Planisware

Syncing Sprints and Budgets: How Integrating EVM and Agile Can Drive Project Success in Defense Programs

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Contributor

Mr. Gordon M. Kranz

President

Mr. Kranz is President of Enlightened IPM, a consulting firm providing Government agencies and contractors advice and guidance on performing disciplined, integrated program management, with a focus on implementing Agile methods on programs with an earned value requirement.

Before his retirement, Mr. Gordon M. Kranz was a Senior Executive in the Department of Defense and served as Deputy Director of PARCA for Earned Value Management, the Executive Director of Engineering and Analysis for the Defense Contract Management Agency, and the Director of Systems and Software Engineering for OSD/AT&L.

Mr. Kranz has more than 40 years of technical and program management defense acquisition experience managing complex weapon systems, including 10 years as an acquisition program manager for the U.S. Air Force and 18 years in private industry as a senior technical lead and program manager and 7 years as an SES in the Pentagon within AT&L where he provided leadership and guidance on all MDAP programs for the DoD.

Mr. Kranz received a bachelor's degree in electrical engineering from North Dakota State University and a master's in electrical engineering from the Air Force Institute of Technology. He is a certified Program Management Professional, a Professional Scrum Master I (PSM1), and DAWIA Engineering level 3 certified.

Introduction

Why Integrate EVM with Agile in Defense Projects?

Earned Value Management (EVM) is a widely accepted **industry best practice** used across the U.S. Department of Defense (DoD) and its industrial base. EVM is a program management tool that provides situational awareness of program status to evaluate and manage the cost, schedule, and technical performance of complex programs. It is also an empirical process that offers transparency and insight of program progress to inform the real-time program management decision-making process.

The DoD is driving its acquisition processes to encourage programs to "deliver at the speed of need." Tech advancements and the use of Agile methodologies will allow the Department to rapidly respond to changing requirements and adversarial threats.

Agile and EVM are complementary and it's important to know how and why.

- Agile provides a disciplined-structure approach to rapidly develop and deploy incremental capabilities. It leverages end user feedback to continuously mature the system. Although Agile methods start with a technical vision, the focus is on performing work in the near term, which may distract teams from the end game.

- EVM, appropriately tailored, allows the program to assess cost, schedule, and technical performance. It helps predict future performance and keeps the team in sync with the strategic vision.

Bridging the Agile and EVM Divide

Planning Process Synchronization

Major weapons systems built within the DoD are highly complex and **require a multi-tiered planning approach for alignment and integrated system definition.** Agile works in layers, using set timeframes to deliver parts of the system step by step. These timeframes, called "time boxes," help teams plan and execute their work in stages—whether they're delivering a full release, a specific feature, or a handful of stories. Release timeboxes are typically quarterly; feature and story timeboxes are referred to as iterations and are typically two to three weeks long.

EVM traditionally uses an event-based planning process, primarily driven by the systems engineering technical events such as System and sub-system requirements and design reviews. These planning cycles, called "rolling wave planning," are typically 6-9 months in duration and do not necessarily cover the same timeframe from one wave to the next.

In the early days of combining Agile with EVM, teams tried to run the traditional rolling wave planning alongside Agile's timeboxed planning. Program planners handled the rolling wave, while the technical team worked in Agile sprints. They would then manually integrate the two plans after the fact. A best practice is to use the Agile release planning cadence (planning and delivering technical content) as the rolling wave process. This way, you align the technical plan while keeping it in sync with the cost and schedule used for EVM.
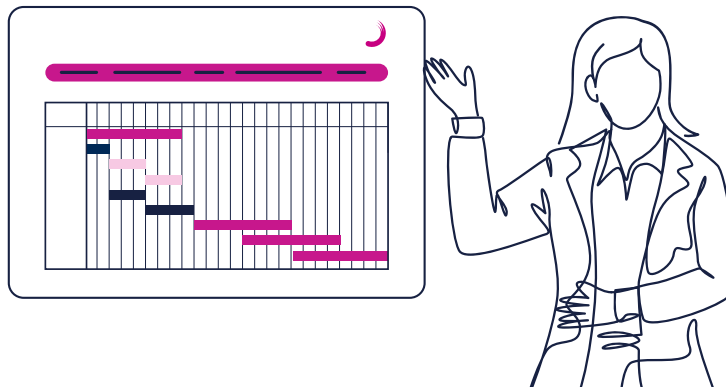
Structure Work Packages to Blend Agile and EVM

Managing hybrid projects gets a lot easier when you structure your work packages around features. Think of features as the link between Agile story points and EVM's work packages. They let you track progress without losing sight of costs or schedules. For example, a feature in your Agile backlog can match up with a work package in EVM. As the team completes work on this feature through sprints, the EVM work package updates, showing both the technical and financial progress in real-time.

