PARCA

EVM and Agile in DoD

Mr. John McGregor
PARCA Deputy Director for EVM

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

Agenda

Topics to be Discussed

- PARCA
- Current DoD EVM and Agile Guide
- Current Study
- Next Steps

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

Director, Performance Assessments and Root Cause Analyses (PARCA)

Mr. Gary R. Bliss

OSD EVM Policy Holder	Nunn McCurdy Breach Analysis	Program Assessments and DAES Selection	Analysis Team
Mr. John McGregor Deputy Director for Earned Value Management	***Mr. Dave Cadman*** Deputy Director for Root Cause Analyses	*Dr. Peter Eggan* Deputy Director for Performance Assessments	*Dr. Danny Davis* Deputy Director for Acquisition Policy Analysis Center

PARCA was brought into existence via the reforms in the Weapon Systems Acquisition Reform Act (WSARA) of 2009

APPROVED FOR PUBLIC RELEASE DISTRIBUTION UNLIMITED: 18-S-2115 August 13, 2018

PARCA EVM Division Authorities

EVM, as a management discipline for making decisions, depends on governing the entire EVM value stream from Contractor to Government analyst

EVM Policy and Guidance	Communications and Outreach	Program Interface	EVM Central Repository (CR)	EVM Functional Leadership
• Develop, publish, and maintain DoD ***policy and guidance on Earned Value Management*** application and reporting	• ***Inform Government and Industry*** stakeholders on EVM policy, reporting, and competency matters	• ***EVM applicability determination***; assist programs with EVM use and reporting; Resolve interpretive differences in EVM policy	• Manage the ***EVM-CR as the authoritative EVM data source*** for ACAT 1 programs; Maintain data governance for EVM data	• Serve as DoD ***EVM Funct. Lead***; Develop and maintain competency model; Guide training, education, and skills for the workforce

"To be successful, EVM practices and competencies must be integrated into the program manager's acquisition planning and execution processes"

- PARCA Authorities Memo, Aug 2011

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

Strategic partnerships across the EVM Value Stream

PARCA works across DoD Services/Agencies, Federal Agencies, and Industry

Working to facilitate the effectiveness of EVM for joint situational awareness and program decision making

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

DoD Agile and EVM PM Desk Guide

Recent Update

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

OMB on DoD Agile and EVM

- **OMB has recognized that Agile and EVM complement each other and co-exist**

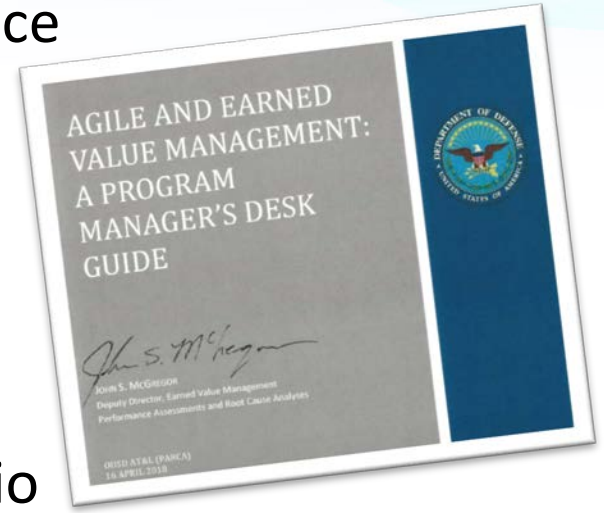
"EVM is not tied to any specific development methodology and does not prevent the use of other risk management techniques such as agile development. EVM and agile development are complementary and can be used on the same project. Agile development can be used to incrementally deliver functionality to the customer while EVM provides a standard method for measuring progress."

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

DoD Agile and EVM Guide

- **A resource for DoD personnel who encounter programs on which Agile philosophies and Earned Value Management are applied**

1. Agile and EVMS System Compliance
2. Integrated Baseline Review (new)
3. Reports, Metrics, and Analysis (new)
   - Appendix: Agile and EVM Scenario (new)



Published April 2018

EVM and Agile work together

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

Agile and EVM System Compliance

SECTION 1 3
Agile and EVM System Compliance 3
Organization and the WBS 3
Planning and Scheduling 5
Measuring Progress 7
Baseline Maintenance 8
Agile and Maintaining EVM System Compliance 10
Standard Terminology and Metrics 10
Agile Metrics and EVM Metrics 11
Traceability 11

- **Agile capabilities and features are part of the WBS**
- **Capabilities and features are decomposed to stories for implementation and time-phasing**
  - Progress is measured by the completion of stories rolled up to feature progress
  - Feature progress contained in the IMS; Progress from IMS rolled into EVMS
  - Baseline Mgt is done at Feature and above

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

SECTION 2 11
Integrated Baseline Review Guidance 11
Introduction 11
IBR Execution 13
IBR Preparation 14
PMB Assessment 16
Management Processes 18
Summary 20

