



DoD Agile Meeting

DoD Agile Roadmap: Concept and Purpose



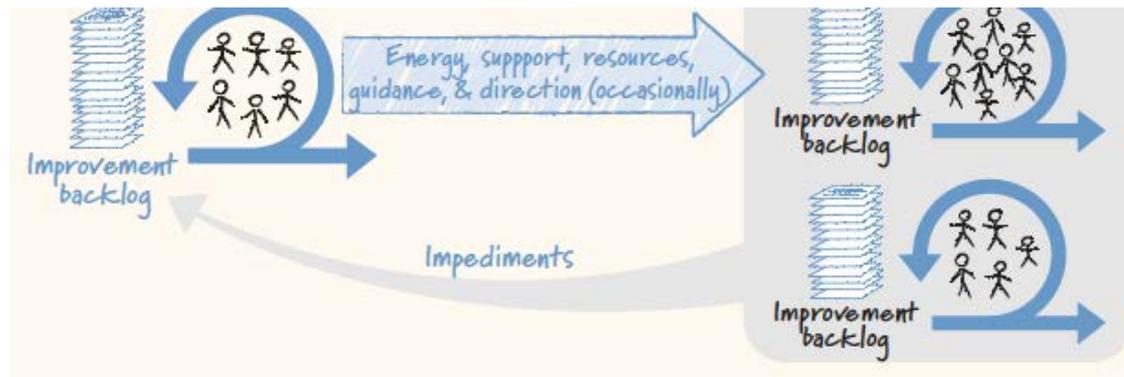
September 23, 2015

Under Secretary of Defense for Acquisition, Technology, and Logistics



Today's Objective

- **Goal: To identify meaningful steps, actions, best practices, etc., to enhance acquisition outcomes for those adopting agile methods and to help foster agile adoption in DoD given trends, lessons learned, etc.**
 - *Could be a simple: Identify “As Is” and “To Be” with gaps, and prioritized actions (aka backlog)*
 - *Could be adaptive: Functional subgroup working with others (perhaps across other Agencies) to build a network of shared experiences, SME relationships, sub-group meetings to achieve a good fit within that functional community environment.*
 - *Could be actions beyond DoD boundaries: Partnership via trade-groups to build upon larger Federal Government expertise, commercial trends, etc.*





