ Implement modular contracting with shorter task orders aligned to PIs
 - ▶ Define realistic roadmaps; adapt and align each increment
 - ▶ Maximize organization-level throughput; stop finger-pointing



Option B1: Apply agile approach to EVM – if you must use it!

- ▶ Consider Epics as planning packages
- ▶ Expand backlog and adjust roadmap as planning horizon reaches Epics
- ▶ Track progress with Epic burnup chart





Striving in B2

- Agency is evolving towards Agile
- Governance blocks flow-based development with static plans, document-centric progress measures, phase gate milestones, etc.
- Contracts reflect agile contracting methods and Agile specific language
- Budgets are most likely still organized around programs and projects
- Governance enforces progress metrics on traditional phase-gate milestones

Option B2: Redefine phase gate milestones

► SRR – do we understand the breadth and scope of the system?

- Do we have a Vision and realistic Roadmap to realize it



► PDR – does design meets the requirements with acceptable risk?

- Is the technical approach reasonable; demonstrate risky areas



► CDR - design is mature to proceed with development

- Demonstrate end-to-end functionality on actual architectural infrastructure (or close mockup)

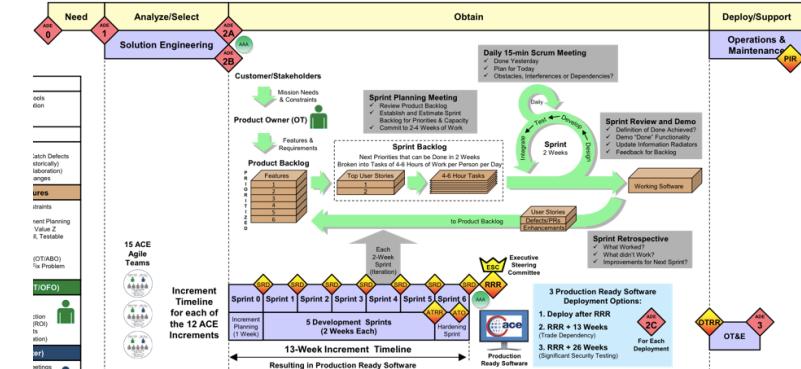


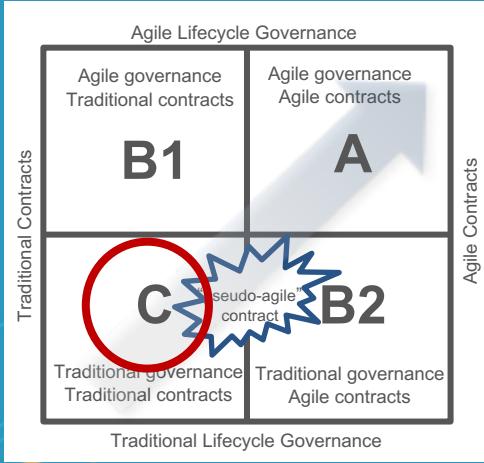
► Not a single event! Think small batches



Option B2 – Use tailoring option in guidance

- ▶ Most agency governance documents include a defined process to ‘tailor’ the lifecycle requirements to the specific needs of individual programs
- ▶ Use the tailoring process to map the concerns of existing governance to the specific Agile processes and artifacts that will satisfy those concerns, but in a different way
- ▶ Use real examples of successful Agile programs with tailored governance (CBP ACE)



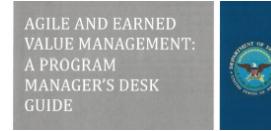


Surviving in C

- Agency is has a traditional waterfall mindset
- Governance blocks flow-based development with static plans, document-centric progress measures, phase gate milestones, etc.
- Contracts awarded as projects and programs
- Budgets are organized around programs and projects
- Governance enforces progress metrics on traditional phase-gate milestones

Option C: Opportunity for education

- ▶ Communicate government's own guidance



Digital Service Plays
1. Understand what people need
2. Address the whole experience, from start to finish
3. Make it simple and intuitive
4. Build the service using agile and iterative practices
5. Structure budgets and contracts to support delivery
6. Assign one leader and hold that person accountable
7. Bring in experienced teams
8. Choose a modern technology stack
9. Deploy in a flexible hosting environment
10. Automate testing and deployments
11. Manage security and privacy through reusable processes
12. Use data to drive decisions
13. Default to open

TechFAR

- ▶ Invite customer to participate in Leading SAFe with your organization



- ▶ Or, wait for USDS/DDS/GAO to engage you!!



