

Recent News—Agile in the DoD

The U.S. GAO states 85% of major U.S. DoD programs use Agile practices for software development. GAO pushing DoD to mandate more agile practices (DoD pushing back). DoD has not legislated software frameworks for 30 years (i.e., allows suppliers to choose). U.S. Air Force banned some agile frameworks as too slow (while favoring newer and faster approaches such as DevOps). U.S. Air Force jets are not engineered for wireless software updates (so it's the older jet electronics that slow them down not frameworks). The GAO is not pushing civilian agencies to adopt agile practices (and some believe GAO supports older, slower traditional practices). The bigger problem is Agile practices are considered software development approaches (i.e., everyone missing "Business Agility"). Agile is a general workflow management system. The other major problem is that today's executives are "bored" with Agile methods and are on the lookout for any shiny new toy promising a shorter-term competitive advantage. Agile naysayers abound ...

Why GAO Did This Study

Congress included a provision in statute for GAO to examine DOD's software modernization efforts. This report assesses the extent to which DOD has (1) policy and guidance that establish requirements processes to support the use of Agile software development in weapon programs; (2) policy and guidance to provide direction for overseeing Agile software development in weapon programs; and (3) enabled program adoption of modern engineering tools for Agile. GAO reviewed DOD's software acquisition and requirements policies and guidance, and GAO's leading practices in Agile and iterative development. GAO selected a nongeneralizable sample of five weapon programs based on their use of Agile, and other factors. GAO also interviewed relevant DOD officials, program officials, and user representatives.

What GAO Recommends

GAO is making three recommendations to DOD, including that for all programs using Agile for software development, DOD incorporate Agile principles into policies and guidance used for requirements processes as well as oversight; and that DOD establish an overarching plan—and identify resources—to enable the adoption of modern engineering tools across programs. DOD partially concurred with all three recommendations and identified some planned actions that would address elements of the recommendations. However, GAO noted additional steps DOD needs to take to fully address the recommendations.

[Defense Software Acquisitions: Changes to Requirements, Oversight, and Tools Needed for Weapon Programs](#) (GAO-23-105867) ← [New GAO Report](#)

DOD reported that 49 programs were using the software acquisition pathway as of May 2023. Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)) officials stated that the majority of these programs are weapon programs that transitioned to the software pathway from other pathways. However, the use of Agile is not limited to programs using the software pathway. Data collected as part of our 2023 weapon systems annual assessment showed that 44 of 52 programs reported using Agile or other modern software development approaches on other pathways.¹⁹ These programs are developing or modernizing major capabilities including a strategic bomber, fighter aircraft, uncrewed surveillance aircraft, helicopters, Navy destroyers, and other types of capabilities. **85% of Major DoD programs currently apply agile practices**

[Defense Software Acquisitions: Changes to Requirements, Oversight, and Tools Needed for Weapon Programs](#) (GAO-23-105867)

[Report to Congress: Weapon Systems Annual Assessment](#) (GAO-23-106059)

The department has been undergoing a modernisation strategy for more readily deployable, or 'Agile' software'. Since 2020, the DoD established six acquisition pathways – or sets of policy and guidance – that are tailored to the type of capabilities being acquired. The department requires programmes on its software pathway to use requirements processes tailored to support this 'Agile' development'.

'Agile' is intended to deliver working software to users in less than a year and add capability iteratively based on user needs. In contrast, the DoD's earlier acquisition model, known as its 'waterfall approach', could take over ten years to deliver software and involves greater risk.

However, the requirement processes used by weapon programmes developing software on a different pathway generally do not incorporate the Agile principles. By not incorporating Agile principles into requirements processes, these programmes risk developing capabilities that may not reflect changing user needs or threats.

This neglect comes down to DoD failing to issue corresponding guidance for weapon programmes using Agile software development on other pathways. As a result, programmes on other acquisition pathways, such as those developing new aircraft or ships, may not be positioned to conduct effective oversight of iteratively delivered software capabilities.

[US DoD must stop neglecting 'Agile software development'](#)

The Defense Department has told the Government Accountability Office it will consider tailoring some of its acquisition pathways to account for "agile" software development after a GAO report found that DOD lacks policy guidance in that area. The report, done at the behest of Congress, found that although DOD has included software in one of the six acquisition pathways it established in 2020, the department has not incorporated agile software development principles. Agile development is intended to deliver working...

