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REVEALING INSIGHTS

Feature First Contracting

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June 6, 2018

Agile Contracting with Features

As government continues its move towards more agile software development approaches, contracts need to adapt as well

- “Shall Statement” requirements are often still necessary and included
- “Story Points” are “Nebulous Units of Time” that do not translate across teams or projects, and have a strained relationship with hours
- “Work Packages,” “Work Breakdown Structures,” “Integrated Master Schedules,” and “Earned Value Management” are still requested by customers

Enter the Feature Roadmap...

The Feature Roadmap

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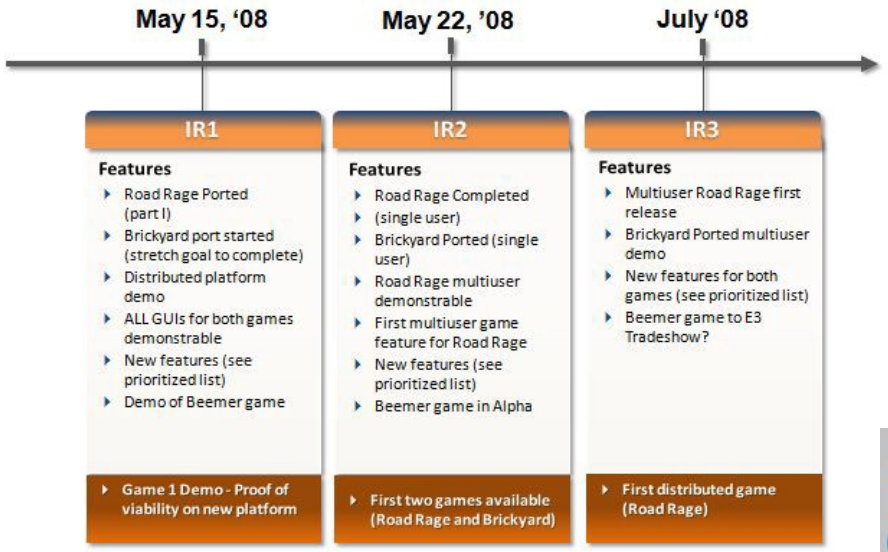
To define a software development contract, the government/contractor team needs to define the product vision, and define, prioritize, and size individual software features.

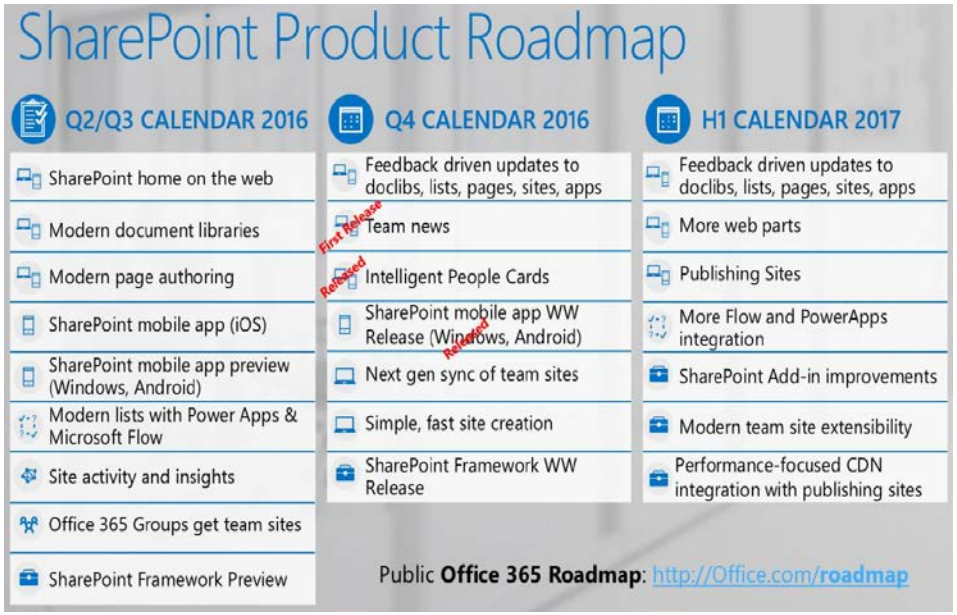
- We use “t-shirt sizing” for features to determine their relative complexity
  - Extra Small (1), Small (3), Medium (5), Large (8), Extra Large (13)
- We assign “feature points” to these sizes to estimate effort
- We prioritize the features so the most important work gets done first
- We bring the work to our existing dedicated, cross-functional teams, so we know how how many features we can complete in a release
- We use this information to develop our product roadmap

Feature mapping supports...