GAO

Sneak Preview Agile Contracting Lesson in New Course

Coming soon! SAFe for Agile Development in Government

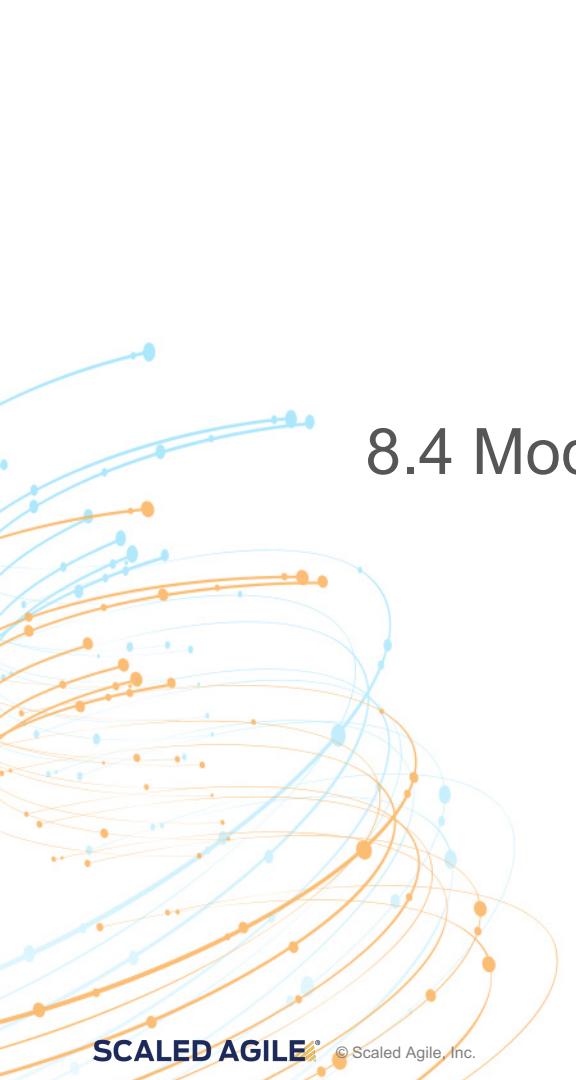
- ▶ Designed as a tipping class (similar to Leading SAFe)
- ▶ Specifically designed to address unique challenges to adopting Lean-Agile practices in government
 - 1. Introducing SAFe and Lean-Agile
 - 2. Embracing a Lean-Agile Mindset
 - 3. Understanding SAFe Principles
 - 4. Creating High Performing Agile Teams and Programs
 - 5. Applying Continuous Systems Engineering
 - 6. Implementing Cadence Based Planning
 - 7. Delivering Value in Program Increments
 - 8. Governing Lean Programs
 - 9. Leading Successful Change in Government
 - 10. Answering the Call to Action



Governing Lean Programs

- ▶ 8.1 Challenge existing assumptions
- ▶ 8.2 Adapt governance practices to support agility and lean flow of value
- ▶ 8.3 Leverage cadence based development for lean budgeting, forecasting, and Agile EVM
- ▶ 8.4 Modify RFP and contract language to enable Agile development
- ▶ 8.5 Build in quality and compliance
- ▶ 8.6 Align practices with emerging agile audit guidelines
- ▶ 8.7 Align to FITARA requirements





8.4 Modify RFP and contract language to enable agile development

Two key changes for acquisition professionals



Agile Contracts

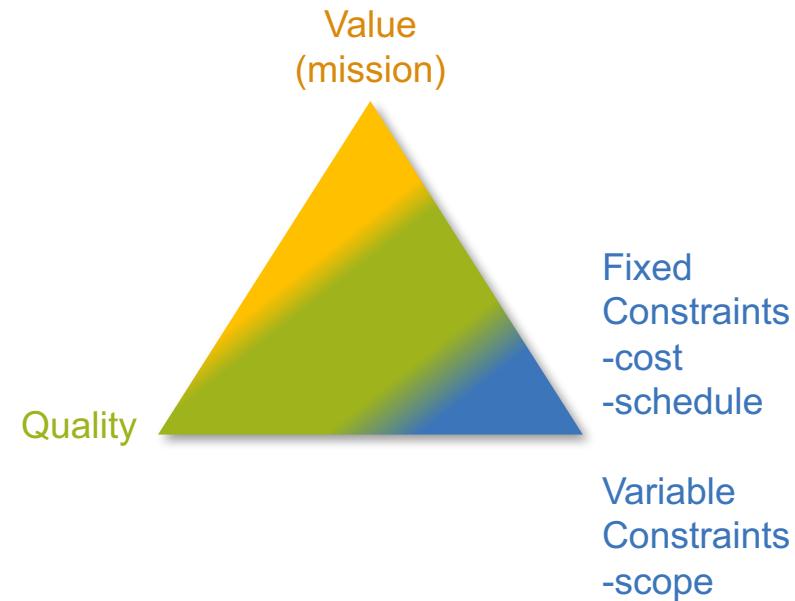
- ▶ Changes the terminology, process, and performance management language to allow offerors to effectively follow Agile practices
- ▶ Shifts away from phase-gated waterfall practices to lean-agile methods for managing schedule, cost, scope, quality, and value delivery

Agile Contracting

- ▶ Best practices for using the tools available in the FAR (or equivalent acquisition regulation) to apply the most effective contracting structures, terms, and conditions that synergize with a lean-agile development model, allowing government agencies to be innovative and creative in meeting mission demands.

How are Agile contracts different?