Making Sense of Agile's Iterative Approach

Agile means moving fast and delivering value in small, manageable chunks. Teams work in short cycles, called "sprints," each focused on completing specific tasks or "stories" from a backlog of work requirements. Since this iterative approach means teams can adjust as they go, Agile is ideal for projects where things often change, such as software development projects. Still, Agile can also work on projects with both hardware and software development.

Synchronization of Hardware and Software Development

- Digital Eco-System Enables Agile Development

- Each component of the system is implemented in both virtual and physical environments

- Allows for early and continuous validation of end-to-end behaviors

- Allows for syncronization of hardware maturity with Agile SW development
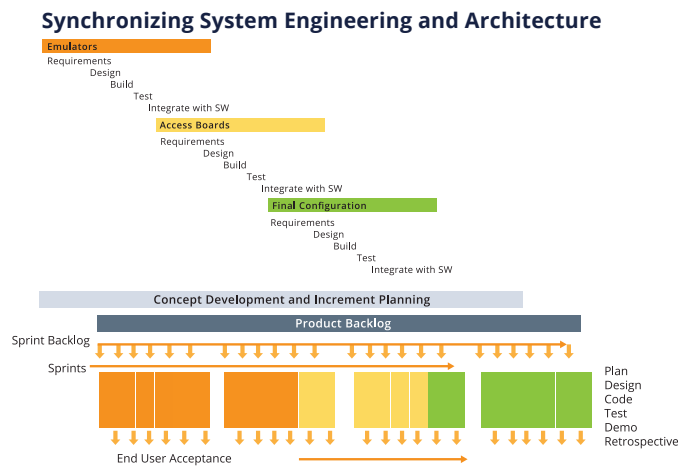
- Use of Modeling and Simulations for early Demos

Synchronizing System Engineering and Architecture

Figure 1 shows a concept for synchronizing hardware and software development in an Agile environment. The hardware is developed by designing and building a series of maturing hardware components (the computers the software will run on) and, in parallel, the incremental development of the software.

One of the foundations of Agile development is the ability to demo or deliver iterative capabilities to obtain and incorporate end-user feedback. By synchronizing the HW and SW development efforts, as shown in the figure, the incremental system capabilities can be demoed on early implementations of the hardware (emulators, baseboards, etc.).

EVM's Structured, Predictable Focus

While Agile is excellent for short-term adjustments and rapid development, EVM uses that near-term data to forecast a broader, strategic view. At its core, EVM measures how a project is performing against a plan by answering three simple questions.

1 Where have we been?

2 Where are we now?

3 Where are we going?

EVM uses key measures like Planned Value (PV), Earned Value (EV), and Actual Cost (AC), to generate cost, schedule, and technical metrics to provide a solid clear picture of project health to support day-to-day program decision making. These measures and metrics allow the program team to forecast where the program is going, offering a program strategic view that is not always clear in Agile development programs.

Why They Don't Always Get Along

The tension between Agile and EVM is rooted in how they approach cost and schedule. Agile focuses on short-term effort – how many 'story points' a team completes. EVM on the other hand, is all about the bigger picture – tracking costs and timelines strategically. So, when an Agile team finishes 30 story points, how does that fit into the EVM world of cost and schedule? It's like they're speaking two different languages, which makes combining them feel tricky.

How to Blend Agile and EVM Without Losing Your Mind or Your Budget

Why Defense Contractors Need to Integrate Agile and EVM

Defense projects are rarely simple. They often mix hardware and software, which is where things get tricky. Hardware tends to follow the traditional waterfall method—one step at a time. But software works best with Agile, where teams adapt and change as they go. Here's the catch: the DoD insists that contractors use EVM to track everything, which means you have to blend Agile metrics into your EVM framework. You need a single, clear view of progress across the whole project.

A Real Example: Bringing Software and Hardware Together

Let's talk about a real defense contractor who faced this exact issue. They were working on an advanced weapon system—hardware and software all mixed together. The hardware team stuck to a classic linear waterfall approach, while the software team worked in Agile sprints. But they hit a snag. How do you track the Agile team's progress in an EVM system set up for waterfall?