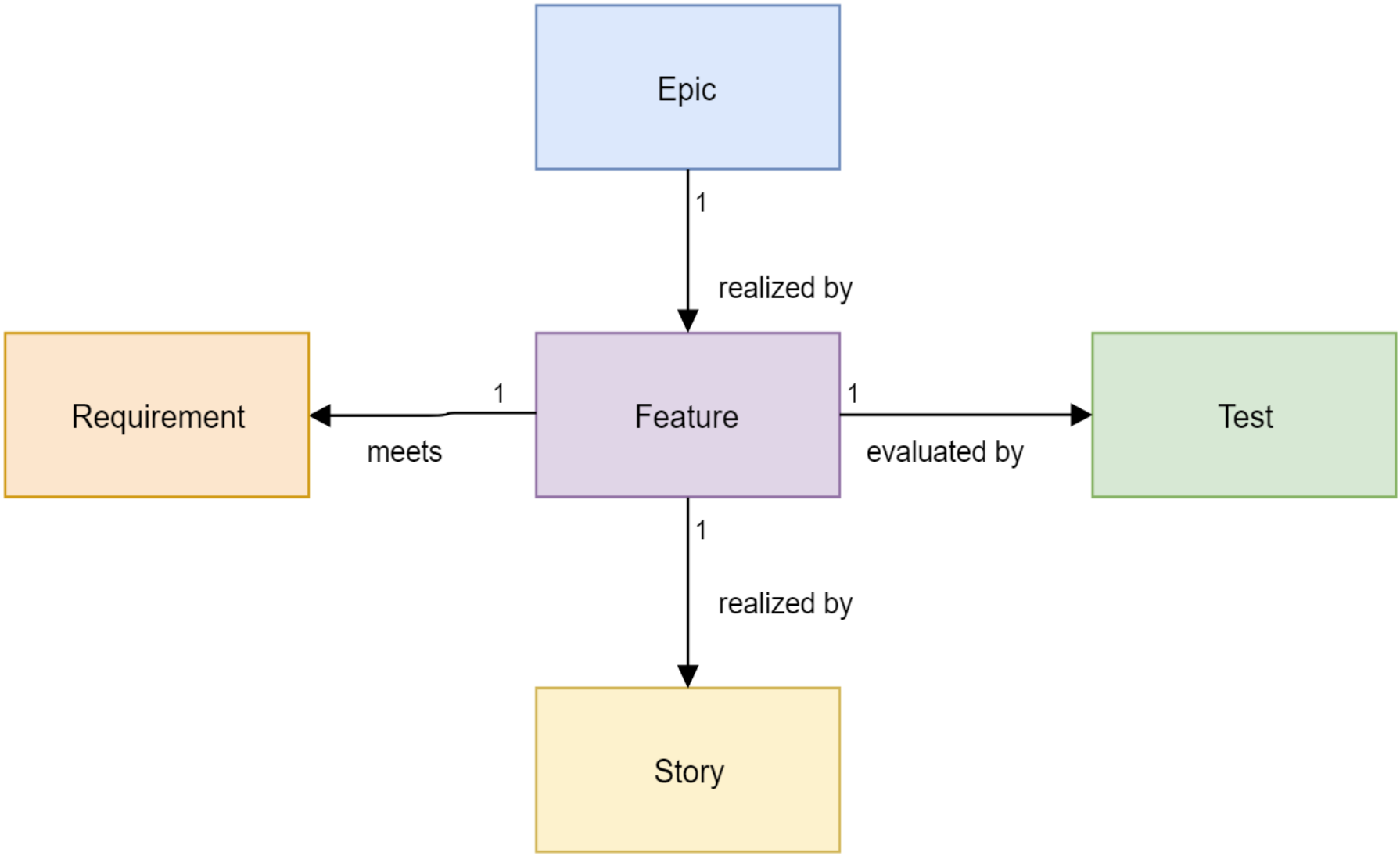


- Automated generation of Product Roadmaps & Release Notes
- Automated generation of RVTMs (Requirements to Feature to Test Events)
- Automated generation of requirements completed per release