GAO Report Suggests 10 Best Practices for Government

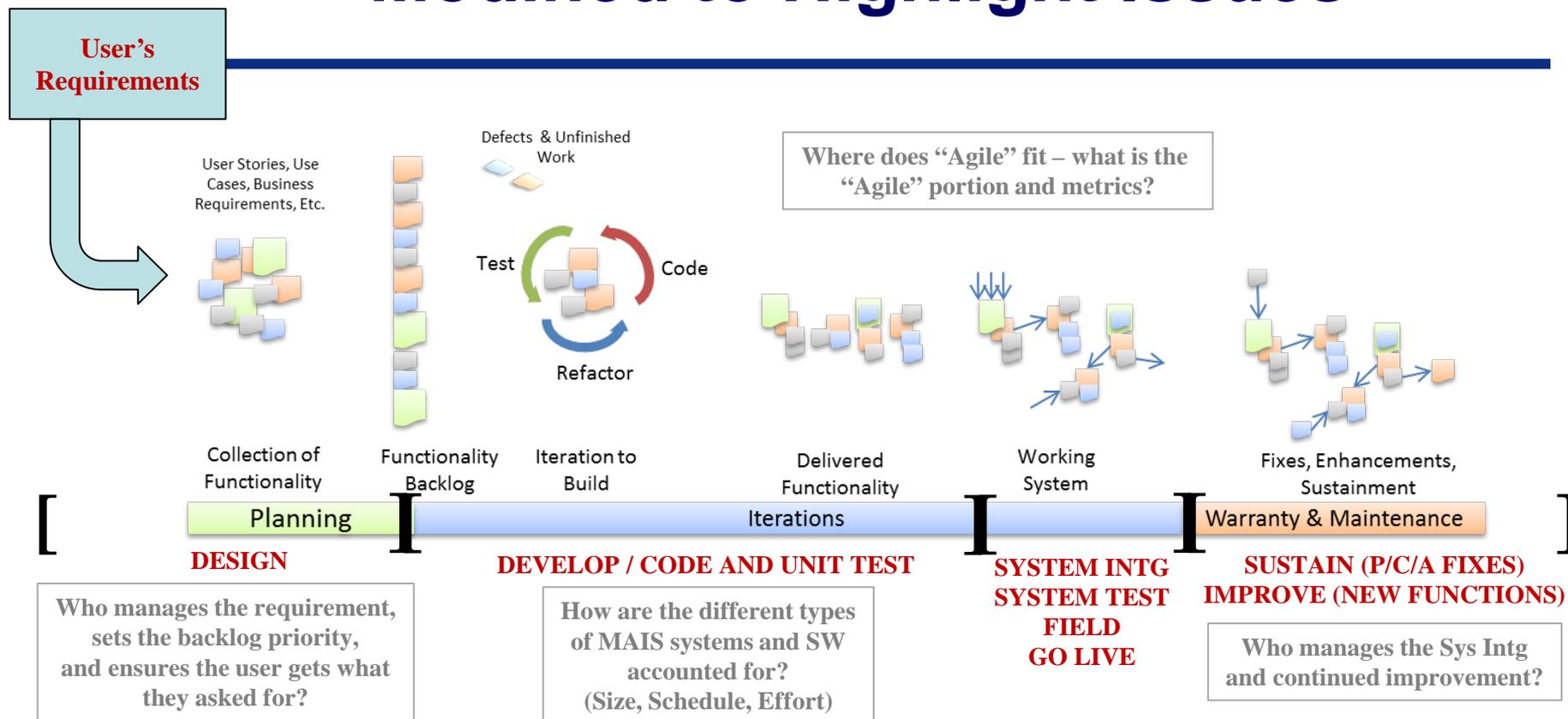
- **Start with Agile guidance and an Agile adoption strategy**
- **Enhance migration to Agile concepts using Agile terms**
- **Continuously improve Agile adoption at both the project level and organization level**
- **Seek to identify and address impediments at the organization and project levels**
- **Obtain stakeholder/customer feedback frequently**
- **Empower small, cross-functional teams**
- **Include requirements related to security and progress monitoring in your queue of unfinished work (the backlog)**
- **Gain trust by demonstrating value at the end of each iteration**
- **Track progress using tools and metrics**
- **Track progress daily and visibly**



GAO's 14 Challenges

Teams had difficulty collaborating closely.	Procurement practices may not support Agile projects.
Teams had difficulty transitioning to self-directed work.	Customers did not trust iterative solutions.
Staff had difficulty committing to more timely and frequent input.	Teams had difficulty managing iterative requirements.
Agencies had trouble committing staff.	Compliance reviews were difficult to execute within an iteration time frame.
Timely adoption of new tools was difficult.	Federal reporting practices do not align with Agile.
Technical environments were difficult to establish and maintain.	Traditional artifact reviews do not align with Agile.
Agile guidance was not clear.	Traditional status tracking does not align with Agile

Modified to Highlight Issues



Ideas for Cost:

1. Learn from NSA/IC Cost Team
2. Carnegie Mellon's

QUELCE (Quantifying Uncertainty in Early Cost Estimation) method

- **Contractor EV system processes need to be codified to incorporate agile implementation**
- **Common agile framework needs to be developed for consistent oversight within the DOD construct across all functions**
- **Agile / EVMS working group has made significant progress establishing a common understanding the goals of agile management in the construct of regulatory requirements**
- **Further effort is needed especially in progress measurement and baseline configuration control**

Background

There are differences in managerial approach and lifecycle development in the application of Earned Value (EV) and Agile software development; driving changes to:

- **Data Dictionary**
- **WBS/IMS**
- **Change Management**
- **Data Analysis**
- **Acquisition Management (NEW)**

Ongoing Community Activities

- **GAO Cost, Schedule and EVM Expert Meeting**
 - September 29 from 2:00 to 4:00 at GAO Headquarters, Staats Briefing Room (7th Floor)
 - Agenda Item #1: Discuss the applicability of EVM reporting for Agile programs.
 - What, if any, value is added by imposing this type of reporting?
 - Are Agile and EVM in conflict with one another? and the topics the agile and EVM and are they compatible
- **CPM Integrated Program Management Workshop (IPMW)**
 - November 16 to 18, 2016 in Bethesda, MD
 - Practice Symposia Track: Agile Integration
- **CPM's Measureable News (MN) next issue (October 2015) will have several agile related articles**
- **PARCA DoD White Paper – ongoing interaction**
- **NDIA Agile Committee is not going away. Looking for inputs on what's next**
- **CPM WDC has held many meetings on the subject and plans to hold future meetings. Plus more CPM Chapters are starting and consider Agile the hot topic**



Agile Overview

What do we mean by Agile?