The answer was simple but powerful. They used the work breakdown structure (WBS) to integrate and provide traceability between the Hardware and Software teams, as shown in *Figure 2* (on next page). The WBS provided the structure to discern work among each of the subcontractors for the hardware effort. The end-to-end capabilities were decomposed to sub-contractor specific features and represented in the respective sub-contract WBS elements.
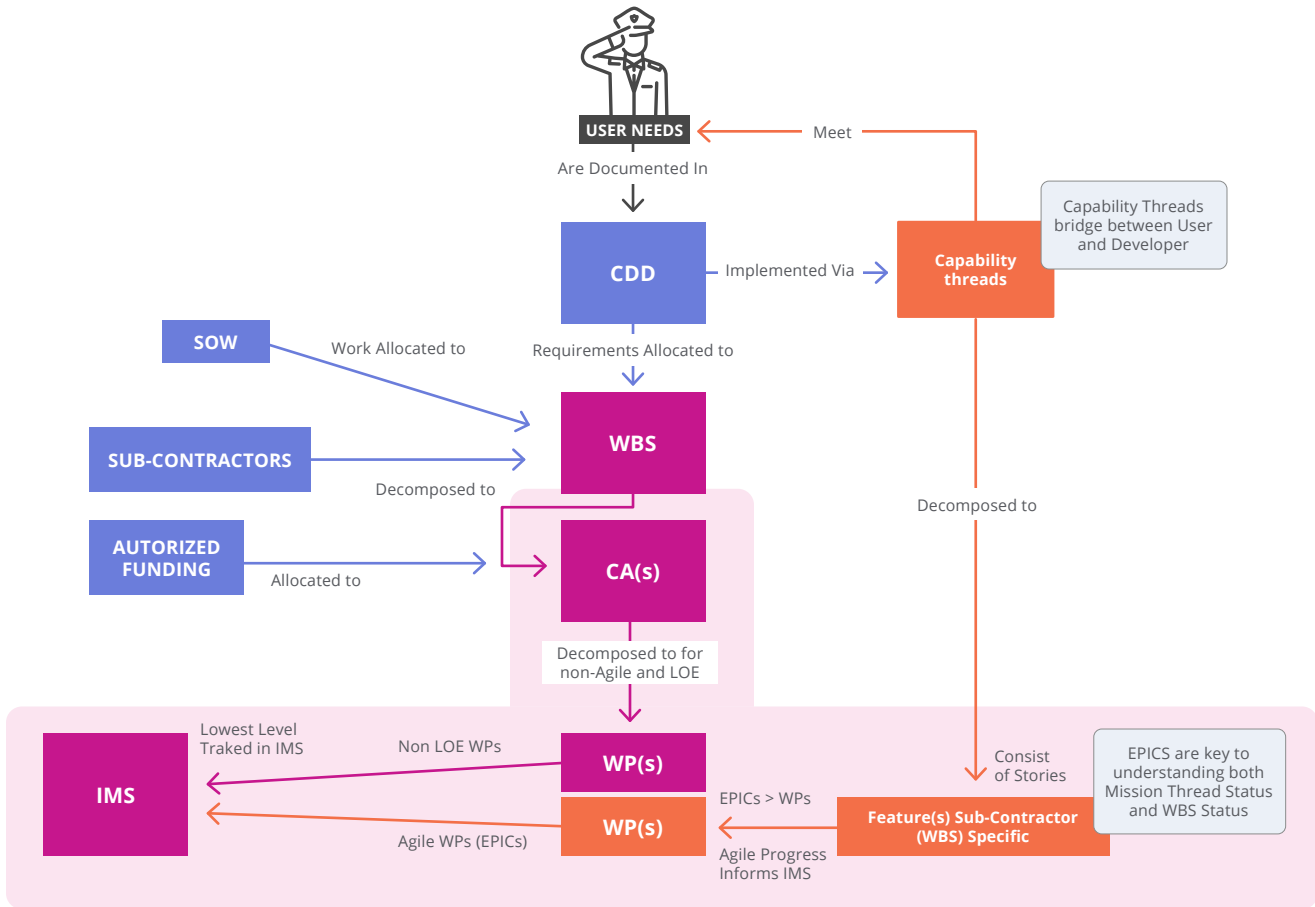
Figure 2: Using the WBS to integrate Hardware Development and Agile Software development efforts

This way, the progress from the hardware and software efforts were incorporated into the integrated master schedule (IMS), allowing for a big-picture view of technical progress. This approach gave the project manager a complete, consolidated view of the whole program. They could now make smarter, faster decisions because they saw everything in one place.

# Integrating EVM with Agile Helps You Manage Resources and Keep Projects on Track

Practical Integration Strategies

Successful integration starts with finding the right connection point in the WBS where Agile can operate freely, and progress can seamlessly roll up into the EVM system. There is no need to force them to work together or keep them apart. Instead, think of it as blending their strengths to allow both to function seamlessly within a single project management framework.

