Texas Department of Information Resources
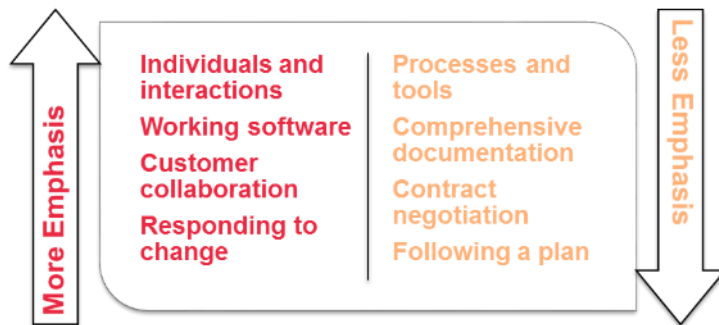
Can Acquisition be Agile?

7 Steps for Agile Buying

What is Agile?

Agile is a time-boxed, iterative approach to software delivery that builds software incrementally, instead of trying to deliver it all at once

- **Agile breaks a project into small units of functionality called user stories, prioritizing them, and delivering them in short cycles called iterations**

- **Agile is based on the following principles:**

More Emphasis

Individuals and interactions	Processes and tools
Working software	Comprehensive documentation
Customer collaboration	Contract negotiation
Responding to change	Following a plan

Less Emphasis

While there is value in the items on the right, we value the items on the left more. - *http://www.agilemanifesto.org*

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Another Way to Look at Agile

Innovation method characterized by the division of tasks into short iterations of work and frequent reassessment and adaptation of product and plans
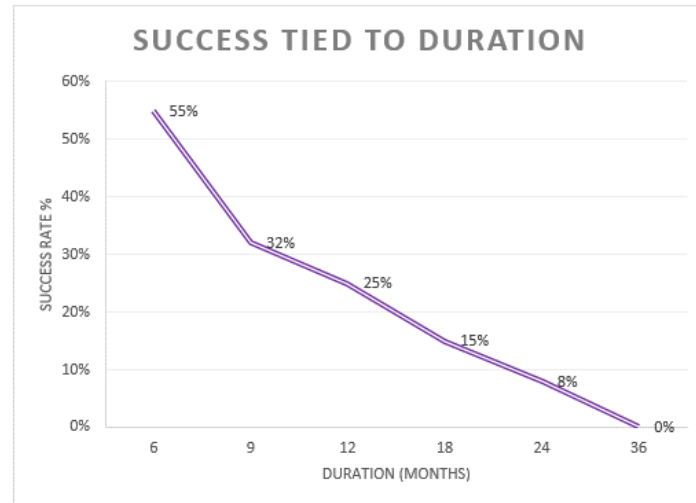

UPDATE LIST — ESTIMATE WORK — PRIORITIZE WORK — PLAN & COMMIT — EXECUTE ITERATION — REVIEW & IMPROVE

The IT Challenge

Large IT modernization procurements often become risky, costly, and unproductive mistakes that do not deliver intended outcomes

>90%[1] of large IT projects are unsuccessful

>55%[1] deliver less value than predicted

>50%[2] are over budget, behind schedule

>40%[2] fail, then restart or are abandoned
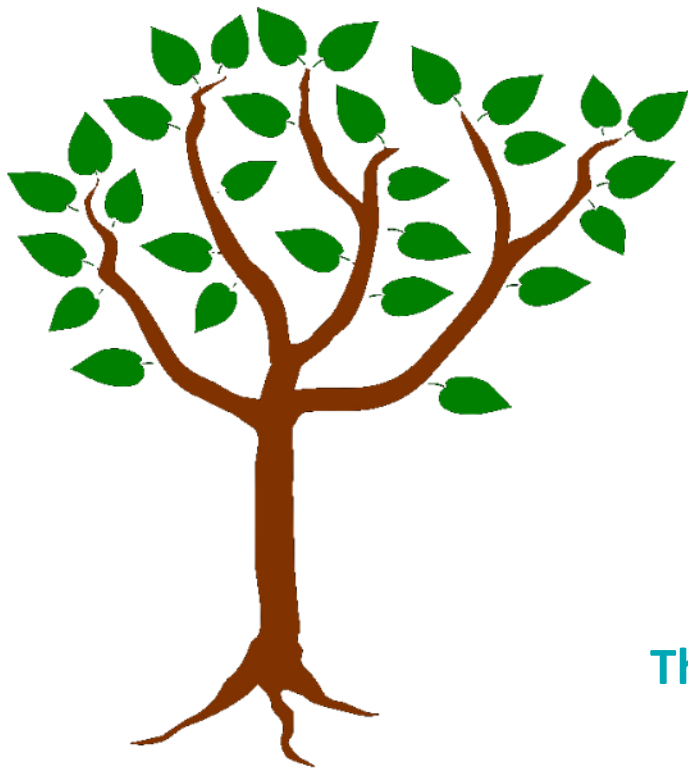
>16%[2] threaten the sponsor company's existance