Agile is an umbrella term for *lightweight* methods and practices such as Scrum, XP, Kanban and Lean

Now becoming the dominant methodology for software development and beyond

ag·ile (adjective)

1. **nimble:** able to move quickly and with suppleness, skill, and control

2. **mentally quick:** able to think quickly and intelligently





Agile Overview

Agile Manifesto

We are uncovering better ways of developing software by doing it and helping others do it.

Through this work we have come to value:

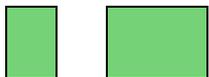
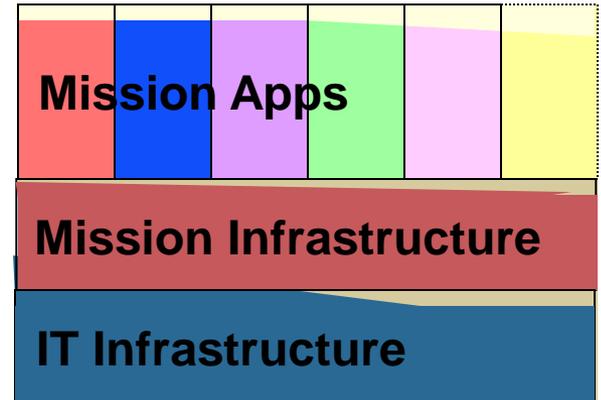
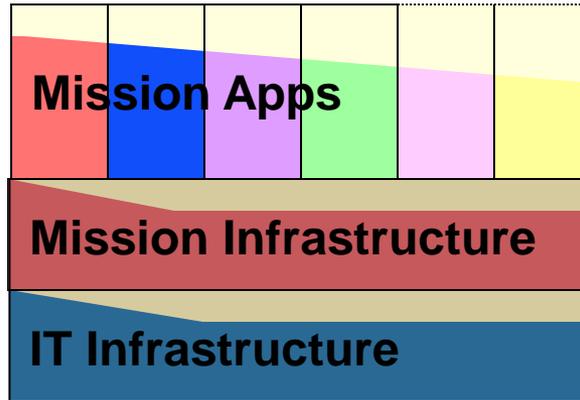
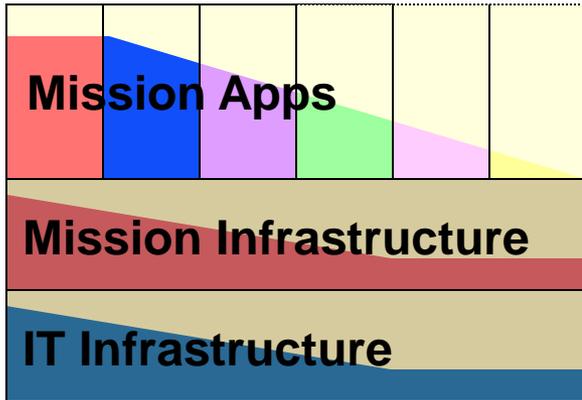
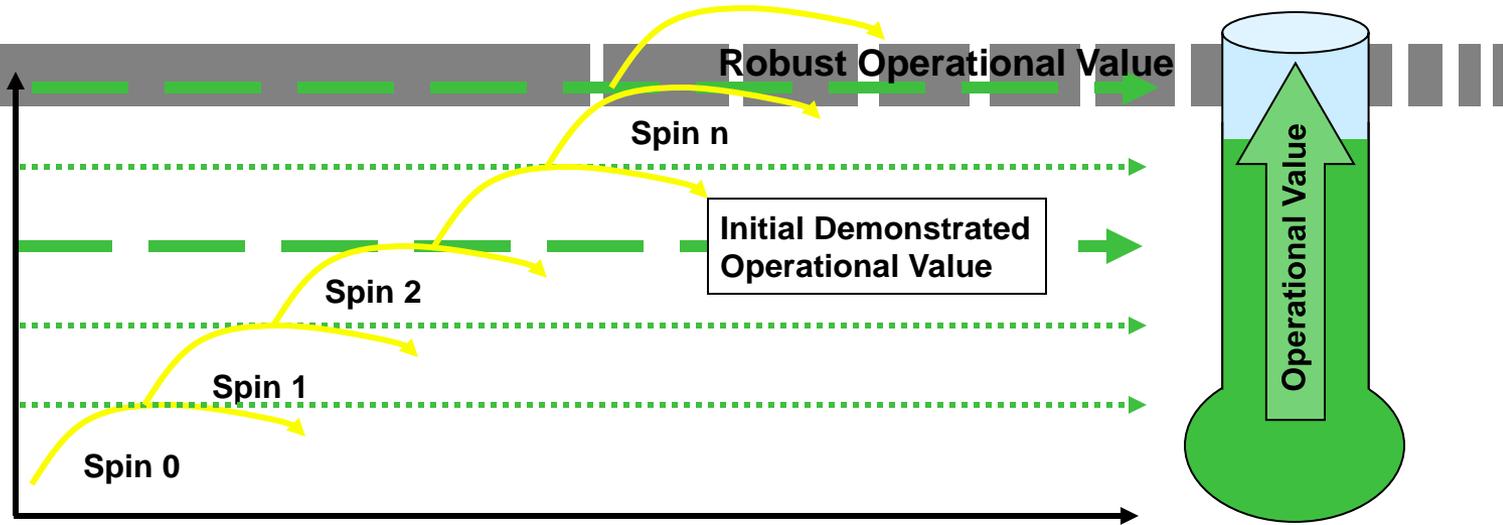


