Agile Management for Rapid Acquisition

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ICEAA 2019 Workshop

Agenda

- Rapid Acquisition in the Department of Defense (DoD)

- Introduction to Agile

- Applicability of Agile to Rapid Acquisition

- Example (WHATIF)

- Key Takeaways

DoD Acquisition Process

Figure: *Defense Acquisition Life Cycle Wall Chart, DAU, 14 Feb 2018, https://www.dau.mil/tools/t/Department-of-Defense-Acquisition-Life-Cycle-Chart*

FY16 National Defense Authorization Act (NDAA)[1]

- Introduces Middle Tier Acquisition (Section 804) for rapid prototyping and rapid fielding

- Requires development of streamlined alternative acquisition guidance for critical national security capabilities

- Allows Secretary of Defense to waive any provision of acquisition law or regulation if all 3 apply:

  - The capability is in the vital national security interest of the US

  - Application of the law/regulation to be waived would impede on national security

  - The underlying purpose of the law or regulation can be addressed in a different manner or at a different time

ENCOURAGES FLEXIBILITY WITHIN THE ACQUISITION PROCESS

1. Schwartz, Moshe and Peters, Heidi. *Acquisition Reform in the FY2016-FY2018 National Defense Authorization Acts (NDAAs).* Congressional Research Service, 19 Jan 2018. https://fas.org/sgp/crs/natsec/R45068.pdf

Implementing Rapid Acquisition in the DoD

Air Force
Rapid Acquisition Capabilities Office (RCO)

Army
Rapid Acquisition Capabilities Office (RCO)

Navy
Maritime Accelerated Capabilities Office (MACO)/ Maritime Accelerated Acquisition (MAA)

Middle Tier Acquisition (Section 804), FY16 NDAA

Air Force Guidance Memorandum for Rapid Acquisition Activities, 13 June 2018

- Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics) to serve as the Milestone Decision Authority (MDA) for rapid acquisitions meeting the criteria for an Acquisition Category (ACAT) I program, ACAT II and III programs are delegated to the Program Executive Officer (PEO)

- "The PM and MDA should tailor rapid acquisition activities to the strategies, reviews, metrics, and operating thresholds that make sense for the program in question."
  - Tailored reviews, processes, and assessments
  - Requesting waivers to statutory requirements the PM "deems of little value"
  - Deviations from Federal Acquisition Regulation (FAR) and FAR supplements, where appropriate, with approval at the lowest allowable decision level
  - Tailored metrics to track progress in lieu of cumbersome oversight reviews
  - Use of expedited contracting vehicles – i.e. Indefinite Delivery Indefinite Quantity (IDIQ) contracts, cooperative agreements, other transactions for research

Army Middle Tier Acquisition Policy Memorandum, 25 September 2018

- Rapid Prototyping and Rapid Fielding candidates for Middle Tier Acquisitions (MTAs) submit to the Army Acquisition Executive (AAE)

- AAE acts as Decision Authority for approved MTAs

- PMs provide AAE with program strategy, to include estimated lifecycle costs, and defined cost, schedule, and performance metrics

- MTAs regardless of dollar value are not subject to DoDD 5000.01, DODI 5000.02, or Joint Capabilities Integration Development System (JCIDS) manual

- Decision Authority is accountable for reporting cost, schedule, and performance data in accordance with any Cost Assessment and Program Evaluation (CAPE) requirements

OPNAV INSTRUCTION 5000.53A, 19 October 2018

- Accelerated Acquisition Board of Directors (AA BoD), co-chaired by the Chief of Naval Operations (CNO) and Assistant Secretary of the Navy for Research, Development, and Acquisition (ASN RD&A) works with PMs to tailor, monitor, and report on MAA programs

- Deputy CNO for Warfare Systems (CNO N9)
  - Convenes the AA BoD quarterly or more frequently to consider new MAA proposals and provide program updates
  - Serves as the Executive Agent for new candidate capabilities into the AA BoD approval process
  - Coordinates monthly meetings with cognizant PEOs to review status and prepare AA BoD and Congressional updates