1 McKinsey & Company Study, conducted in collaboration with the University of Oxford, based on 5,400 projects with initial budgets in excess of $15M
2 Standish Group study conducted for ComputerWorld, based on 3,555 projects between 2003 and 2012 with labor costs in excess of $10M

SUCCESS TIED TO DURATION

Study of 23K projects in 2009, based data presented by Stephen W. Warren, Executive in Charge, Office Information Technology, Department of Veterans Affairs, presented 2014 CIO Bootcamp, Washington D.C., June 19, 2014; study lead to adoption of Project Management Accountability System (PMAS), based on Agile methodology
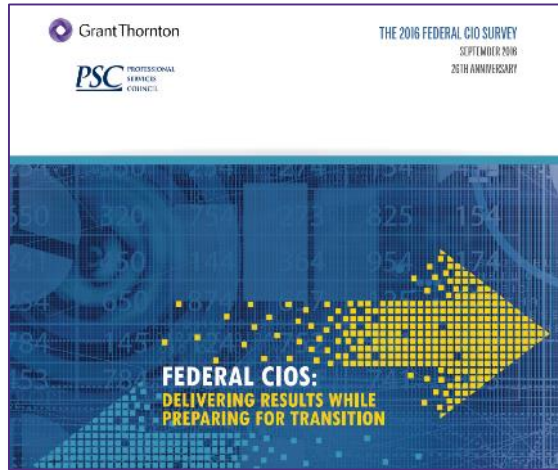
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The Procurement Challenge

- **Key part of landscape**
- **Big, growing for years**
- **Deep rooted, intertwined**
- **Expensive, risky to replace**
- **Hard to remove**

A lot like your legacy systems!
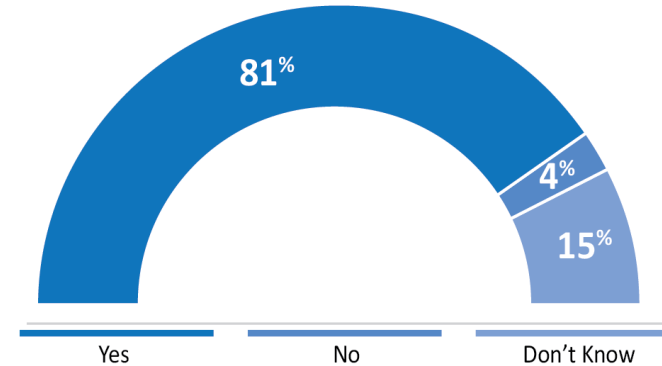
These challenges drive procurement risk

The Case for Change

"*There is a history of having large federal [state] IT programs, where $100M would not be considered big, and that mindset needs to go away.*"

- Federal CIO Respondent

Do you anticipate increased use of agile or incremental software development approaches in your state within the next 12-24 months?

81% Yes
4% No
15% Don't Know

The 2016 State CIO Survey says – "Agile is the Future"

Large = difficult to understand, plan, estimate, organize, and deliver

Agile Benefits

There is strong business case, and wide endorsement, for modular approach, but its not just enabled by changes to architecture and delivery approaches...

>93%[3] better ability to manage changing priorities
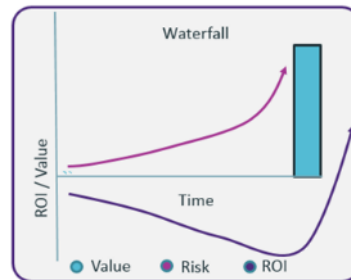
>87%[3] realize improved productivity

>86%[3] improve project visibility and morale

>82%[3] improve quality and reduce risk

>73%[3] achieve faster project completion

Waterfall

ROI / Value

Time

● Value   ● Risk   ● ROI

Agile

ROI / Value

● Value   ● Risk   ● ROI

3 Annual State of Agile, VersionOne, survey of 3,500 members of the software development community, 2013

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Pattern for Success

A pattern from nature: strangler vines. Seed in tree branches... over time, work there way down, rooting in ground, eventually strangling host tree

