



Agile Roadmap Outbrief Systems Engineering



Roadmap – Agile Value and Influence

- **How does Agile influence your topic area?**

Benefits and Value

Agile supports the evolution of the requirements

Opportunities

Leveraging the experiences of US Digital Service GSA 18F, trade groups (NDIA, ADAPT, INCOSE, ...)

Challenges

Experience and scaling

Economic framework to drive agile prioritization and decentralize decision making.

Defining “just enough” design



Roadmap – Agile Adoption

- **How does your area adapt to Agile?**

Streamlining of acquisition process

Existing process is good enough. Don't need to change the process but expectation.

There will be changes but not a defined template. The SE process will have to change to accommodate Agile.

What do SE Milestones (PDR, CDR,..) look like in Agile?

Incorporate the DT/OT community earlier in the process.

Change management

Needs to be cheaper, more responsive, leverage automation, and be able to handle change in smaller batch sizes.

Do we want everyone to be working on one common baseline?

Customer involvement

Government product owner. To mainstream the using community into the SE process.

Rapid response to requirements

Defer elaboration of the full scope of requirements.



Roadmap – Agile Adoption Continued

- **How does your area adapt to Agile (continued)?**

Contract type, language, and incentives

Give the contractor leeway based on the program.

Dictating CDE, 100% automation, test-driven methodology to be put in a SOW.

A 'tailored for Agile' draft SEP as part of the RFP.

Effects on reporting or reporting requirements (CDRLs, metrics, IMS, etc.).

Balancing "just enough" documentation with the need for a tech baseline or the TDP requirements.

Tailor the metrics for Agile, then contract for Agile metrics.

Risk management

No significant change.

Culture change

Access to experienced Agile coaches.

Want the government involved – heavily.

Increased communication and transparency will help change culture.



Roadmap – Policy and Guidance

- **Should policy or guidance be created or changed?**

Existing policy updates

No policy/guidance updates.

New policy

Minimum set of practices you need to do in order to be ready for Agile.

New guidance

Reconciling incremental Agile s/w development with the DoD Acquisition System (SE tech reviews).



Roadmap – Workforce

- **How should the Government and contractor workforce be trained or introduced to Agile?**

DAU curriculum updates

Needs to include Agile methods and practices. Need a trained workforce.

Service / Contractor / Area-specific training

The total workforce has to be part of the deliberate move to Agile methods.

Other (*specify*)



Roadmap – Way Forward

- **What are the next steps for your area?**

Rank what should be done in order of preference:

- SE working group with experienced SEs.
- DAU / Training Updates
- Agile in DoD second meeting

Should OSD and/or the Services setup an Agile organization?

- **Take advantages what already exists in other agencies/forums.**



Roadmap – Other Topics by Area to Consider

- **Contracting**

- Contract Type
- Incentive Structure
- Contract Deliverables

- **Cost Estimating**

- Software Cost Estimating
- Reporting Structure
- Data Sources

- **Systems Engineering**

- Integrated Master Plan
- Statement of Work vs. Statement of Objectives
- Capability-based vs. Event-based

- **Integrated Program Management**

- EVM Surveillance Compliance
- Management Culture Change
- Risk Management



BACKUPS



Roadmap – Agile Value and Influence

- **How does Agile influence your topic area?**

Benefits and Value

- Delivery value
- Depending on the application can test incrementally.
- Learn faster fail faster.
- Small vs large batch processes.
- Integration test at the earliest possible point.
- React to change. Ability to respond to emerging priorities.
- Risk retirement. Can retire risk in a linear fashion.
- Incremental testing.



Roadmap – Agile Value and Influence

- **How does Agile influence your topic area?**

Opportunities

- Other agencies doing this now. Resources available outside. GSA 18F (charged with helping fed agencies with agile adoptions, DHS (Mark Schwartz), HHS (Mark Nagger) and USDS (Digital Services).
- Our system complexity is increasing. Agile vs traditional method may provide better outcomes.
- Allow for portfolio planning for discovery or a Spike (think AoA). Upfront SE work so you are ready and don't underestimate. Stuff happening in the portfolio level.



Roadmap – Agile Value and Influence

- **How does Agile influence your topic area?**

Challenges

- To find quantified data (DoD space) is extraordinarily difficult.
- Every adaptation is a unique case.
- Problems getting pilot programs to produce metrics.
- Dominated by compliance requirements
- Scalability has not been proven out yet. H/W and S/W integration.
- If we go to agile have we double counted?
- Skimping on SE. Lack of SE at the beginning.
- Not just s/w development.
- Agile is an umbrella term. Many different meanings.
- Amorphous terms (story points...)



Roadmap – Agile Adoption Continued

- **How does your area adapt to Agile (continued)?**

Contract type, language, and incentives

Effects on reporting or reporting requirements (CDRLs, metrics, IMS, etc.)

Risk management

Culture change

- Access to experienced Agile coaches.
- Want the government involved – heavily.