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Project Relay: Passing Griffin from Innovation to Sustainable Army Ownership

Andrew Berg, Carter Hewitt, Kevin Wang, and Kathryn Dula

Department of Systems Engineering, United States Military Academy, West Point, New York 10996

Corresponding author's email: kevin.y.wang.mil@army.mil

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Abstract: The U.S. Army increasingly relies on software to support operational readiness. The Artificial Intelligence Integration Center was established within Army Futures Command to accelerate the development of Soldier-built artificial intelligence tools. One such capability, Griffin, is a predictive aviation maintenance platform that analyzes maintenance data and identifies potential equipment failures before they affect readiness. Although Griffin demonstrates strong operational value, it lacks a defined pathway for long-term sustainment within the Army's acquisition structure, creating a transition gap between innovation and institutional ownership. This study evaluates sustainment alternatives for Griffin using the Systems Decision Process. Six Courses of Action were assessed using a weighted scoring matrix and sensitivity analysis across five criteria: organizational credibility, soldier engagement, software reliability, operational availability, and long-term survivability. The analysis shows that while several options preserve short-term functionality, transitioning Griffin through a formal acquisition pathway provides the strongest foundation for long-term ownership and lifecycle support.

Keywords: Army software acquisition, Artificial Intelligence Integration Center (AI2C), predictive maintenance, software lifecycle sustainment, systems decision process, defense modernization, quantitative value modeling

1. Background

The Artificial Intelligence Integration Center (AI2C) represents the Army's effort to accelerate the development of artificial intelligence capabilities by fostering rapid experimentation and iterative software development (U.S. Army, 2023). AI2C operates within the Army Futures Command and serves as a bridge between operational units, academic institutions, and technology developers.

AI2C's development model is built around operational problem discovery rather than formal requirements development. Soldiers participating in the AI Scholars or Cloud Technician programs often identify inefficiencies within their previous units and propose potential software solutions. AI2C development teams then rapidly prototype those solutions using agile development practices, working directly with operational users to refine functionality through iterative development cycles.

This bottom-up innovation model enables AI2C to quickly produce functional software prototypes. However, it also creates a fundamental divergence from the Army's top-down formal acquisition models. Traditional acquisition programs require validated requirements, lifecycle cost estimates, risk assessments, and official oversight before development begins. AI2C prototypes such as Griffin are often developed before these acquisition prerequisites are formally established (Anonymous brainstorming session, 2026)**.** As a result, AI2C software products may reach functional maturity without the documentation and institutional alignment required to transition into formal programs of record.

Griffin is an AI-enabled predictive maintenance and decision-support tool designed to improve Army aviation readiness by aggregating maintenance data, identifying failure trends, and providing actionable insights to maintainers and leaders. Griffin has demonstrated operational value since its inception in 2022, with enthusiastic adoption across the entire Army aviation enterprise. Units that now use Griffin daily include: Combat Aviation Brigades within the 12th, 82nd, and 101st Airborne Divisions, as well as 1st Armored Division, 1st Air Cavalry Brigade, 3rd Cavalry Regiment, and elements of the 25th Infantry Division, with broader adoption observed across the entirety of the 18th Airborne Corps and portions of III Corps (U.S. Army, 2024). This fast and widespread adoption of the platform speaks to the valuable gap that Griffin fills between

aviation maintainers and the legacy maintenance systems of record. Since it has become such a valuable asset (even in the prototype phase), AI2C and users are rightly looking to maintain Griffin as an Army asset for the long term.

The objective of this research is to evaluate alternative transition models for Griffin using the structured Systems Decision Process (SDP). By comparing multiple Courses of Action (COAs) across operational, organizational, and lifecycle criteria, this analysis identifies the most viable pathway for transitioning Griffin from an innovation prototype into an enduring Army capability.

1.1 Army Acquisition

The Army acquisition system is designed to ensure that major defense programs are developed and sustained in a structured and accountable manner. Programs entering the acquisition system must demonstrate validated operational requirements, lifecycle cost feasibility, and long-term sustainment plans before receiving institutional support. The Department of War acquisition system relies on milestone-based decision processes designed to ensure that programs remain viable throughout their lifecycle (Milestone Decision Authority (MDA), n.d.).