[DOD to consider agile software updates after critical GAO findings](#)

The report makes three vital recommendations for the DoD to be up to date with its implementation of **Agile** capabilities, which include the following:

- The Secretary of Defense should ensure that the Under Secretary of Defense for Acquisition and Sustainment and the Chairman of the Joint Chiefs of Staff collaborate to incorporate **Agile** principles into requirements policy and guidance for all programs using **Agile** for software development;
- The Secretary of Defense should ensure that the Under Secretary of Defense for Acquisition and Sustainment incorporate oversight of **Agile** development of software into acquisition policy and guidance for all programs using **Agile**. This should include the use of metrics, including outcome-based metrics, and continually assessing the value of capability delivered to support iterative software development;
- The Secretary of Defense should ensure that the Under Secretary of Defense for Research and Engineering, with the input of the military departments, establishes an overarching plan – which identifies associated resources – to enable the adoption of modern engineering tools, across all programs.

[GAO: DoD Falling Behind on Agile Software Development](#)

The Defense Department is making progress in becoming more **agile**, and leaders are driving change, Deputy Defense Secretary Kathleen Hicks told the Defense Writers' Group today.

She said programs like the "replicator" initiative are the future for the department. The idea is to speed programs from basic research to fielded, military capabilities. Replicator will begin with all-domain, "attributable" autonomy to help overcome China's advantage in mass. China has more ships, more missiles and more forces than the United States. Replicator will focus on fielding thousands of self-piloting ships and uncrewed aircraft within the next two years.

[Hicks: DOD Is Becoming More Agile](#)

Speaking at the AFCEA Air Force IT day earlier this month, acting Undersecretary of the Air Force Kristyn Jones laid out key areas that will be “most consequential” to restructuring, transforming and preparing the service for a potential conflict. Those areas include everything from reevaluating how the service recruits and retains its talent to improving sustainment and logistics, to advancing its IT capabilities.

“This is an enterprise wide effort and we’re examining all aspects of our organization and processes, and all areas that contribute to our warfighting capability and capacity,” Jones said.

“To guide these efforts, we’ve grounded ourselves in several attributes that we must embody to achieve success in the current and future strategic environment. These include, among others, strong organizational alignment, a focus on enterprise solutions, deliberate integration, and aligned and focused workforce, **agile** and adaptive processes, and resilient, survivable and sustainable capabilities,” she continued.

[Path to modernization is well defined, now Air Force has to ‘follow through’](#)

DHS’ move to **agile development to buoy customer experience too**

No. 10 on the countdown sums up the year on Ask the CIO in many ways. Large agency (DHS), a CIO who doesn’t speak publicly too often (Eric Hysen) and a hot topic (DevSecOps/CX) all came together in this interview. What stood out to me in these interviews, the second half of the show where I talked to Dana Chisnell, the executive director for customer experience at DHS, about the concrete steps the agency is taking to institutionalize customer experience across all parts and using technology and data to help that effort.

[People, agencies, not topics drove the CIO discussions in 2023](#)

Army is transforming software development and acquisition

Gabe Camarillo, undersecretary of the Army, said they are ready to [release new policies](#) in 2024 that will “fundamentally reshape the landscape” of acquisition and software development.

— [Read more: Defense](#)

Service leaders are turning lessons learned from its 11 software pathway pilots into new development and acquisition policies that are supposed to standardize and accelerate the processes for managing and maintaining software.

“There’s a couple of things that we’re looking at in that space. One of which is making sure that we formalized and standardized the way that we do those requirements for software development programs. Obviously going more to a CI/CD approach and a more generalized description [of what we want]. Another approach is changing the way we do test and [evaluation for our software programs](#). There’s a lot of contractor vendor testing that we can utilize, and we can train our tests and evaluation workforce to utilize that without having to recreate it,” Camarillo said at the recent AUSA conference.

The enterprise business systems convergence initiative was one of the first programs in the Army to apply the [agile](#) and DevSecOps approach. The Army’s CIO, Leo Garciga, who is involved in the software modernization efforts, recently [signed a memo](#) outlining standards for software containers.

[Addressing cyber shortages and going after zero trust: Pentagon’s efforts to modernize its forces](#)