- Customer-focused prioritization and definition of software Features
- Developer-focused prioritization and definition of user stories
- Confirmation that user stories align with customer Feature priorities



The Feature is the Key



Agile Definitions

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Business Epic "Business Focused"	• Large initiatives delivering new products, solutions, or services to customers • Comprised of a Large Number of Features • Needs to be completed within the scope of a project
Feature "User Focused"	• Software Features that the product owner is interested in and that *fulfills a stakeholder need.* • Provides value to users • Realized by some number of user stories • Used to plan and prioritize *Releases* • Needs to be completed within the scope of a Release
User Story "Developer Focused"	• Represents the need of a user • Uses to plan and prioritize *Sprints/Iterations* • Source of a conversation between product owner and development • Collection of user stories of different types (stories, SE tasks, security tasks) represents all the "work" that needs to be done to realize a feature • Needs to be completed within the scope of a Sprint/Iteration

SAFe®

Features are Flexible

Approach	PROS	CONS
Government creates, sizes agile Features and roadmap as part of RFP	If same government team creates and sizes Features across programs, then cross-contract comparisons can be made	*Features may not be as detailed if they had requirements or SME creation *Feature and Roadmap generation cannot be part of evaluation criteria
Government creates agile Features, requests roadmap as part of RFP	*If same government team creates Features across programs, then cross-contract comparisons can be made *Realism of Roadmap can be used as selection criteria	*Government cannot evaluate proposals based on feature realism
Government creates standard requirements, requests Features and roadmap as part of RFP	*Mapping of requirements to features, sizing of features, and feature roadmap can be used as selection criteria	*Standard “shall” requirements often lack prioritization or sizing
Government creates standard requirements, creates Features and roadmap as part of contract kickoff or sprint 0 planning	*Features and roadmap created in true user/developer team *Supports existing requirements-based contracts	*Agile Features not part of selection criteria

Earned Value Managment -- A Feature is a Work Package

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- It is important to note that if you are doing true agile with CI/CD, the value earned is ***completed, tested code that has been deployed into a functional system.*** It is not "earned value," it is "actual value to a user."
- For Earned Value management, a release has defined the Features (work packages) and the timeframe (start to end of release).
- **EVM works with Agile because Feature Points and Story Points don't matter -- it's the percentage done against plan that matters**
- We use four-week sprints and quarterly (12 week) releases, so that we can track progress "monthly" which aligns to the tradtional PMR timeline

Release EVM Example

Team Stats:

