



CONNECTING THE DATA: API-led Integration Is Key to DOD's Data Strategy



As defense agencies look to implement the recommendations outlined in the DOD data strategy, they will need to change several existing IT processes. Among those changes: the adoption of an API-led, hybrid integration strategy.

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On September 30, the Defense Department released its long-awaited data strategy, detailing how DOD and its partners plan to use data to advance national defense. The document addresses challenges within the DOD and offers actionable insight to help the DOD become a data-centric organization. While the recommendations themselves are relatively straightforward, the road to implementation will require defense agencies to make a number of changes to their existing IT processes and data architecture.

Among these changes is the adoption of an API-led, hybrid integration strategy, says Floyd West, Vice President, DOD at Software AG Government Solutions.

But West, who has worked in the IT space for more than twenty years, is well aware that while the term API might get thrown around a lot, the definition might be foreign to some.

"In the simplest of terms, an API is a description of a technical contract. It's a simple interface that describes the data being accessed and how you access it," he says.

But he warns that agencies need to consider more than just adopting APIs. "That's only one side of the equation," he says.

The other piece of the puzzle is figuring out how to access that data, particularly across fragmented systems and data sources. A lot of that comes down to system integration.

An API-led integration strategy "includes things like connectivity to other systems, [and the ability to] easily access those systems," says Software AG Government Solutions Principal Systems Engineer Scott Guenther.

For instance, if an agency uses a mainframe computer to store its data, an API management platform might help users manage access to the API, but the ability to implement the API by abstracting the complexities of connecting to, and executing the underlying logic on the mainframe is where a hybrid integration platform shines.

Leveraging an integration strategy can also ensure connectivity between disparate data sources. Because its data resides in

a number of different places, including legacy systems, this concept of interoperability is a key priority for the Defense Department. "You've got a myriad of data sources that might be structured, unstructured and crossing a myriad of different types of systems," West says. "So that's the first problem when it comes to accessing or retrieving data. Many of these systems were not designed with data interoperability in mind."

However, the DOD is beginning to move away from these legacy systems. In fact, the 2021 White House budget supports efforts to divest in legacy IT systems and instead directs spending toward IT modernization. That's another reason an API-led integration approach is so important: It is built to address data access and interoperability challenges that may arise in the future.

Applying a Policy-Driven Approach

While creating APIs as the common access layer to enterprise data is a good place to start, it lacks the enterprise capabilities necessary to meet the full vision and strategy of the DOD. Not all APIs are created equal, and many are built using different types of software and technologies, by staff with different abilities and expertise. That means agencies must employ an enterprise unification layer to maintain consistency and meet the DOD's remaining guidelines.

To make this data discoverable across these various systems and environments, West recommends a catalogued approach that shows users what APIs are available and how to access and interact with the data. There are a number of services that must be developed to support an API. Third party applications might not offer these services or implement them in the same way as other service providers. By leveraging a single platform to unify these various systems and applications, DOD agencies can ensure they are armed with the consistency, flexibility and agility they need to comply with the data strategy's guidance.

Today, with service members stationed around the globe and a growing number of staff members working remotely, these security frameworks are becoming more important than ever. For example, several organizations have adopted a Zero Trust security framework, requiring users both inside and outside the network to undergo authentication before they can gain access.

A Flexible, Scalable Data Integration Strategy

As the largest U.S. government agency, the DOD has no shortage of data. This wealth of information can be both a setback and an opportunity. While vast amounts of data can lack structure, they also have the power to help users make informed decisions – that is, when managed effectively.

“DOD agencies need the ability to handle a lot of concurrent users who are accessing those datasets at the same time,” West said.

The Navy’s Enterprise Resource Planning program, for instance, experienced these challenges firsthand. As the Naval organization responsible for providing financial and budgetary management for all of the Navy systems commands, its staff had to sift through seemingly endless columns of data every day. That’s because the organization’s information lived in more than 60 different systems, making it difficult for users to draw valuable insights.

To streamline business operations, Navy ERP adopted an API-led hybrid integration strategy and solution. The organization transitioned from several disparate systems to a single, integrated platform. Not only did this make the process of data collection and analysis easier for staff by making data more secure and accessible across the enterprise, it also reduced inventory management costs by over \$100M a year.

For many offices and branches within the DOD, these datasets also need to be accessible in near-real time. For example, a command-and-control center relies on real-time information to make decisions that have direct national security implications. The ability to access updated information is crucial to the mission.

Another benefit of an API-led integration platform, Guenther explained, is flexibility.

“You’re not tied to any one particular technology,” he said. “You can deploy anywhere – in most of the cloud operations, on the edge, whatever it may be.”

That flexibility is key, especially at a time when government agencies are tasked with shifting and reestablishing priorities.

West adds that when looking for an API-led integration solution, agencies should make sure the platform they choose checks several boxes. Specifically, it should be able to connect any system or application, secure and monitor APIs and offer a low/no code environment. It also must be fast, easy-to-use and reliable.

“The ability to architect a system that provides high availability is critical,” West said. “If one part of the system goes down, you need to ensure that there’s no loss of data and it can still be accessed by the people who need it. It’s all about making your data available at speed and at scale.”

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