Strangler pattern: incrementally create a new system around the edges of the old, letting it grow, module at a time, until the old system is replaced

– Martin Fowler

Improve procurement success by using architecture to define smaller, less risky, manageable solution boundaries

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The Acquisition Lifecycle

Align and flex, don't abandon procurement rigor

1 DETERMINE BUSINESS REQUIREMENTS
OUTCOME: Defined business Requirements & identification of saving opportunities

2 CONDUCT MARKET ASSESSMENT
OUTCOME: Understanding of cost drivers & vendor capability interest, & capacity

3 DEVELOP SOURCING STRATEGY
OUTCOME: Defined sourcing strategy to achieve business objectives & mission needs

4 ACQUISITION PLANNING & STRATEGY DEVELOPMENT
OUTCOME: Defined acquisition framework & strategy to achieve business goals

5 SOLICITATION DEVELOPMENT
OUTCOME: Solicitation package completion & release to vendors

6 SOURCE SELECTION
OUTCOME: Identification & justification of which vendor(s) provides the best value

7 NEGOTIATE & AWARD CONTRACTS
OUTCOME: Government & Vendor partnership w/mutually beneficial terms & conditions

8 POST-AWARD IMPLEMENTATION
OUTCOME: Advisory support to promote successful program execution & monitoring

ACQUISITION MANAGEMENT

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7 Enabling Practices for Agile Procurement

① **Segregate Service Requirements**

Diversify delivery responsibilities to unhinge program success from the performance of a single vendor. **Separate** platform and architecture services from product development, so that specialists can be engaged.

② **Use Multi-Award Indefinite Delivery Contract Vehicles**

Establish pool of pre-qualified, competent, and price competitive **vendors**. This provides ability to **contract** modular development services **on release basis** and switch to alternative vendors without significant disruption.

③ **Use Modular Architecture**

Define **smaller, less risky, more manageable product boundaries** that limit dependency on individual vendors and enable modular acquisition. **Use architecture to segregate work** and, using IDV pool, contract with specialists.

④ **Use Streamlined Procurement Practices**

Use Project Charter-based **Statement of Objectives** to define Task Order (TO) scope. Select TO vendors from the IDV pool by applying streamlined vendor selection procedures that **heavily favor competitive prototyping**.

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7 Enabling Practices for Agile Procurement

(5) **Use Release Plans to Incrementally Fund Work**

When awarding TOs, initially fund only the Release Planning Task. **Treat development Tasks as optional** (price determinable via formula into contract). **Incrementally fund optional Tasks** as Release Plans are mutually agreed and with do consideration for performance metric from prior releases.

(6) **Define Deliverables as Working Software**

Base **contract performance measurement** and payment schedules on **delivering high quality software**, not ceremony or iteration completion. Directly ties payment continuum to acceptance of in-scope features.