Individuals & Interactions	<i>Over</i>	Processes & Tools
Working Software	<i>Over</i>	Comprehensive Documentation
Customer Collaboration	<i>Over</i>	Contract Negotiation
Responding to Change	<i>Over</i>	Following a Plan



Development Model

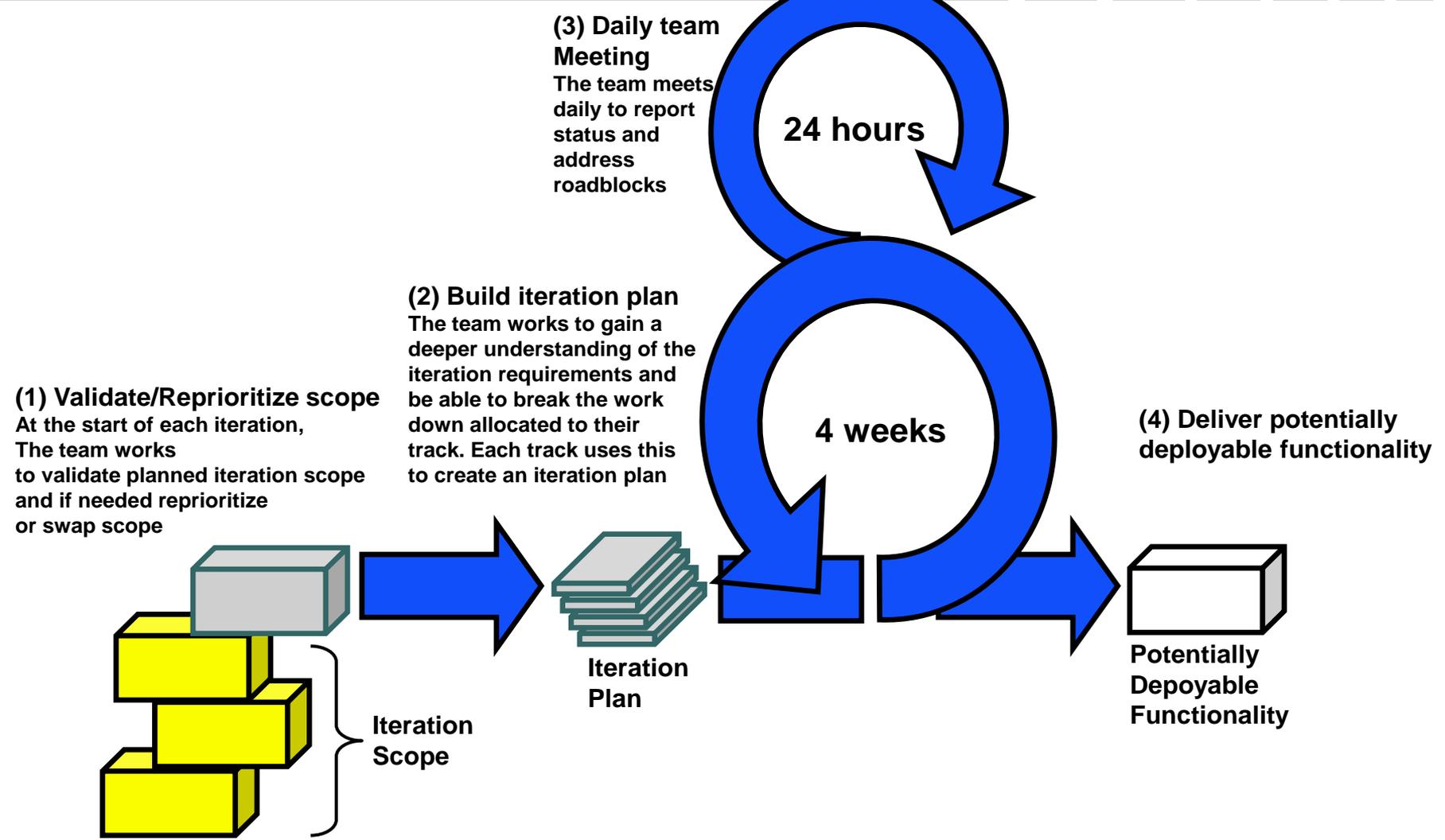
**Step Development
with Mission
Infrastructure As The
Base**