- Rapid Prototyping, Experimentation, and Demonstration (RPED) funding priority for MAA programs – reflect the highest Navy funding priorities

Agile Development

Avoiding unnecessary procedures, documentation, and/or policies in order to provide products to users more quickly

Agile Manifesto[2]

- *Individuals and Interactions > Processes and Tools*

- *Working Software > Comprehensive Documentation*

- *Customer Collaboration > Contract Negotiation*

- *Responding to Change > Following a Plan*

12 Principles

- ❖ Customer satisfaction by early and continuous delivery of valuable software
- ❖ Welcome changing requirements, even late in development
- ❖ Deliver working software frequently (weeks rather than months)
- ❖ Close, daily cooperation between business people and developers
- ❖ Projects are built around motivated individuals, who should be trusted
- ❖ Face-to-face conversation is the best form of communication (co-location)
- ❖ Working software is the primary measure of progress
- ❖ Sustainable development, able to maintain a constant pace
- ❖ Continuous attention to technical excellence and good design
- ❖ Simplicity – the art of maximizing the amount of work not done – is essential
- ❖ Best architectures, requirements, and designs emerge from self-organizing teams
- ❖ Regularly, the team reflects on how to become more effective, and adjusts accordingly

2. Beck, Kent, et al. *Manifesto for Agile Software Development.* Agile Manifesto, 2001. https://agilemanifesto.org/

Agile Manifesto Applied to Rapid Acquisition

- *Individuals (PMs) and Interactions (with their overseeing agencies) > Processes and Tools (DODI 5000.2)*

- *Working ~~Software~~ System > Comprehensive Documentation*

- *Customer (Warfighter) Collaboration > Contract Negotiation*

- *Responding to Change > Following a Plan*

12 Principles

- ❖ Customer (warfighter) satisfaction by early and continuous delivery of valuable ~~software~~ product
- ❖ Welcome changing requirements, even late in development
- ❖ Deliver working ~~software~~ product frequently
- ❖ Close, daily cooperation between ~~business people~~ (Government) and developers
- ❖ Projects are built around motivated individuals, who should be trusted
- ❖ Face-to-face conversation is the best form of communication (co-location)
- ❖ Working ~~software~~ product is the primary measure of progress
- ❖ Sustainable development, able to maintain a constant pace
- ❖ Continuous attention to technical excellence and good design
- ❖ Simplicity – the art of maximizing the amount of work not done – is essential
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11

Using Agile for Acquisition

Example: We Have Accelerated Through IOC and FOC (WHATIF)
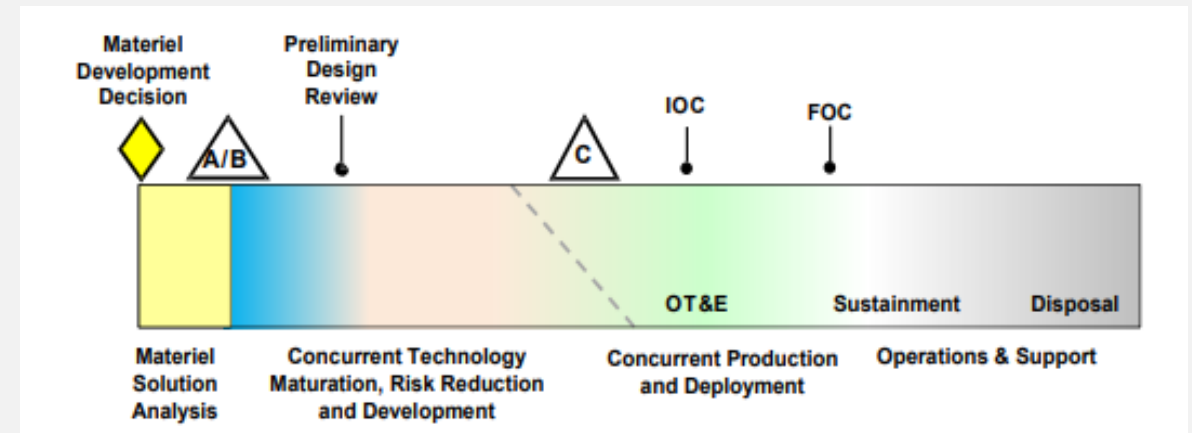
- Navy ACAT I MAA Program