Step 1: Identify Corresponding Elements

First, use the WBS to decompose Agile features that correspond to EVM's work packages. Sprints are the method for developing these features. Don't worry about matching them exactly—focus on the bigger picture. Larger Agile units, like "epics" or "capabilities," can align with control accounts in the EVM system. This makes it easier to connect what your Agile team does with EVM metrics, like Planned Value (PV) and Earned Value (EV).

For example, if your Agile team is working on a feature for a new software component, this feature is a work package that EVM tracks. As the team completes tasks and stories related to that feature, the EVM system updates to show this progress in terms of cost and schedule. This approach keeps both systems in sync.
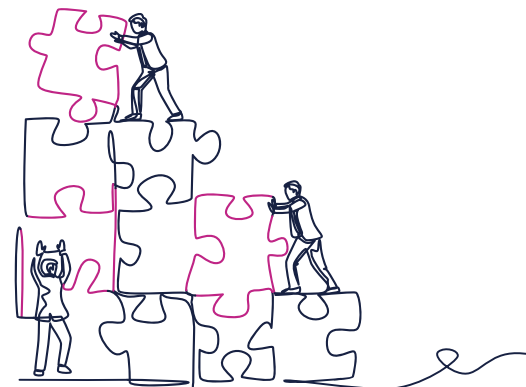
Step 2: Use Tools for Seamless Integration

To keep Agile and EVM data in sync, you need tools that make integration easy. Planisware does this by connecting directly with Agile platforms like Jira. It pulls in sprint progress, story points, and completion rates, mapping them straight to your EVM framework. This way, any changes made in Agile show up instantly in your EVM data, keeping everyone aligned and on track

Use Case: Software Development Integration

In one defense project, a contractor brought Agile data from a software team into their EVM system. The software team was working in two-week sprints, tracking story points in Jira. The project manager used Planisware to pull this data and map it to the right work packages in EVM. Each sprint's progress updated the Earned Value (EV), giving the manager a real-time view of both the technical and financial health of the project. This approach helped them spot delays early, shift resources as needed, and kept the project on track, even as requirements changed.

Step 3: Manage Resource Allocation, Scheduling, and Stay Aligned

Resource management is where things can get tricky. Agile teams work fast in sprints, but their progress needs to match up with the overall EVM schedule. By regularly updating the EVM system with Agile sprint data, project managers can see where resources are working well and where they might need to adjust.

Say your Agile team finishes the tasks allocated to a sprint ahead of schedule. The Agile team can accept more work into that sprint. The result of the early completion of the work within the sprint will be picked up in the EVM system. This level of integration keeps your project running efficiently, even when different teams work at their own pace.

Step 4: Measure Progress and Success

The real value comes from seeing the complete picture. As Agile teams complete tasks, their progress feeds into the EVM metrics. Project managers get a clear, real-time view of how much value has been earned compared to what's been spent. More than just combining data—you're gaining insights that keep the project on track and on budget.

Best Practices for Managing Hybrid Projects

■ **Real-World Example: Using Mission Threads in Integrated Project Teams (IPTs)**

One defense contractor broke down their work into mission threads—key objectives that cut across different parts of the project. These threads turned into work packages that various IPTs managed. By aligning these threads with Agile sprints, they could measure progress in real, technical terms and capture all the cost and schedule data that EVM needed. This approach kept everything on track, and everyone knew where things stood.
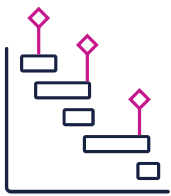
■ **How to Translate Agile Metrics into EVM Terms**

The key is to link story points directly to project deliverables. Let's say an Agile team finishes a set of stories tied to a feature. That progress maps back to an EVM work package, updating the Earned Value and showing how things are moving against the project's baseline. This way, EVM reflects the real work happening in Agile sprints, without trying to force story points into cost figures.

■ **Clear Communications in a Hybrid Environment**

Communication is smoother when you have a single source of truth. Tools like Planisware let you build dashboards that pull in data from both Agile and EVM. This means everyone—executives, project managers, or team members—can all see the same project status. It keeps everyone on the same page and helps them make better decisions.

Real-World Applications and Success Stories

Integrating Agile and EVM in a Defense Project

A major defense contractor was developing an advanced radar system. The hardware team was using the traditional Waterfall method, where each step followed the next in a predictable, linear way. Meanwhile, the software team used Agile, working in short sprints that allowed them to adjust quickly to changes. The problem was that these two approaches weren't aligned, leading to coordination issues and delays.