Demonstrated Operational Value Constantly Increases with each Spin



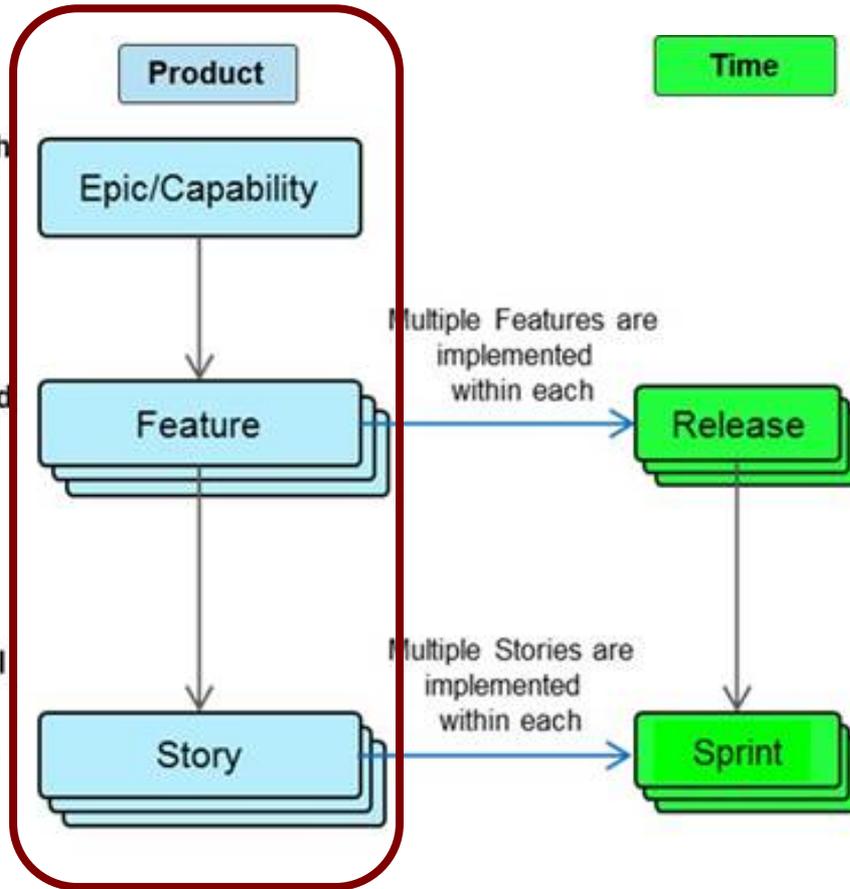
Agile Delivery Model





WBS - Products and Cadence

- **Epic/Capability:** A high level major system function typically completed across multiple releases.
- **Feature:** A well defined system function to be completed within a release.
- **Story:** A small but well defined system function that can be developed within one iteration.



