

Embracing Change: An Agile Approach to Improving Federal Software Delivery

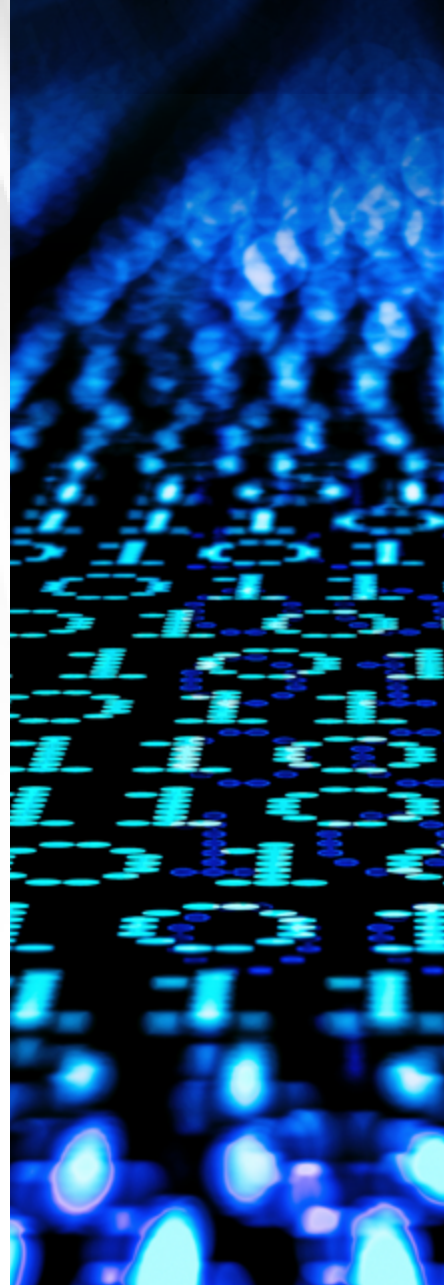
Federal IT departments looking to boost efficiency should clear the decks of cumbersome practices that slow progress and inhibit innovation by modernizing around Agile principles.

Federal IT departments must respond to the accelerating pace of global change, as well as to major disruptors, including wars, new regulations, pandemics, and natural disasters that are far beyond your control. Keeping pace with the demands of modern leaders and constituents requires a fresh approach, one which emphasizes faster turnaround and more consistently measurable results than ever before.

Historically, federal agencies have been incentivized to follow rigid, sequential organizational practices that emphasize long planning and involve disparate stakeholders each erecting their own checkpoints. The end result came to be known as the waterfall development and delivery process. Requirements flow to resources and resources labor until the product is pushed live in a single, momentous delivery. This practice is no longer reliable or efficient for software or digital solutions, because as disruptors enter the market, the waterfall development process does not adapt to change quickly enough. Waterfall's long, arduous workflow cannot keep pace with now-constant demands for course correction on both a micro and macro level. To meet modern business demands, software must be more Agile in how solutions are designed, developed, and released.

Modern software development practices including low code, web services, and DevSecOps all require Agile process support to maximize their benefits. These processes demand rapid delivery, small incremental changes, and continuous feedback that is impaired by slow waterfall processes and monolithic deliveries.

Agile itself is a mindset. When talking about adopting Agile within a development team or enterprise, this mindset or culture can be paired with a range of frameworks such as Scrum and Kanban for individual teams, or Scaled Agile Framework (SAFe) when trying to scale across an enterprise or large-scale solution. These frameworks instill modern delivery and design techniques that remove the barrier between development and deployment. According to Digital.ai's 2021 "State of Agile Report," 94% of companies practice Agile in some form, 65% have done so for at least three years, and a majority practice the discipline across most or all teams. Leading global enterprises, including Amazon, Capital One, Microsoft, and Google, all extensively rely on Agile. Award-winning federal programs, such as FEMA's NFIP Pivot and the Air Force's CON-IT, have worked with Guidehouse on Agile modernization as well.



Motivations for Change

Moving away from waterfall processes may seem risky at first because the methodology has become so entrenched in IT development's rise. But clinging to the waterfall process isn't a conservative call — it's a wasteful one. Waterfall's compartmentalized model lengthens development time and consumes more resources than Agile practices do. The waterfall approach also disguises most of the problems and bugs in a system until general release. This makes bug fixes and course corrections many times more expensive than Agile, which emphasizes rapid cycles of improvement and testing that overlap with development rather than follow it.

Using Agile principles and the ServiceNow low-code platform, Guidehouse worked with the Department of Health and Human Services' Grant Solutions team to respond to COVID relief grant requests just seven weeks after the program's inception. This turnaround time was only possible because the Agile delivery model emphasized incremental development, conducted in *one-week sprints* that combined requirements, development, testing, and enhancements in the same step.