1 8-person team, 250k every 4 weeks

Four-week Sprints

Three Sprint Releases

Velocity: 30 FP/Release

120 SP/Sprint

PoP = 6 Months

BAC = $1,500,000

Planned Value = 54 Feature Points

End of Release 1

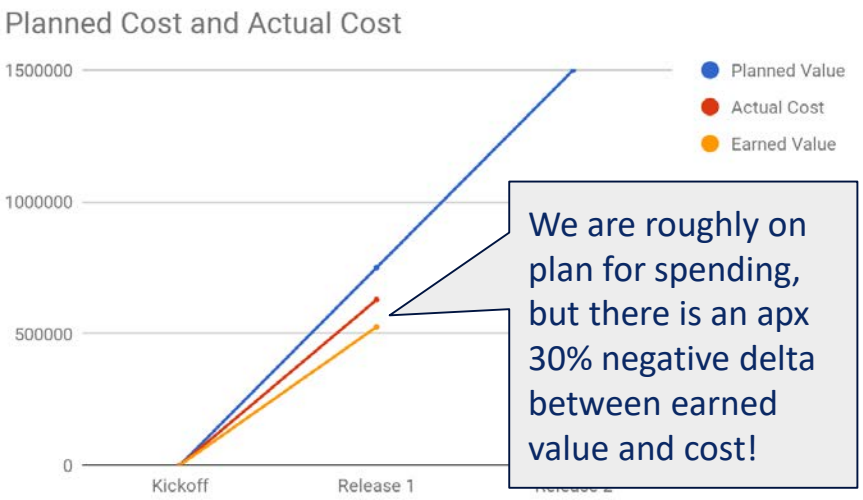
19 of 27 Features Delivered

AC = $720,000

PC = $750,000

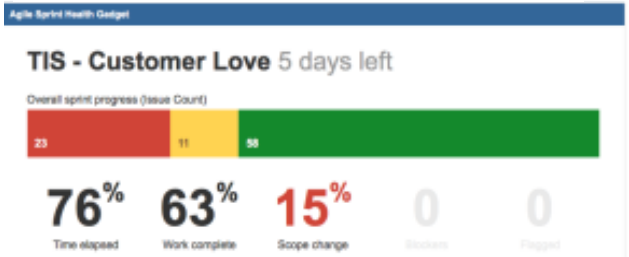
EV = 54/19 = 35% = $525,000

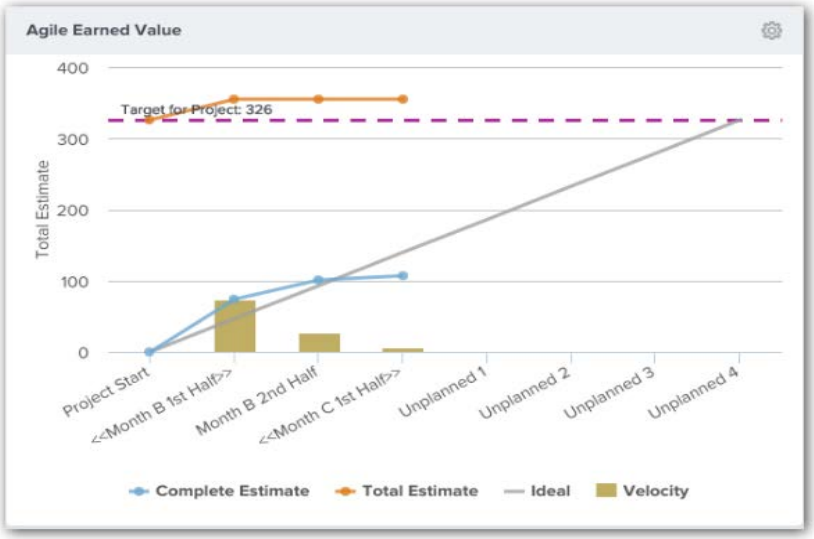
	Release 1 (27 FP)			Release 2 (27 FP)		
RD Map	Feature 1 (S/3 FP) Feature 2 (S/3 FP) Feature 3 (M/5 FP) Feature 4 (L/8 FP) Feature 5 (L/8 FP)			Feature 10 (S/3 FP) Feature 11 (L/8 FP) Feature 12 (M/5 FP) Feature 13 (M/5 FP) Feature 14 (S/3 FP) Feature 15 (S/3 FP)		
	Sprint 1.1	Sprint 1.2	Sprint 1.3	Sprint 2.1	Sprint 2.2	Sprint 2.3
Plan	52 Stories, 122 SP	49 Stories, 118 SP	55 Stories, 125 SP	120 SP	120 SP	120 SP
Act	50 Stories, 106 SP	45 Stories, 110 SP				
Act	$185,000	$227,000	$216,000	$252,000	$258,000	$260,000

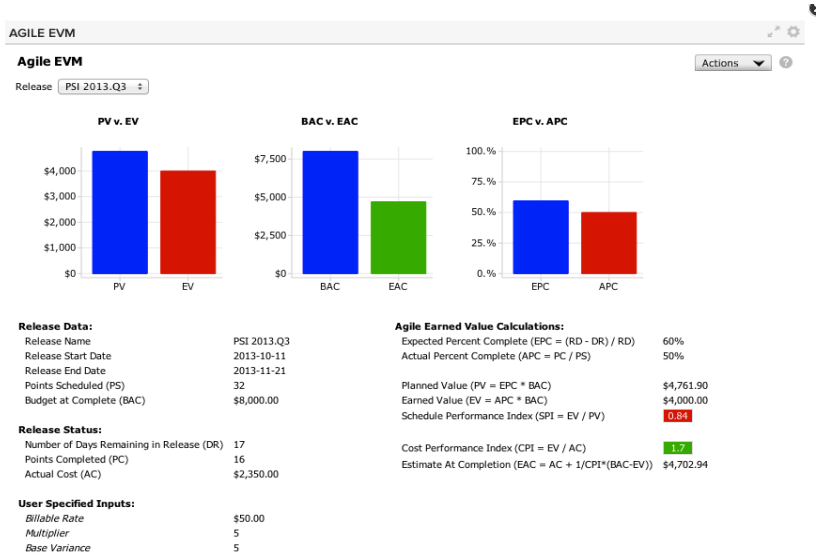


Real-time EVM Tools

- JIRA Dashboards, easyBI, Tempo, EVMChart
- Agile EVM for CA Agile Enterprise
- Agile Earned Value Dashboard for VersionOne







