

# **A Discussion on Agile Program Procurement**



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## Introduction

The only thing worse than a “Waterfall” software delivery process is a bad Agile software delivery process. As we have indicated in our previous white paper [“Introducing the Agile Risk Management \(ARM\) Framework”](#), most Agile methodologies falter for a variety of reasons when attempted at scale. To be successful, agile processes require a supportive ecosystem in which to thrive, and an essential component of this ecosystem is the acquisition process. Scaling Agile, especially to Government, requires new thinking about how software services are procured, managed and compensated to maximize the value proposition of iterative software development.

Having managed dozens of projects over a period of 20 years, it is the opinion of the author that there are two basic realities that must be embraced to fully benefit from Agile:

- **“Something has to give”** - Planning is important, but all successful projects leverage opportunities for elasticity, collaboration and resilience.
- **“Sharing is caring”** - Sharing objectives and risk between a vendor and a client usually facilitate “win/win” relationships leading to great software.

This paper will use Veterans Affairs (VA) as an example federal agency and specifically references the recent RFI VA118-16-N-0988 Enterprise Health Management Platform (eHMP). We use this particular RFI as an example because we found it to be extremely well written, honest, and demonstrative of the points we wish to make.

The following is a brief synopsis provided in the RFI:

*“There are two types of challenges that VA has had in realizing the vision of eHMP articulated above: agile development and community collaboration. Utilizing a scaled agile methodology has been extremely advantageous due to this project’s size, scope, and evolution of requirements and priorities. However, the program has **experienced multiple challenges in transitioning to a truly agile model due to restrictions in our previous fixed price acquisition strategy.**”*

Some of the specific challenges discussed included:

- Lack of flexibility amongst various sub-projects to collaborate on requirements and align on a single roadmap or vision.
- Oversight issues in sub-projects leading to excessive autonomy of contractors and relative powerlessness of VA to effect change.
- Shortage of domain experience
- General lack of flexibility to respond iteratively to requirement changes.
- A perception of price padding by contractors to compensate for risk as they deal with the above issues.

VA requested the following guidance from industry:

*“An optimal solution **would remove as much risk from both the government and the vendor as possible while improving flexibility.** This requires a high level of confidence for the government that significant program progress can be achieved; actual software is delivered, implemented in the field, and effectively in use by end users. Additionally an effective acquisition model will **reduce risk to the vendor so that an effective pricing model can be achieved without incorporating a high financial buffer to address a high level of risk.**”*

## **Suggestions to Improve Acquisition for Agile Projects**

In response to VA, and based on other federal projects with which we have been involved, Agile Six recommends the consideration of the following three ideas.

- Objective-Based Procurement
- Elasticity of Scope
- Performance-Based Incentives

We believe that these three concepts together will help address how to best contract, manage and compensate developers for Agile software deliveries.

### **Objective-Based Procurement**

As the example RFI points out, the specific requirements of a program often shift mid-stream, but VA’s ability to redirect its investment to meet those shifting requirements is hampered by rigid contract structures. One commonly cited statistic for agile coaches is that before a Waterfall project is delivered, 60% of the requirements become stale. That 60% of requirements represent a tremendous opportunity to redirect investment. However, because a fixed work scope is traditionally included in a Statement of Work and contracts are structured to pay on delivery of that fixed scope, these contracts do not readily allow for a federal Project Managers to shift priorities – even if the business case demands such a shift. And let’s be honest, we all know that business needs shift. Over the life of a 4- or 5- year contract, it is not uncommon for them to shift dramatically. This is where an objective-based approach can provide much needed flexibility.

Agile Six recommends that the Government consider contracting Agile developers to focus on the problem to be solved, rather than directing efforts to implement a solution that has been thoroughly documented in a Statement of Work (SOW). Problems, especially when they are described at a sufficiently high level of abstraction, are likely to be much more enduring than any particular set of solutions envisioned solving them. Put another way, over a 4-5 year span, the solution space is likely to evolve dramatically to a given problem, as technology

and capacity continue to evolve at the break-neck speed described by Moore's Law.

To this end, the SOW should be replaced with a Statement of Objectives (SOO). The SOO should provide the Government's overall objective(s), which serve the same purpose as a SOW (measure contract fulfillment), but allow for the shifting of the optimal solution space, as well as real life priorities, over the life of the contract. This concept and approach was introduced with the 1996 Preparation of Statement of Work Handbook[2] to support the underlying acquisition reform goals of "better, faster, cheaper" by allowing offerors maximum freedom to achieving the government objectives. This approach can be a means of furthering Acquisition Reform Strategies, such as Use of Performance Based Requirements, Use of Commercial Practices, and Reduced Cost of Ownership.

For this to work, the SOO should be well written to achieve the objectives of an Outcomes-Based contract. But this should be easier than the traditional SOW, which gets bogged down in potentially non-optimal, and/or obsolete solution details that really should be left to the execution team to create and develop iteratively after project kickoff. Outcome-based contracts are contracts in which the Government pays for a pre-agreed "outcomes" rather than specific deliveries (i.e. products). This model has been adopted internationally for public sector purchases for many years and most prevalently in the United States healthcare industry where it is expected to save a trillion dollars over the next decade according to the McKinsey & Company report "The Trillion Dollar Prize". (<http://healthcare.mckinsey.com/sites/default/files/the-trillion-dollar-prize.pdf>.)