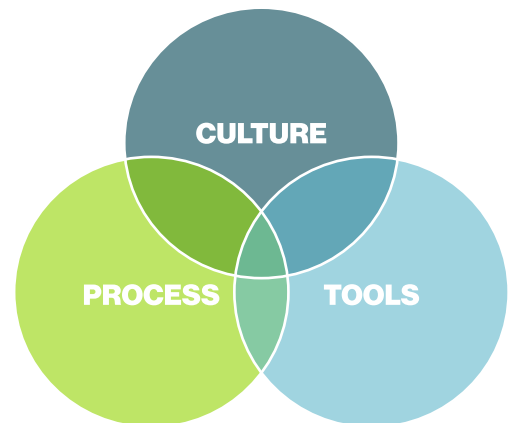
Removing barriers between functional disciplines empowers teams to release software faster and at higher quality, because the incremental testing and prototype releases expose liabilities or errors much earlier. If a bug cannot be addressed during the sprint in which it is discovered, it is carried forward as technical debt that must be addressed in the next sprint, ensuring accountability and visibility for lingering issues. Agile encourages the formation of spontaneous, cross-trained, and self-organized teams, favoring results over silos and organizational protocols.

Agile is a key to maximizing value for any application development process, and is foundational for modern DevSecOps and LowCode methodologies. Leveraging the plethora of existing prebuilt components, web services and platforms accelerates the time to value by reducing both lead and lag time provided Agile methodologies are used. By combining modern Agile and DevSecOps principles, federal organizations can design, develop, test, and release at a rapid cadence, while drastically improving product quality. As a vital component of DevSecOps, continuous integration and continuous delivery (CI/CD) pipelines are driven by web services and automation. To adequately reflect progress towards defined organizational value, a single source of truth (an Agile dashboard) is used to track status at multiple levels (epic/feature, sprint, product) and highlight identified risks and tasks (bugs or enhancements).

Paving Your Path Forward with Agile

When considering Agile practices, it's natural to encounter resistance and bumps in the road. Stay focused on the positives by embracing the advantages below:

Agile is disciplined. Agile flattens hierarchies in a productive and outcome-driven fashion. An effective Agile practice consistently delivers quality software that exceeds customer expectations through defined processes that are flexible enough to adapt rapidly to change. This is accomplished based on three key pillars: Culture, Process, and Tools.



Agile reduces complexity. Federal agencies are tasked with solving complicated real-world problems in an ever-changing landscape, often with incomplete information. Waterfall only excels when the problem and solution are well understood, which is rarely the case in the digital world. Agile's flexibility allows for solutions to pivot and rapidly deliver as new information is discovered.

Small-scale Agile trials minimize risk and can scale. Agile can be proven in stages. Agile practices don't need to be viewed through a waterfall, all-or-nothing lens. By starting small and developing meaningful minimum viable products (MVPs), agencies can minimize risk through incremental trial and error. Testing, proving, and even disproving digital hypotheses will provide avenues of success and learning while growing more widespread adoption.

Agile is compatible with long-term thinking. Agile's emphasis on speed is sometimes mistaken for being a solely short-term mindset. The reality is that Agile sets the stage for the kinds of continuous improvements necessary in the 21st century. By promoting communication, documentation, and careful observation of requirements, Agile development is easier than waterfall code to pick up and improve upon at a later date, even after the original contributors have moved on. The need for longer term strategic planning and high-level goal setting is addressed by the Agile practice of a Program Increment (PI) Planning session every 10 - 14 weeks.

Conclusion

A partner steeped in Agile practices, like Guidehouse, will maximize your agency's transformation from inefficient and aging waterfall practices to realize a faster process and higher-quality product through an Agile mindset and practices.

Contact Guidehouse to schedule a complimentary digital process improvement consultation, and to learn more about Agile transformation and optimization services.

Contacts

Jerry Eshbaugh

Director, Low Code/No Code

jerry.eshbaugh@guidehouse.com

Andrew Fraser

Director, Experience Transformation

afraser@guidehouse.com

About Guidehouse

Guidehouse is a leading global provider of consulting services to the public sector and commercial markets, with broad capabilities in management, technology, and risk consulting. By combining our public and private sector expertise, we help clients address their most complex challenges and navigate significant regulatory pressures focusing on transformational change, business resiliency, and technology-driven innovation. Across a range of advisory, consulting, outsourcing, and digital services, we create scalable, innovative solutions that help our clients outwit complexity and position them for future growth and success. The company has more than 16,500 professionals in over 55 locations globally. Guidehouse is a Veritas Capital portfolio company, led by seasoned professionals with proven and diverse expertise in traditional and emerging technologies, markets, and agenda-setting issues driving national and global economies. For more information, please visit: www.guidehouse.com.