- Must reach IOC within 5 years

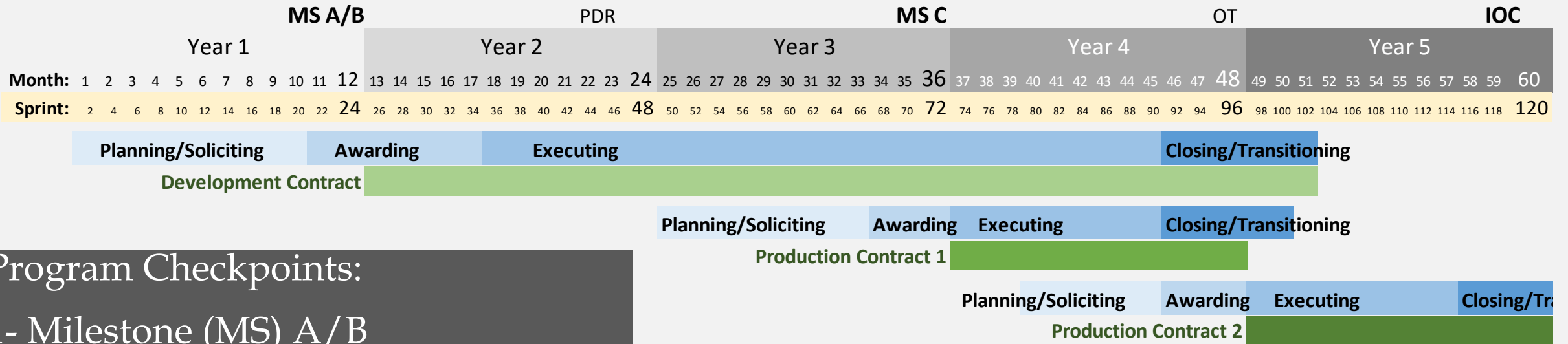Figure: *Defense Acquisition Life Cycle Wall Chart*. DAU, 14 Feb 2018.
https://www.dau.mil/tools/t/Department-of-Defense-Acquisition-Life-Cycle-Chart

Entire Government Team Will Leverage Agile Approach

WHATIF Agile Implementation

- Entire team (PMO, contracts, finance, cost, etc.) accesses the same software tool for Agile management and attends formal Agile training at kick-off

- Story points are quantified by each functional group using a defined approach, not an arbitrary measure

- Program progress will be tracked based on completion of story points, not sprints

- The team is kept as small as possible, and is co-located to promote collaboration

- All teammates have real-time access to comprehensive program status throughout execution using the Agile management software tool

"It takes a team to go fast." -William J. Roper, Jr., Assistant Secretary of the Air Force AT&L

WHATIF Roadmap to IOC

	MS A/B		PDR		MS C		OT		IOC

	Year 1	Year 2	Year 3	Year 4	Year 5
Month:	1 2 3 4 5 6 7 8 9 10 11 **12**	13 14 15 16 17 18 19 20 21 22 23 **24**	25 26 27 28 29 30 31 32 33 34 35 **36**	37 38 39 40 41 42 43 44 45 46 47 **48**	49 50 51 52 53 54 55 56 57 58 59 **60**
Sprint:	2 4 6 8 10 12 14 16 18 20 22 **24**	26 28 30 32 34 36 38 40 42 44 46 **48**	50 52 54 56 58 60 62 64 66 68 70 **72**	74 76 78 80 82 84 86 88 90 92 94 **96**	98 100 102 104 106 108 110 112 114 116 118 **120**