To solve this, they chose to integrate their Agile data into the EVM framework using Planisware. Instead of forcing the two methods to fit, they used Planisware to bridge the gap. Here's how it worked: the software team's story points, which tracked their progress through sprints, were rolled up to progress on features and then translated into EVM work packages. This helped them understand how the software development effort impacted the overall schedule and budget.

With this integration, project managers could see both the Agile progress and the Waterfall tasks side by side. They could quickly spot bottlenecks in hardware tasks that would slow down the software team. For example, if a hardware component needed more time, a manager could reassign software resources to other tasks that didn't rely on that component. This avoided downtime and kept everyone productive. This level of visibility helped the teams to stay synchronized, despite working in different ways.

The result? The contractor delivered the radar system on time, within budget, and fully compliant with all DoD requirements. But the real win was how they prevented unnecessary delays and resource conflicts by having a unified, clear view of the entire project.

Key Takeaways:

- **Define "Done" Clearly:** It's not enough to say a feature is "done." Teams need a shared understanding of what "done" means, whether in Agile story points or EVM milestones.

- **Align at the Right Level:** They found success by connecting Agile features with EVM work packages, rather than trying to match every small task. This kept the focus on deliverables without getting bogged down in unnecessary details.

- **Leverage the Right Tools:** Using Planisware made the integration seamless. It allowed data from Agile sprints to flow naturally into the EVM system. This kept everything consistent and provided a single source of truth.
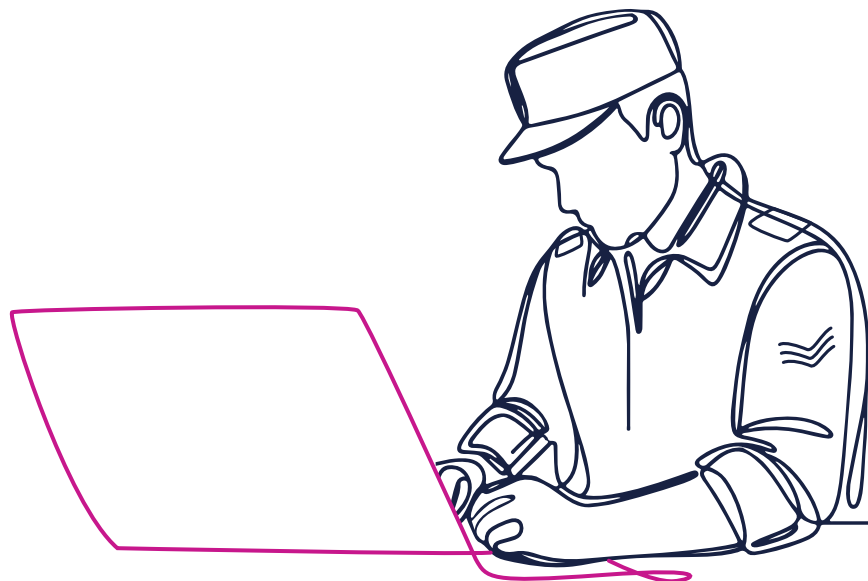
Conclusion

The Path Forward – Bringing Agile and EVM Together in Defense Projects

Integrating Agile and EVM is more than a nice-to-have—it's the way forward for defense projects. It's how you stay compliant with DoD requirements while staying agile enough to adapt to the twists and turns of complex projects. You don't have to choose one over the other. By blending the flexibility of Agile with the structured oversight of EVM, you'll create a system that's both adaptable and firmly in control. This balance is what drives real success.

So, Why Planisware?

Planisware makes blending Agile and EVM seamless. It pulls in Agile data—like sprints and story points—right alongside EVM metrics, like Planned Value (PV), Earned Value (EV), and Actual Cost (AC). You get to manage everything in one system, with all the details—costs, schedules, progress—right in front of you. No switching among tools, no guesswork.

Planisware connects with Agile platforms like Jira to pull in real-time sprint data and maps it to EVM work packages. This gives you a clear, real-time view of how Agile tasks impact the overall project schedule and budget. You can track both the fast-paced, iterative progress of Agile teams while keeping everything in sync with the structured EVM framework. The result is a unified, comprehensive view of your project that's flexible and in control.

This integration helps you make smarter decisions. If a sprint gets delayed or finishes early, your EVM data is updated in real-time, so you can adjust resources and timelines instantly. You'll have the tools and insights to forecast potential bottlenecks, manage resources more efficiently, and keep your project on track, even as priorities shift.

If you want to understand how Planisware brings Agile and EVM together, it helps clear up the complexity of hybrid projects so you can stay focused on delivering results. It's worth taking a closer look to see how Planisware might fit into your project management strategy.