- ▶ Maintains flexibility to ensure best value to accomplish the mission
- ▶ Cost is fixed, schedule is fixed, quality is fixed
- ▶ Scope is aligned to vision and objectives with flexibility to adjust details based on the needs of the agency.
- ▶ CO gets out of the functional change business.



Modular contracting (FAR 39)

- ▶ Multiple, tightly-scoped projects to implement technology systems in successive, interoperable increments
- ▶ Shorter periods of performance
- ▶ Reduces vendor lock in, mitigates risk, and encourages the delivery of working software to users more rapidly.
- ▶ Gives government the ability to adjust course (system and selection of providers based on performance (use task orders, optional CLINs, etc.)

18F Guidance on Modular Contracting <https://modularcontracting.18f.gov/>

Performance based contracting (FAR 37)

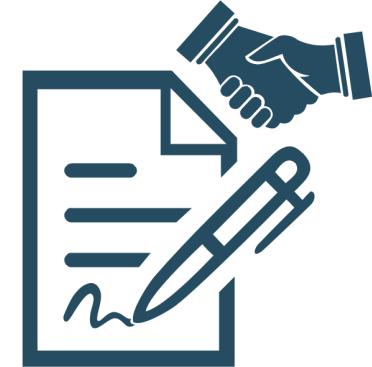
- ▶ Agencies to describe their needs in terms of **what is to be achieved**, not how it is to be done.
- ▶ Allows vendors to propose **competing solutions**, utilizing their expertise and industry practice knowledge.
- ▶ Agencies directed to use to the maximum extent possible (OFPP Policy Letter 91-2)

Seven Steps to Performance Based Services Acquisition – GSA

https://gsa.gov/graphics/fas/VETS_Attach_8_Seven_Steps_to_PBA.pdf

Contract structures

- ▶ All structures (standard C, IDIQ, BPA, GWAC, set aside, etc.) can support agile contracts
- ▶ Multiple award contracts (IDIQ, BPA, GWAC) provide greater modularity and flexibility for the Government



Contract types

- ▶ All types (FFP, T&M, CPFF, CPAF, etc.) can support agile contracts
- ▶ Fixed price (FFP) works well (counterintuitive)
 - Per PI
 - By team
 - By feature/capability
 - By complexity
 - By release
- ▶ Best when combined with modular contracting strategies (for example: FFP for task orders on an IDIQ or BPA)

RFP structures

- ▶ Statement of Objectives (SOO) –the problem that needs solving
 - link to mission and performance objectives
 - define high level desired results
 - describe what constitutes success
 - describe current state (baseline)
- ▶ Include:
 - product vision, strategic themes, high level roadmap, epics. initial backlog of features & capabilities, initial technical requirements via solution intent, NFRs

Offeror responses

- ▶ Performance Work Statement (PWS)
- ▶ Agile Development Management Plan
- ▶ Quality Assurance Surveillance Plan
- ▶ Past performance (demonstrated working systems)
- ▶ Unpriced Basis of Estimate
- ▶ Functional prototype of proposed system (when possible)
- ▶ Interactive Q&A with program stakeholders



Evaluation criteria

- ▶ Past Performance – using vendor's proposed agile process
- ▶ Key Personnel – experience delivering in an Agile environment
- ▶ Skill sets provided – appropriate for Agile tech approach
- ▶ Process - how they will manage, execute and measure the agile development process to meet objectives and maintain quality
- ▶ Collaboration – how they plan to integrate and collaborate with other vendors and the Government as a high performing team
- ▶ Definition of Done – insight into maturity and experience of the vendor



How do we get started?

- ▶ OPTION A – Construct **new acquisitions** using guidance from the TechFAR, Digital Acquisition Playbook, Digital Acquisition Accelerator (in pilot), Digital Services Playbook, etc.
- ▶ OPTION B – On **existing contracts**, use new task orders on IDIQs and BPAs to introduce more agile friendly PWS and SOO language
- ▶ OPTION C – If all else fails on an **existing contract**, create a contract mod with enough flexibility without requiring a re-compete
- ▶ OPTION Z (the “psuedo-Agile” contract) – expect contractor to perform in an agile way under strict traditional waterfall contract terms. High probability of failure.

Key Agile contracting resources

- ▶ TechFAR and TechHUB
- ▶ Digital Services Playbook
- ▶ Digital Acquisitions Playbook
- ▶ Digital Contracting Cookbook
- ▶ 18F Guidance on Modular Contracting
- ▶ Acquisition Innovation Labs (OFPP Memo)
- ▶ Digital IT Acquisition Professional Training (ICF and AIA challenge)
- ▶ Digital Acquisitions Accelerator (in pilot)
- ▶ Agile Acquisitions 101 (video by Jonathan Mostowski and Traci Walker @USDS)

LEAN COFFEE

Thursday, 7:30am – 8:15am
Grand Oaks N-Q



Fast Feedback
New SAFe Government Course

Provide input for the development of a new
course based on applying SAFe in government

Questions





Thank you!



Please rate this session



1

Open “Schedule” on mobile app and locate session

2

Tap star rating at top of screen