#### Traditional model vs. Outcome Based

Traditional Model	Outcome Based
Command and control focused	Collaboration Focused
Inputs and Process Based	Outputs and Results Based
Driven to minimize price	Driven to maximize real value

An outcomes-based approach incentivizes a business or vendor to deliver results rather than defined activities or products. The focus becomes the desired output and maximizing value to both the Government and vendor, which requires a great deal more collaboration. In line with traditional Agile values, the service buyer determines the "what" (i.e. what is the problem or objective) and the service provider determines the how (i.e. what is the best solution to solve that problem or objective). This creates a **shared-risk and shared-control model**.

Key to this model are the following characteristics:

1. A mutual focus on outcomes rather than deliverables per se
2. Measurable standards that are tied to those outcomes
3. A pricing model that shares both risk and reward

## Elasticity of Scope - Development Capacity as a Service (DCaaS)

The development of the service model has revolutionized the business and technology landscape by dramatically breaking down barriers to entry, fostering the ability to try out new ideas quickly and cheaply, and rapidly accelerating the pace of innovation. We believe that the same fundamental drivers – and capacity for innovation – behind such paradigms as Software as a Service (SaaS) and Platform as a Service (Paas) can lend themselves to the business case for how we buy and sell Agile services – that is Development Capacity as a Service (DCaaS).

Much like these models, we want to extend the notion of Development as a Service to more fully embrace the notion of on-demand elastic capacity of other XaaS models. The facts on the ground of any project often indicate “something has to give”. Our assertion is that requirements are best suited to give and elasticity of scope is advantageous to the end user. Therefore, as illustrated in the following table it is better to embrace scope elasticity.

### Traditional model vs. Outcome Based

Traditional Model	Outcome Based
Fixed Scope	Elastic Scope (at users benefit)
Fixed Time	Fixed Time
Elastic Cost (let's be honest)	Fixed Cost
Elastic Resources (at the vendors expense)	Fixed Resources
Quality is defined as fulfilled requirements	Quality is defined as fulfilled objectives

In our view, the current development service model results in resource inefficiency and disruption: development teams are spun up around well-defined projects, and then de-commissioned as the projects are completed. The projects themselves often have fairly large swings in the need for particular kinds of resources. This is especially true in government projects, where approval gateways put heavy constraints on kinds of resources that can be used before and after the approval has been granted.

We believe that the best way for the Government and vendors to appropriately share risk under an Agile Development framework is to move away from a Fixed Firm Price/ Fixed Firm Scope system altogether, and instead move towards a model where Government buys fixed capacity in advance from a company (i.e. a team of a fixed size) and then assigns that team with tasks as projects arise.

Similar to XaaS models, an elastic scope and fixed capacity model (DCaaS) provides the ability to quickly procure and provision a capability, the ability to share the investment with other projects and to scale it to real demand as requirements shift.

The value of agile development is in its ability to quickly provide incremental software deliverables, coupled with testing and user feedback, to guide development efforts in real-time. Product evolution occurs as user stories are defined and tested, leading to new and important requirements that were not initially conceived while making other requirements that were once thought vital, obsolete. Attempting to mirror this process through contract modifications will unfortunately (but necessarily) slow development cycles and limit the effectiveness of agile implementation. To alleviate that problem, agile deliverables should be focused on logical outputs of the process, rather than on specific details of development.

In the agile community, we often focus on the metric of team velocity. In fact, most everything we do in our agile ceremonies (Agile speak for meetings), revolves around maximizing value for the Product Owner (the person who pays our bills) by improving both Velocity (how fast we move) and Efficacy (what we are moving). In the waterfall world, we would design the team for the project, then work diligently to build team efficacy and velocity and eventually tear the team apart and begin again. It is a widely held tenet of Agile that stable teams (i.e. low turnover) produce the highest velocity, and new work should be sent to those 'old' teams instead of spinning up new teams to tackle new work. The idea is to feed the work to the team, not the team to the work. As long as the team capabilities are appropriate to the task, we find that velocity and efficacy are exponentially improved when teams are left to improve. Like a professional sports team, this depends greatly on the investment in team dynamics.

The specifics of a "DCaaS" approach can be discussed at length and we welcome that discussion based on the particular case and agency. Our recommendation to VA regarding the referenced RFI involved the purchase of team capacity in the units of Sprint Cycles. A detailed discussion would have to include some supporting concepts from Agile including the use of "Epics", "Story Points", and "Definition of Done" to describe how we measure our objectives, which would be listed in our SOO. We won't get into that level of detail here but suffice it to say, there are agile units that help to accomplish the clear definition of objectives.