Emphasis on incremental process

- Agile Release or Program Increment Planning consistent with traditional Rolling Wave planning

Incremental Process is natural part of program execution

- IBR Preparation – Joint Training
- Management Processes – Pulling Thread from WBS through Agile Product Backlog to establish common understanding of plan and risk
- PMB Assessment – Every planning increment establish joint agreement on plan going forward

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

SECTION 3 20
Agile Reports, Metrics and Analysis 20
Introduction 20
Delivered Functionality Metrics 20
Understanding Work in Process (WIP) 24
Agile Metrics Related to EVM Metrics 26
Comparison of Agile and EVM Status Charts 27
Resources for Additional Information on Agile Metrics 29

Understanding of EVM & Agile Metrics

- Overview of typical Agile metrics and how they are used
- Agile metrics relationship to EVM metrics and analysis
  - BCWS, BCWP, ACWP, CV, SV, CPI, SPI, TCPI
- Using a sample scenario to show side by side examples of what the Agile and EVM metrics might look like over a series of four sprints
- Highlight the use of Agile metrics to track progress and to support forecasting

Questions?

Are there any Agile and EVM questions?

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

DoD Agile and EVM PM Desk Guide

Current Study

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

Purpose

- Gather information on the practice of Agile and EVM
  - Contracting Nuances / Concerns
  - Focus on data requirements through the life cycle

Other Objectives

- Feedback on current version of Guide
- Feedback on what the guide should address

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

Literature Review Summary

- DoD Defense Science Board "Design and Acquisition of Software for Defense Systems" February 2018:
  https://www.acq.osd.mil/dsb/reports/2010s/DSB_SWA_Report_FINALdelivered2-21-2018.pdf

- Three Findings and Seven Recommendations
  - Finding: Continuous Iterative Development for the DoD
    - Discusses continuous vice traditional methods
    - Defines notion of SW Factory
    - Describes program types that warrant continuous and iterative and which do not
    - Identifies that there is only anecdotal evidence that Agile is better than traditional
  - Finding: Commercial, The DoD, and its partners: Case Studies
  - Finding: Acquisition Strategies and Contracting Approaches

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

Literature Review Summary

- Software Engineering Institute Carnegie Mellon "RFP Patterns and Techniques for Successful Agile Contracting" November 2016
- Section C
  - The SOO reflects a performance-based acquisition (PBA) and is best suited for an Agile acquisition[4]
  - "An Agile program tends to use technical reviews as opportunities for information"[5] sharing, face-to-face coordination, and confidence building
- Section L and M – Use three Sub-Factors
  - Subfactor 1 – Agile Development Process
  - Subfactor 2 – Systems Engineering Practices
  - Subfactor 3 – System Test and Delivery

4 See *AcqNotes*, Acquisition Process, Performance-Based Acquisition, at http://acqnotes.com/acqnote/acquisitions/performance-based-acquisitions
5 Software Engineering Institute Carnegie Mellon "RFP Patterns and Techniques for Successful Agile Contracting" November 2016