Summary

- Most EVM approaches for Agile recognize that doing so within sprints by story points is too “down in the weeds” and does not translate across teams.
- Use of the SAFe Agile “Feature” allows for sizing, prioritization, creation of an agile roadmap of current and future releases, and tracking against plan
- Features can be mapped to shall statement requirements, test plans, supporting stories, and overarching business epics
- Writing RFPs and Contracts to incorporate Features can be done in a variety of ways to encourage comprehensive RFP responses
- Agile EVM metrics can be used at the Feature level for large-scale EVM, and at the sprint level if necessary for more granular progress.

You have to stay Agile!

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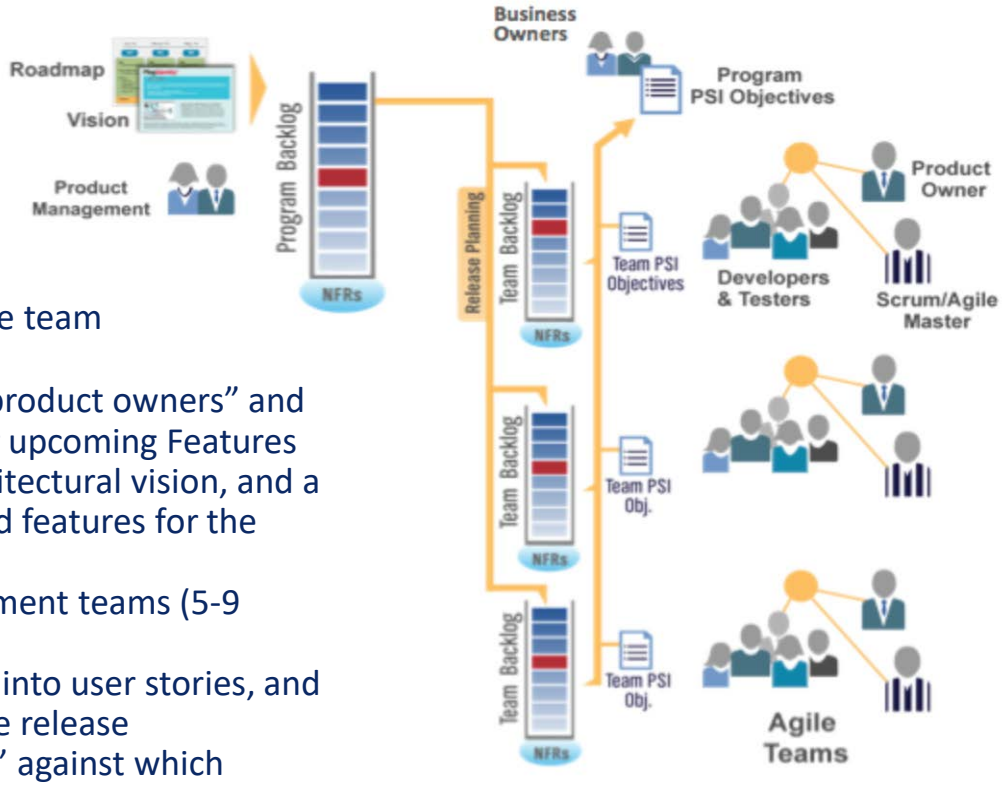
You cannot prevent change and you need to adapt to it!

The “Feature Roadmap” is not set in stone – Feature reviews, additions, and reprioritizations occur at Feature Backlog Refinement sessions held at a regular cadence!

Change has always occurred in programs, agile doesn’t prevent change but captures it early so communication can be updated and development can immediately react

Thank You

Release Planning



A quarterly release plan needs to involve the entire team

- SMEs meet with customer representative "product owners" and developers have iterative design reviews for upcoming Features
- Leadership provides the release vision, architectural vision, and a list of documented, designed, and prioritized features for the release
- Features are assigned to individual development teams (5-9 people)
- Development teams discuss, break features into user stories, and assign stories to sprints contained within the release
- This becomes the "release/feature baseline" against which progress is tracked

https://www.scaledagileframework.com/