- **Cadence Release:** A fixed time cadence for development (not to be confused with a product delivery milestone); nominally 2-4 months, comprising a fixed number of complete iterations.
- **Iteration:** Recurring, non overlapping, cadence for development, 1-6 weeks in duration.

A product oriented WBS organized around Agile products is totally compatible with MIL-STD 881.



Agile Overview (continued p.2)

Agile Principles

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software

Welcome changing requirements even late in development, Agile processes harness change for competitive Advantage

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale

Business people and developers must work together daily throughout the project.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation



Agile Overview (continued p.3)

Agile Principles (continued)

Working software is the primary measure of progress

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely

Continuous attention to technical excellence and good design enhances agility

Simplicity--the art of maximizing the amount of work not done is essential.

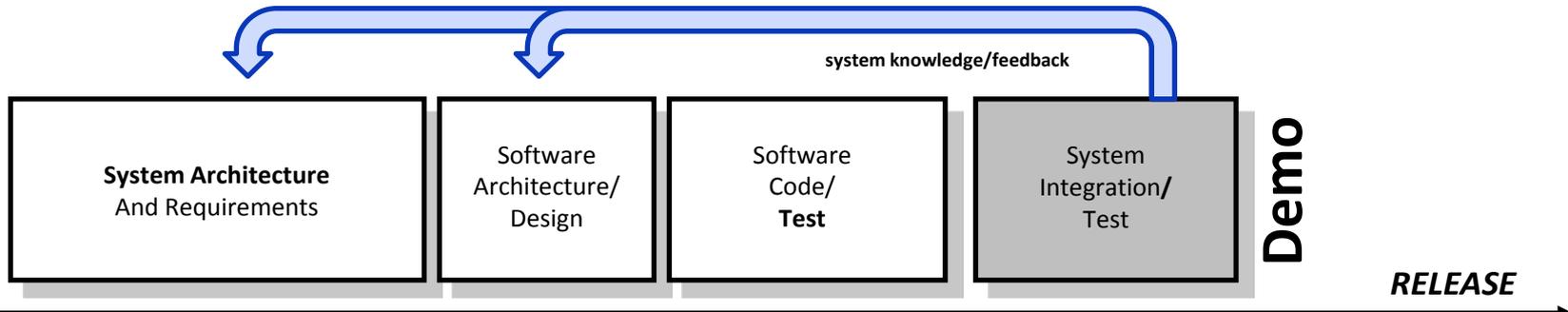
The best architectures, requirements, and designs emerge from self-organizing teams