For example, if the Government was purchasing a portal management function they would be able to describe the make-up of the team they will need (i.e. 3 programmers a designer and a QA tech) just as easily as they can describe the problem or objective. A typical portal team should be challenged with an objective that might look something like this: "As a federal agency, I want my

portal to remain available 24x7, to be user-centric, and to incorporate functions X, Y and Z". Epics and User Stories would support this objective. In this case the agile services vendor can offer up a team that is sized to meet those objectives.

## Performance Based Incentives

The referenced RFI from earlier in this document requested a shared risk model in order to relieve both the Government and the vendor of unnecessary risk and thus provide maximum value and flexibility. Key to any such arrangement are performance based incentives. The FAR has several vehicles for such incentives, so it should be considered that we are trying to positively distribute both the risk and the reward, with the ultimate goal being a shared objective.

Although Performance Based Payments (PBPs) have been authorized for use as a type of customary contract financing since 1996, most contracting and acquisition professionals are not familiar with the steps necessary to create an effective PBP arrangement [5]. Unlike progress payments, which are incorporated by simply including the appropriate clause, PBPs require considerable thought and effort on both sides to construct the detailed PBP arrangement that will be documented in a special provision in the contract.

Performance-based service contracting (PBSC) emphasizes that all aspects of an acquisition be structured around the purpose of the work to be performed, as opposed to the manner in which the work is to be performed (ie broad, imprecise statements of work which preclude an objective assessment of contractor performance). PBSC is designed to ensure that contractors are given freedom to determine how to meet the Government's performance objectives, which appropriate performance quality levels are achieved, and that payment is made only for services that meet these levels.

As an Agile services supplier to the public sector, we actively advocate for accountability in how we and our competitors are compensated. As we are not professional procurement officers, we have provided resources below to help (under references & resources at the end of this paper). However, we do wish to provide the following suggestions:

- Risk should be shared openly between the vendor and the Government (see our previous [white paper on Agile Risk Management](#)).
- Objectives should be clear and measurably defined formally in the SOO.
- Pricing should focus on total value delivered as opposed to an hourly labor cost. Great teams and great people can deliver exponentially better outcomes.
- Government should buy teams for a fixed period of time (9 months to one year) and continue to feed that team with new work for the duration of that time.

- Government should feel free to change, alter, modify or even outright replace work required of the team to the team when it becomes clear that current or previously defined objectives are stale, outdated, or irrelevant.
- Government should evaluate contractor performance at least twice per year. Good performance ratings will mean that new work will continue to be fed to the team. Poor or unacceptable ratings mean that the team is in danger of being 'cut' or defunded. This is shared risk.
- We recommend stretch objectives with stretch payments in order to share the risk-reward and create mutual objectives.
- Check out the USDS publication on this topic "The TechFAR Handbook [6] for Procuring Digital Services Using Agile Processes"



## About Agile Six Applications

Agile Six Applications, Inc. was established to serve those who have bravely served our country. We are passionate about our mission *to improve the lives of veterans and their families by delivering world-class software solutions*. Our collaborative and highly transparent Agile development process invites users and program representatives to participate in the development process, and results in better solutions, delivered more quickly, at a lower overall cost. Our firm was founded in 2014 by former executives from the federal and commercial space (i.e. DefenseWeb & Amazon) in direct response to the formation of the US Digital Services where “America’s most capable problem solvers are striving to make critical services — like Healthcare, student loans, and Veterans’ benefits — as simple as buying a book online”. As such, we actively promote the tenets of the CIO Playbook:

### Digital Service Plays [4]

1. Understand what people need
2. Address the whole experience, from start to finish
3. Make it simple and intuitive
4. Build the service using agile and iterative practices
5. Structure budgets and contracts to support delivery
6. Assign one leader and hold that person accountable
7. Bring in experienced teams
8. Choose a modern technology stack
9. Deploy in a flexible hosting environment
10. Automate testing and deployments
11. Manage security and privacy through reusable processes
12. Use data to drive decisions
13. Default to open

Please visit [www.agile6.com](http://www.agile6.com) for more information.

## About Robert Rasmussen

Robert is a proud Navy Veteran who has delivered multi-million dollar programs in several countries in the fields of Telecommunications, IT and Enterprise Software. Robert is a certified Project Management Professional (PMP), Scrum Certified Professional (CSP), Certified Scrum Master (CSM) and Certified Scrum Product Owner (CSPO). Robert is President and CEO of Agile Six Applications, Inc.



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### References & Resources

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1. *["Systems Engineering Fundamentals, 19-A Statement of Objectives \(SOO\)"](#)*
2. *["MIL-HDBK-245D Handbook for Preparation of Statement of Work \(SOW\), para 1.3"](#)*
3. *["Guidance for the Development of Statement of Objectives \(SOO\)"](#)*
4. *["US Digital Services Playbook"](#)*
5. *["Performance Based Payment Guide" \(DoD\)](#)*
6. [https://github.com/usds/playbook/blob/gh-pages/\\_includes/techfar-online.md](https://github.com/usds/playbook/blob/gh-pages/_includes/techfar-online.md)