Planning/Soliciting — **Awarding** — **Executing** — **Closing/Transitioning**

Development Contract

Planning/Soliciting — **Awarding** — **Executing** — **Closing/Transitioning**

Production Contract 1

Planning/Soliciting — **Awarding** — **Executing** — **Closing/Tr**

Production Contract 2

Program Checkpoints:

1- Milestone (MS) A/B

2- Preliminary Design Review (PDR)

3 - MS C

4 - Operational Test (OT) Readiness

5 - IOC Readiness

WHATIF Cost Team Tasking to Checkpoint 1
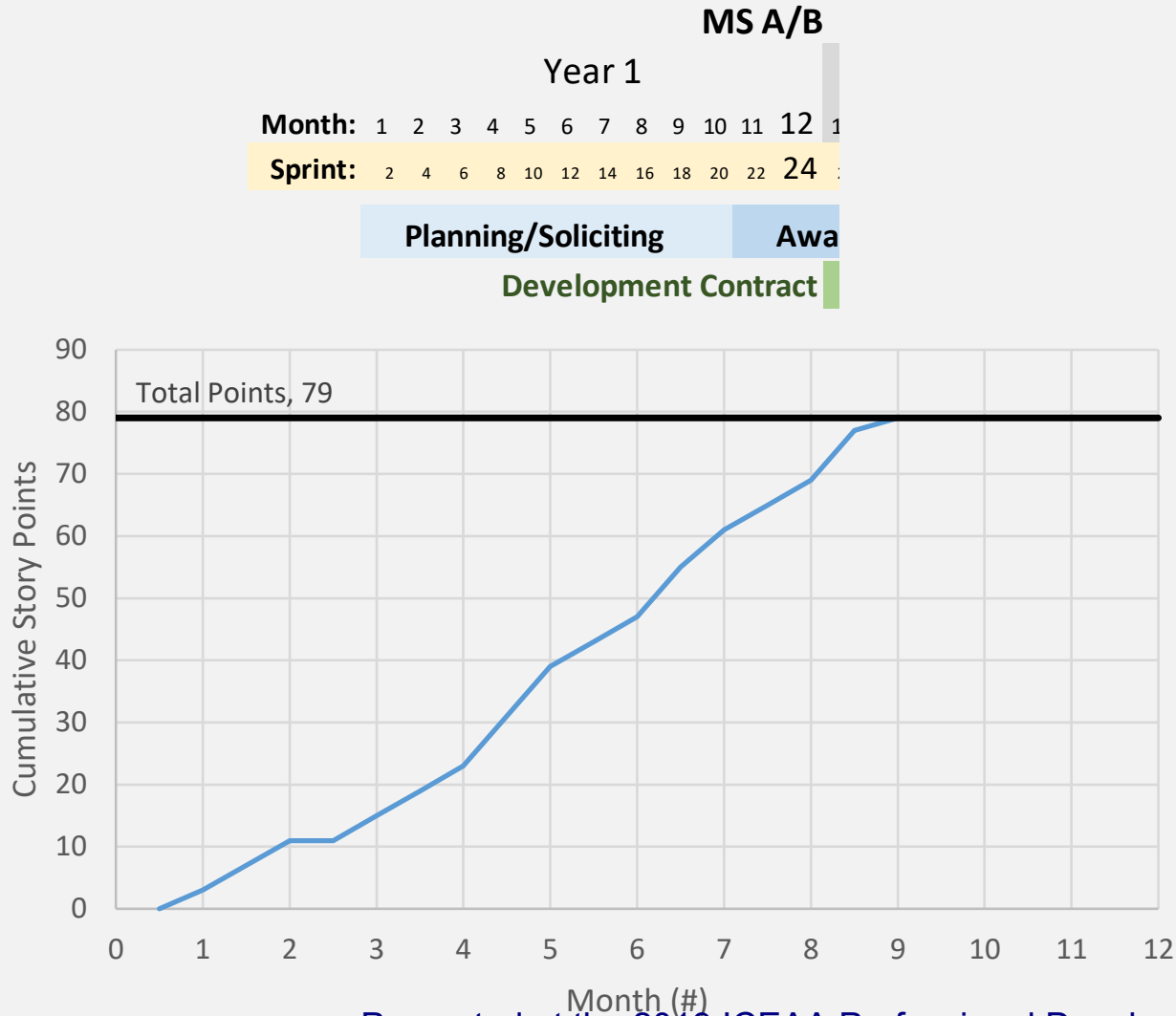
Story	Points	Feature	Sprint
IPMR CDRL Development	4	RFP Support	3
CDSR/FCHR CDRL Development	2	RFP Support	2
SRDR CDRL Development	1	RFP Support	2
WBS Development - CSDR Plan	4	RFP Support	4
TPB Familiarization	4	Cost Estimate	6
WBS Development - Estimate	4	Cost Estimate	7
Define Ground Rules & Assumptions	4	Cost Estimate	8
Data Collection - Initial	8	Cost Estimate	9
Data Analysis - Initial	8	Cost Estimate	10
Define Model Inputs	4	Cost Estimate	11
Model Point Estimate Logic	8	Cost Estimate	13
Conduct Sensitivity Analysis	2	Cost Estimate	14
Apply Uncertainty to Model	2	Cost Estimate	14
Conduct Estimate Crosschecks	2	Cost Estimate	14
Develop Documentation - Draft	8	Cost Estimate	17
Develop Documentation - Final	2	Cost Estimate	18
Final SOW/CDRL Familiarization	4	UCA NTE	12
Analyze Development Contract Cost Estimate	4	UCA NTE	15
Document NTE Recommendation	4	UCA NTE	16
Total	79		

