



## WHITE PAPER

# SAFe for Government – Lean-Agile and DevOps Approach

*Summary of Roundtable, hosted by ATARC on November 9, 2021*

During a recent roundtable hosted by the Advanced Technology Academic Research Center (ATARC), technology professionals from various Federal government agencies discussed successes and challenges of Agile, DevOps, and Scaled-Agile Framework (SAFe) practices and philosophies. Conversation centered on defining the SAFe framework, the differences in various practices, the challenges of implementing consistent frameworks across and within Federal agencies, and some success agencies have realized from implementing SAFe.

## SAFe as a Framework

A set of principles, structures, and relationships that provide oversight and facilitate coordination among different practices, including Agile and DevOps, at the enterprise level.

## What is SAFe?

While some roundtable participants had not heard of the SAFe framework, they embraced the concept. Others had not only heard of the SAFe methodology, but currently implement SAFe practices for large scale objectives such as digitizing online forms for an entire agency. Those familiar with SAFe defined the framework as a set of principles, structures, and relationships that provide oversight and facilitate coordination among different practices, including Agile and DevOps, at the enterprise level. While Agile increased the speed of delivery for developers, operations teams were unable to keep up with the pace of development, resulting in production delays.

SAFe was created to ensure all disciplines remain in-sync and on track with delivery.

Panelists noted that these methodologies are not specific to development and can be utilized with other disciplines. These frameworks can also be used with the implementation of Software as a Service (SaaS) applications that require low-code or no-code development. Even low-code solutions require a certain amount of development on the backend to ensure continuous delivery, so DevOps, Agile and SAFe processes may still apply just with fewer components.

The benefit of using the Scaled-Agile Framework (SAFe) compared to other large-scale philosophies such as Large-Scale Scrum (LeSS) is that SAFe does not prescribe teams to utilize a certain practice and it can be scaled to include hundreds of teams. LeSS scales only scrum beyond a single team and is best utilized if all teams are familiar with scrum. SAFe allows for the complexity within the teams to remain while providing structure, accountability, and oversight through use of defined roles and responsibilities and the standardization of processes.

## Challenges to Implementing SAFe

Roundtable participants discussed several challenges with implementing consistent methodologies within an agency. Panelists agree that many Federal agencies operate in siloed departments that use different processes and methodologies. There are often separate divisions dedicated to operations, another to security, and development, each implementing a different methodology. The lack of consistency in practices creates issues with timing, production schedules, and decision-

making, which makes large scale changes and modernization complicated and inefficient.

With differing priorities, departments may move forward with disparate updates and changes with their own tools without combining efforts with other divisions. These siloed efforts limit the re-use across programs, limits knowledge transfers, potentially wastes taxpayer dollars, and has ramifications to risk management frameworks (RMF). RMF packages are based on the methods and tools used by developers and therefore cannot be shared if the methods and tools differ across programs.

Organizational culture is a contributing challenge to siloed decision-making in some Federal agencies. The mission of some agencies emphasizes the importance of current operations rather than a more forward-thinking approach. Leaders are often reticent to implement new methods. DevOps and Agile are philosophies that are seeded in an organization's culture and exist throughout the organization from top to bottom. Changes to processes and methodologies require the buy-in from not only developers, but also leaders throughout the organization.

An additional challenge to consistently implement SAFe frameworks is the lack of flexibility the government often has with contracted development work. Federal agencies utilize contracted developers, who use their own tools and methodologies. The government cannot easily dictate the processes of contractors, which makes implementing a standard methodology across all programs challenging.

Additionally, the use of some frameworks may not be the best or appropriate method for all agencies. Requiring an agency to adopt a certain framework may create subsequent inefficiencies. It is upon the individual agency to first understand the business problem to be solved, where bottlenecking is occurring, and where efficiencies can be gained before determining what aspects of a framework are needed. Likewise, not all parts of the framework need to be utilized, especially for smaller agencies that do not have the resources of a large organization.