(7) **Measure Performance**

Use **inspect and adapt metrics** to **monitor vendor performance** and progress. Use metrics, collected during previously executed releases, as basis for evaluating source selection options, for executing optional release development TOs, and for testing realism of proposed release plans.
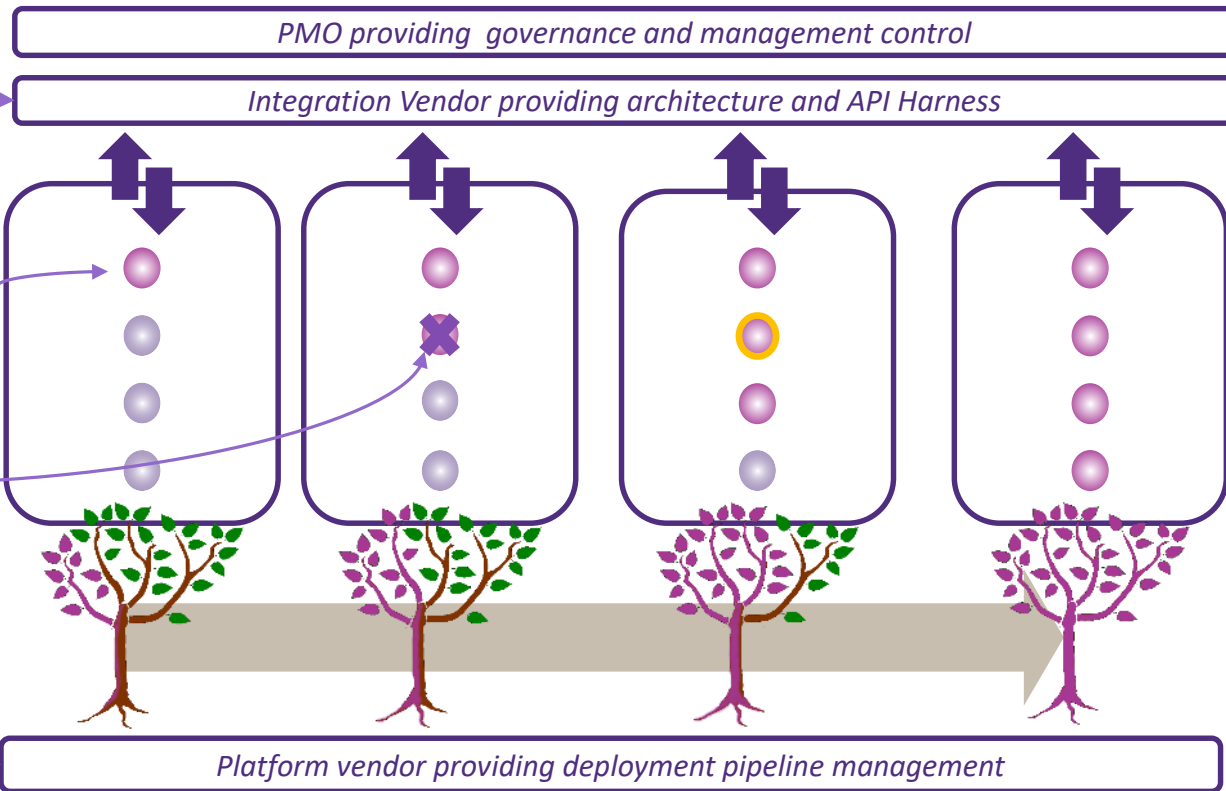
Key Concept: Reducing Single Vendor Dependency

Similar to general housing contractor or city planner: provides blueprints, not detailed designs
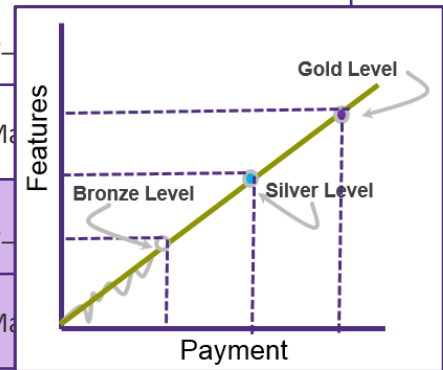
Development vendors building program products

Vendor setbacks and changes don't disrupt other product teams

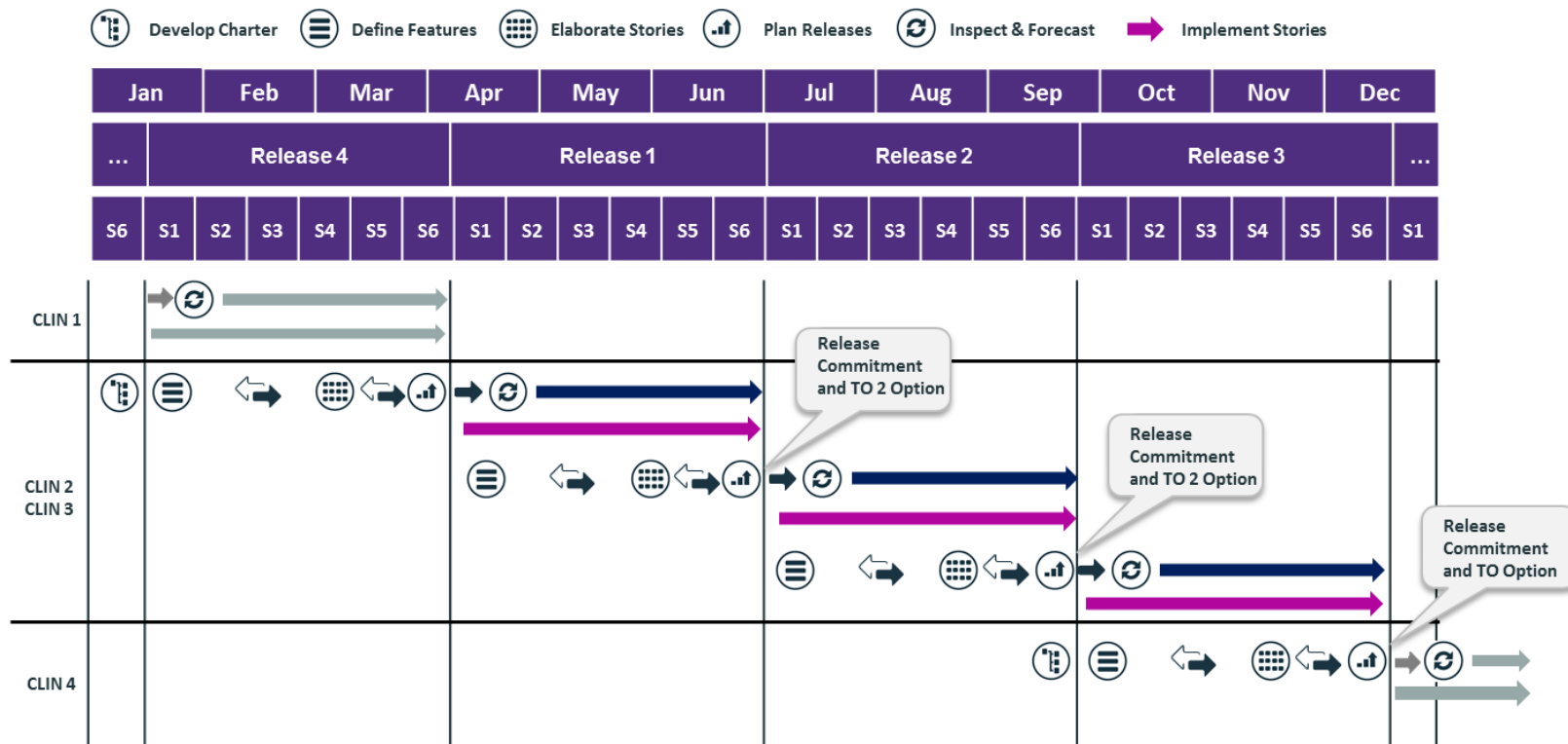*Separate from development to facilitate minimally disruptive vendor changes*