WHATIF Cost Team Tasking to Checkpoint 2
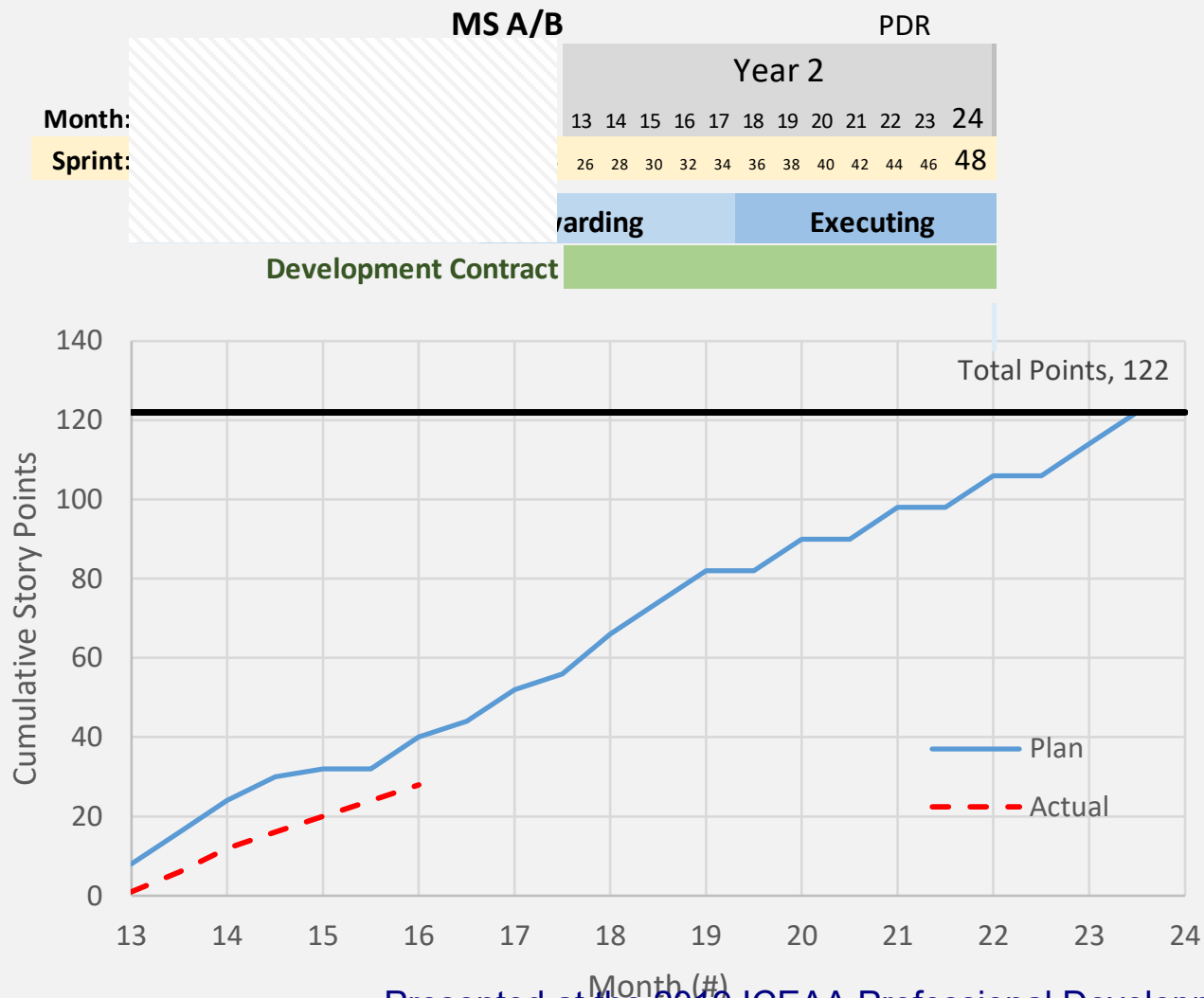
Story	Points	Feature	Sprint
BOE Evaluation - Discrete SW Labor	8	Prop Eval	26
BOE Evaluation - Discrete HW Labor	8	Prop Eval	27
BOE Evaluation - SE/PM Labor	4	Prop Eval	28
BOE Evaluation - Material	4	Prop Eval	28
Model Contract Pricing	2	Prop Eval	29
Conduct Uncertainty Assessment	2	Prop Eval	29
Document Findings	2	Prop Eval	29
Develop IBR Handbook	2	IPM Dev	30
IBR Preparation Analysis	4	IPM Dev	33
IBR Event	4	IPM Dev	35
IBR Documentation	2	IPM Dev	36
IPM Analysis - Contract Month 4	8	IPM Dev	32
IPM Analysis - Contract Month 5	8	IPM Dev	34
IPM Analysis - Contract Month 6	8	IPM Dev	36
Incorporate new data & program updates - Midyear	8	Cost Estimate	37
IPM Analysis - Contract Month 7	8	IPM Dev	38
IPM Analysis - Contract Month 8	8	IPM Dev	40
IPM Analysis - Contract Month 9	8	IPM Dev	42
IPM Analysis - Contract Month 10	8	IPM Dev	44
IPM Analysis - Contract Month 11	8	IPM Dev	46
Incorporate new data & program updates - End of year	8	Cost Estimate	47
Total	122		

Key Takeaways

- Small, active, consistent, closely-knit, and co-located teams

- Leverage Agile-based Program Management tool for use across entire program team

- Agree on Agile terminology and approach at onset of the program and maintain consistency throughout the acquisition life cycle

- Be flexible and adaptable in the approach for typical acquisition products

- Assess team and program status using story and capability/feature completion, not duration/sprint completion

- Receive continuous warfighter and sponsor feedback to adjust the plan real-time as needed

Agile Yields More Informed Cost & Schedule in a Time-Constrained Environment

Questions?