## Current Successes and Future Potential of SAFe

Some roundtable participants had successfully implemented the SAFe framework throughout their agency and overcame hurdles through the use of strong contract language, clear and easy-to-follow processes, and the adoption of technology to encourage open dialogue and information sharing.

### Ingredients for Success

- ❖ Establish contracts and funding in a domain design format, to enable across-contract mobility
- ❖ Standardize terminology and tagging methods
- ❖ Create working groups within and across agencies to promote collaboration and information sharing
- ❖ Designate information brokers to tie disparate groups together and facilitate collaboration
- ❖ Create of comprehensive guidebooks at the unit level to give contractors detailed instructions

One of the challenges with implementing a standard framework among both in-house and contracted developers was the inability to move contractors from one project or team to another due to the way contracts are written. One solution is to structure contracts and funding in a domain design format, which allows contractors to more easily move from one project to another. Preferred methodologies, processes, and structure, rather than explicit tools, are also embedded into contracts, setting guardrails and expectations with contractors. Information Security Officers (ISOs) are also embedded into development teams to ensure security is involved at the onset of a project.

Standardizing terminology and tagging methods results in easy reporting and accessibility of information to all. Storing and managing data in an open data platform allows the entire organization to view and utilize the same information. Decision-making thereby becomes more

efficient when performance metrics are easily accessible by all.

Those agencies still working to modernize and standardize frameworks discussed ways to increase visibility of new methodologies across and within agencies. One such tactic is to create working groups within and across Federal agencies to promote collaboration and information sharing in order to increase visibility of the challenges and opportunities agencies are facing. However, collaboration often depends on organizational culture, team size, and the methodologies historically utilized and preferred by an organization. Some organizations are “born” agile, while others digital. Likewise, some organizations cannot scale or operate in the same way as others, making relevant information sharing more challenging. Panelists agree that there is a level of visibility and collaboration among practitioners that typically does not scale up to leadership.

The imagined working groups may consist of several people from each department and unit. A larger strategy or framework set by either the department leaders, or even another Federal agency, can create a roadmap for units to plan their programs. Leader developed strategies that practitioners would follow could create consistent processes, common language, and best practices. This consistency among units, within departments, and across agencies would allow for employees to more easily transfer units, creating more career opportunities within an organization.

Roundtable participants also discussed the concept of designating information brokers to tie disparate groups together and facilitate collaboration. It was noted that some sub-agencies have problems getting in touch with their own agency heads, which makes obtaining buy-in for modernization more difficult. While some Federal guidance regarding best practices is available, the guidance is largely geared towards large public agencies that have the ability to scale and may not be as applicable to smaller agencies with fewer resources.

Often smaller agencies need more support and a different set of guidance, because basic resources and business issues have not been adequately addressed. These agencies must first prioritize basic aspects of IT management delivery and security before they can implement Agile and other frameworks.

Also discussed was the creation of comprehensive guidebooks at the unit level intended to give contractors detailed instructions on how to get a product from development to production. The guidance would act similarly to the guardrails established in contracts, but elaborate on the agency’s technology abilities, structure, requirements, and processes.

## Looking Ahead

As cloud architecture advances and automation becomes a standard business practice, government agencies must be able to marry Agile or SAFe frameworks with strategy of execution. Understanding how aspects of development, security, and operations work together in concert to achieve modernization is critical. As such, a shift in organizational culture to encourage collaboration among Federal agencies and within an organization is needed for advancement to occur. The SAFe framework is best utilized when incorporated into a larger forward-thinking strategy that all agencies support. There is a spectrum of maturity to using large scale frameworks, so it is critical that fundamental business practices are in place before adopting transformational initiatives like SAFe.

## How ATARC Can Help

ATARC is a nonprofit organization with the goal of bringing industry, academia, and the public sector together to drive outcomes. We have extensive experience in hosting guest speakers and enabling knowledge exchange to uplevel the skills of existing staff as well as in facilitating the sharing of best practices across teams and providing safe environments for experimentation. We would love to partner with your organization to support your mission.

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