Literature Review Summary

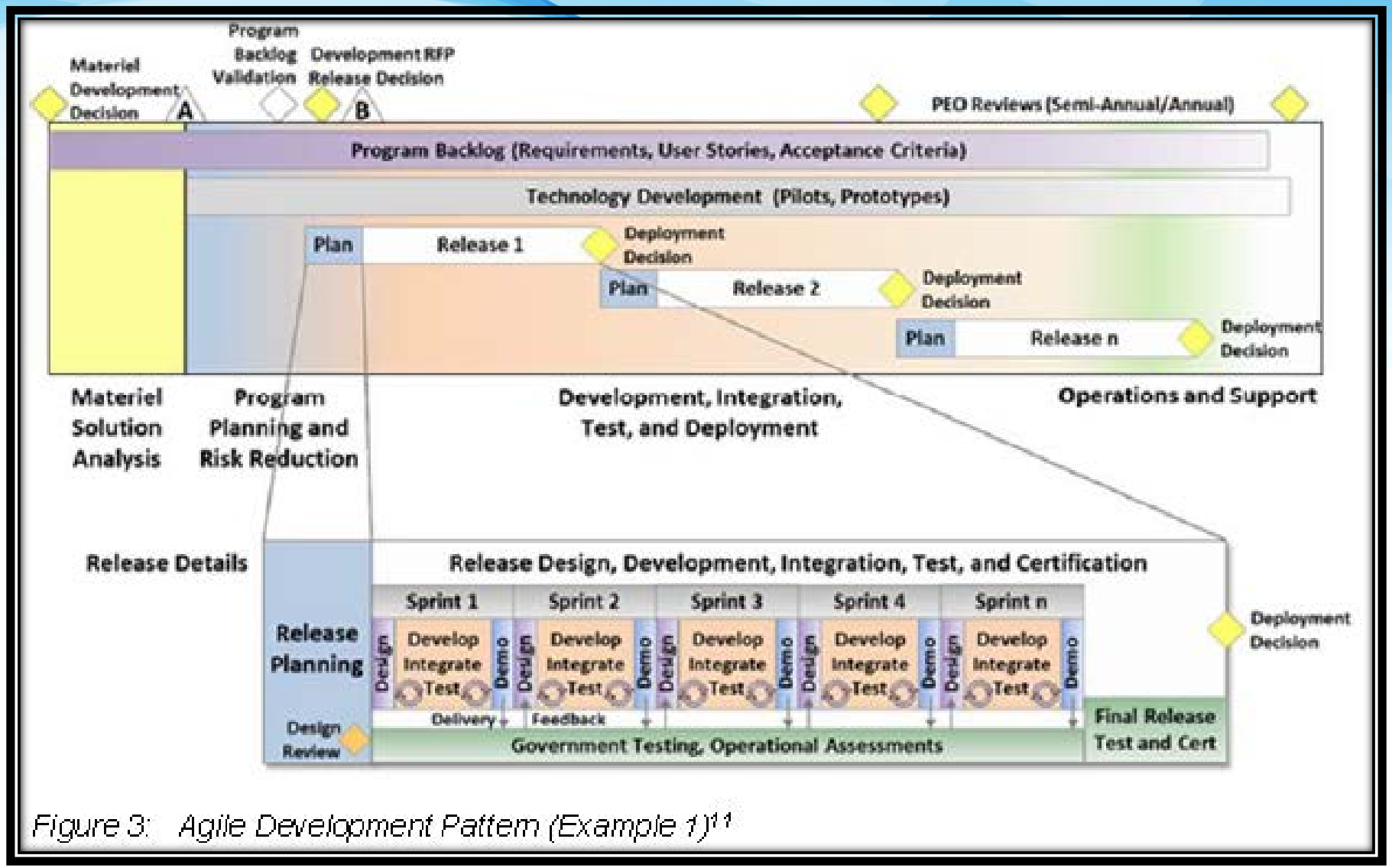


Figure 3: Agile Development Pattern (Example 1)[11]

11 Graphic provided by the MITRE Corporation (https://www.mitre.org/publications/technical-papers/defense-agileacquisition guide-tailoring-dod-it-acquisition-program).

Questions for PMO

Contracts

- Contract Type, $ Value
- Was Agile an RFP Requirement?
- Were the Agile development methods reviewed during source selection?
- How much of the program is Agile? Describe the type of work scope being done using Agile.
- Did the USG receive Agile training on contractor's methods? If so, was it requested as part of the RFP?

Data

- What CDRLs are used to collect Agile data for Status, Specifications, Design, Cost, Schedule, Metrics?
- What informal Agile data is being jointly discussed between USG and contractor (e.g. Monthly PMRs, informal technical interchanges, etc.)?
- What status and progress data is naturally available from the Agile tools and processes used internally and externally by the teams, management, and customer?

Best Practices / Lessons Learned

- Is management able to track Agile progress? If so, how? If not, what is missing?
- Have you experienced any contracting barriers? Formal change request process?
- What reporting concerns do you have (e.g. EVM, Agile visibility, etc.)?
- What are you doing from Agile perspective that you like and would recommend for others?

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

What Have We Learned So Far?

- **Apply method based on work being done – what's being built!**
- **Agile and EVM Contracting Considerations**
  - Govt provide SOO, let contractor write SOW
  - Source Selection - Evaluation Criterion set up around how the contractor will communicate with the customer, to establish objectives, review progress, and coordinate and approve changes
  - Data requirements to support the IBR process
  - Communications plan (reference previous chapter) – Customer engagement
  - Training on Agile methodology to be implemented (Customer and Contractor)
- **Contract Execution -** Reporting and change management
  - Real-time status - Govt access to backlog
  - Agile reports – burn-up/burn-down, velocity (planned vs completed), sprint plan, incidents/changes
  - Variance reporting on agile metrics – address root cause
  - Notion of Real-time IPMR?
  - Support for Schedule Risk Assessment

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

DoD Agile and EVM Discussion: Next Steps

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

Timeline

- Schedule for Current Guide Update
  - Site Visits through October 2018
  - Writing November 2018
  - Comments December 2018 through mid January 2019
  - Adjudication February 2019
  - Publish in Spring 2019
- Next Chapters???

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

Questions

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018

Thank You!

Questions Contact Us

PARCA EVM Website:
http://www.acq.osd.mil/evm/

PARCA EVM Email:
osd.dodevm@mail.mil

PARCA AEP Program

PARCA Acquisition Exchange Program (AEP) provides a unique career-development experience for high-caliber Government civilians or military personnel interested in acquisition and/or EVM.

http://www.acq.osd.mil/evm/aep.program.html

APPROVED FOR PUBLIC RELEASE DISTRIBUTION
UNLIMITED: 18-S-2115 August 13, 2018