PMO providing governance and management control

Integration Vendor providing architecture and API Harness

Platform vendor providing deployment pipeline management

Key Concept: Optional Contract Line Items (CLINs) and Payments

Line Item	Description of Services	POP	Type	Unit Price
0001	R1 Planning	3 Mos.	T&M	Vendor Proposed LCATs, Max Hours, & Rates $_____
0002 (opt.)	R1 Dev	3 Mos.	FFP	Gold $_____ , Silver $_____ , Bronze $_____
0003 (opt.)	R2 Planning	3 Mos.	T&M	Vendor Proposed LCATs, Max Hours, & Rates $_____
0004 (opt.)	R2 Dev	3 Mos.	FFP	Gold $_____ , Silver $_
0005 (opt.)	R3 Planning	3 Mos.	T&M	Vendor Proposed LCATs, Ma
0006 (opt.)	R3 Dev	3 Mos.	FFP	Gold $_____ , Silver $_
0007 (opt.)	R1 Planning	3 Mos.	T&M	Vendor Proposed LCATs, Ma

Key Concept: Release Plan Driven Contracting

Key Concept: Agile Performance Measures

Measurement drives action and focus; to realize measurable agile performance improvements, we use inspect and adapt metrics to focus Kaizen "good change" efforts

KEY LIFECYCLE METRICS

Product Planning
- Standardization
- Team Morale
- Team Engagement
- Team Composition
- Release Plan Capacity

Product Development
- Productivity
- Predictability
- Unplanned Work
- Integrity
- Delivered Value

Product Ideation
- Product Adoption
- Product Usage
- Legacy Abandonment
- Product Support
- Product Improvement

Solution Triggers
- Need to better understand Agile performance
- Need to identify performance lapse root causes
- Need to quantify retrospective intuitions
- Need to improve Product Owner engagement
- Need to identify and address Agile impediments
- Need to quantify benefits of improvements
- Need better incorporate voice of customer

Solution Benefits
- Reduced defects and unplanned work
- Improved predictability, quality
- Fact-based retrospectives
- Improved Product Owner effectiveness
- Improved Agile process transparency
- Improved forecasting accuracy
- Improved solution fit-for-purpose

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Agile Acquisition Critical Success Factors

- **Move away from a one-and-done contracting model; buy smaller pieces**

- **Issue and award product-based task orders and release plan-based CLINs frequently and expeditiously**

- **Require Agile training and coaching across procurement staff and integrated product teams**

- **Empower Product Owners and CORS to make decisions**

- **Incorporate vendor management processes; inspect and adapt and performance measures are essential**

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