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly

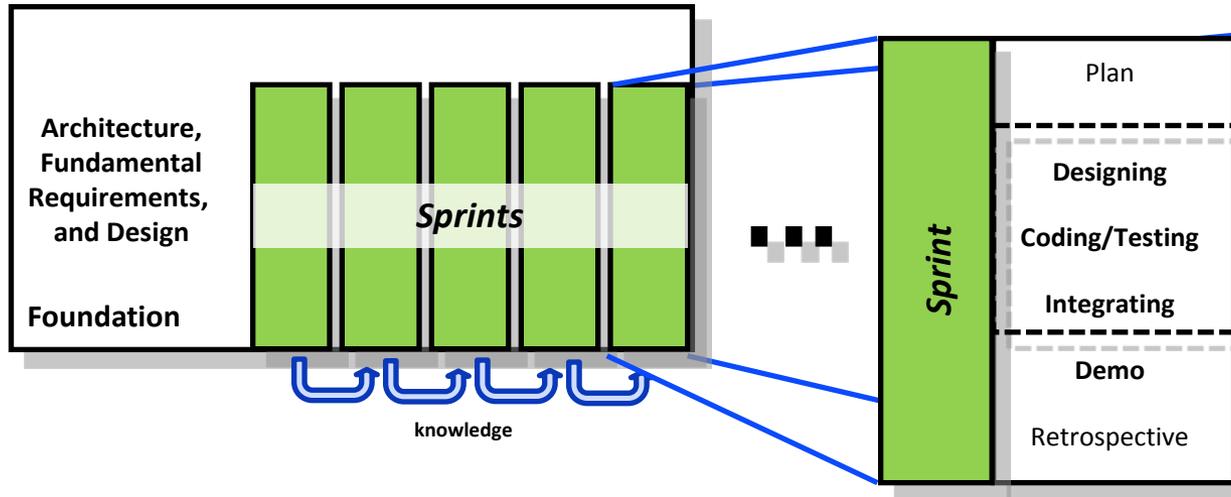


Agile vs. Waterfall

Water Fall



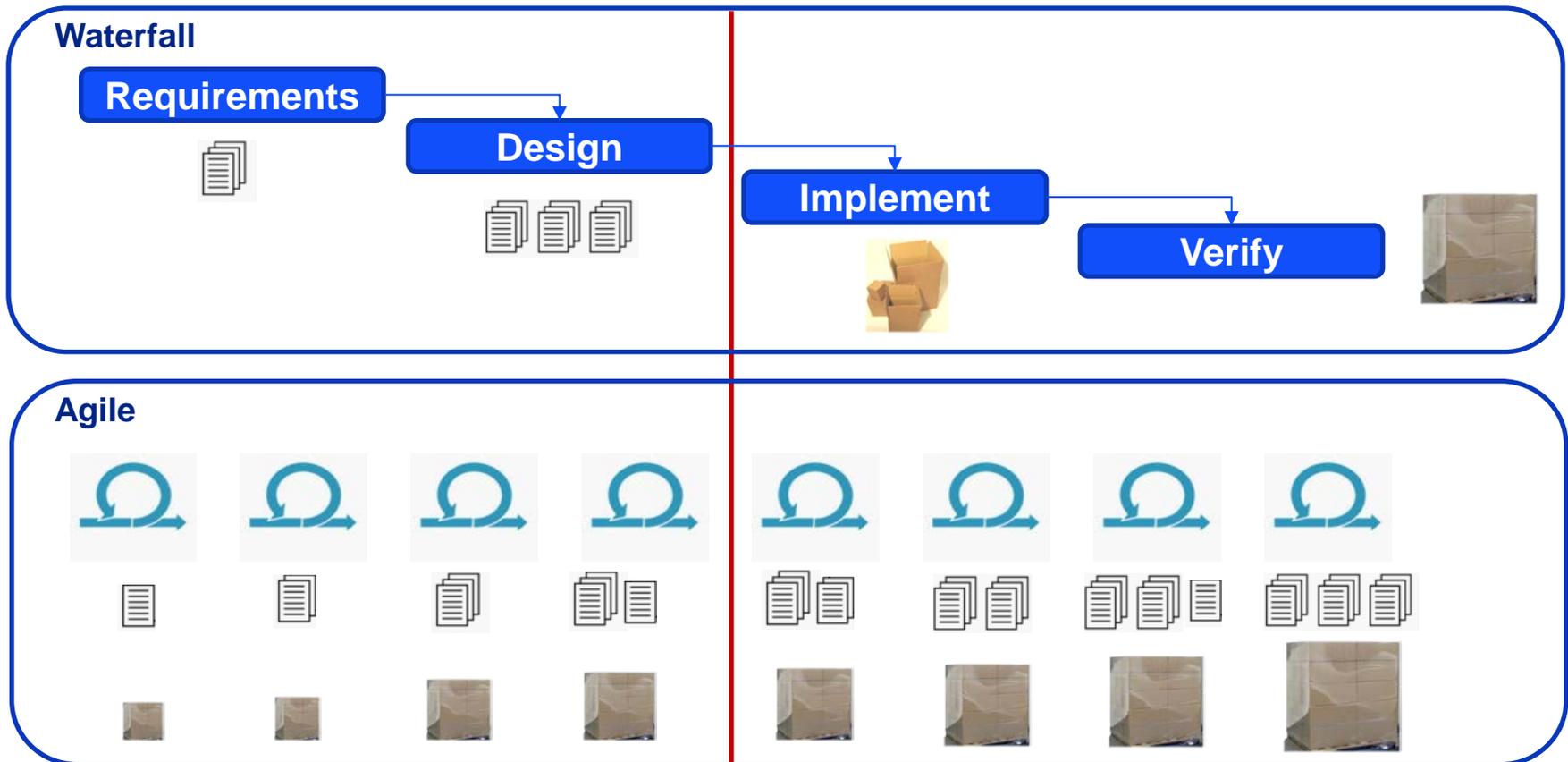
Agile (Scrum)



Rapid/Early Cycles of Development with Feedback



Accelerated Delivery and Risk Reduction



When 50% “done”, under which scenario would you be more confident?