The Major Capability Acquisition (MCA) pathway represents the primary framework used for developing and fielding complex defense capabilities. The MCA lifecycle includes several key phases:

1. Materiel Solution Analysis
2. Technology Maturation and Risk Reduction
3. Engineering and Manufacturing Development
4. Production and Deployment
5. Operations and Support

Each phase includes milestone decision points that require programs to demonstrate progress in requirements validation, cost estimation, risk mitigation, and technical development (Milestone C | Adaptive Acquisition Framework, n.d.). Programs typically establish lifecycle cost estimates and sustainment strategies early in the acquisition process to ensure long-term program viability (Lawton, 2023)**.** AI2C software development operates outside this traditional acquisition structure. Griffin was developed through rapid prototyping based on operational insights at the Soldier-level rather than validated requirements from a combatant commander. As a result, Griffin reached functional maturity without undergoing the analysis, documentation, and oversight required by acquisition programs.

1.2 The Transition Gap Between Innovation and Acquisition

The development of Griffin highlights a structural challenge within the Army modernization ecosystem. AI2C teams can rapidly develop innovative software tools, but they lack the authority and resources needed to sustain them as long-term operational capabilities. Innovation organizations are designed to prototype technologies quickly, whereas acquisition organizations are designed to sustain capabilities over decades (Defense Innovation Board, 2019). In the case of Griffin, AI2C is effectively approaching potential acquisition organizations with a fully functional prototype that has already been tested in operational environments. However, the prototype lacks several elements typically required by acquisition organizations, including validated requirements documentation, lifecycle cost estimates, and formal risk assessments. Program Executive Offices (PEOs) are responsible for managing acquisition programs and sustaining capabilities throughout their lifecycle. When AI2C approaches a PEO with an existing prototype, the PEO must determine whether the capability can be integrated into their acquisition program. However, because the prototype was developed outside the acquisition system, the documentation required for program approval may not exist (Anonymous brainstorming session, 2026). This creates friction when attempting to transition innovative prototypes into acquisition programs of record. As a result, software capabilities such as Griffin may struggle to find institutional ownership even when they demonstrate operational value.

2. Methodology

Value modeling was used to translate stakeholder priorities into measurable evaluation criteria. Stakeholders relevant to Griffin include operational users, AI2C leadership, acquisition authorities, and potential sustainment organizations (Anonymous brainstorming session, 2026). Each stakeholder group prioritizes different aspects of system performance, including operational effectiveness, lifecycle cost, cybersecurity compliance, and organizational ownership. Value models

enable decision-makers to compare alternatives by quantifying qualitative preferences across multiple evaluation criteria (Driscoll et al., 2022).

2.1 Courses of Action

The first COA, Unit Funded Sustainment (COA 1), transitions Griffin to a specific operational unit (e.g., Division, Corps, or COCOM) that assumes responsibility for funding and maintaining the software, with AI2C training unit Operations Research Systems Analysts (ORSAs) to sustain the system and maintain alignment with operational mission needs. The second COA, AI2C RDT&E Sustainment (COA 2), retains Griffin under AI2C oversight while securing external RDT&E funding (e.g., 6.4 or 6.5 appropriations) from an operational sponsor to support continued development and maintenance through contractor support while preserving Griffin's connection to the Army innovation ecosystem. Traditional PEO Program of Record (COA 3) transitions Griffin into the formal acquisition system under a PEO, using the Adaptive Acquisition Framework, which requires validated requirements, milestone approvals, formal program ownership, and stable lifecycle funding. Sustainment Command Ownership (COA 4) transfers responsibility for Griffin to a sustainment organization such as the Army Sustainment Command (ASC) or the CECOM Software Engineering Center, where the software would be maintained within existing logistics and sustainment enterprises using operational funding streams rather than entering the full acquisition lifecycle. GCSS-Army Integration (COA 5) embeds Griffin's predictive maintenance capability into the Global Combat Support System–Army, the Army's enterprise maintenance management platform, thereby leveraging an existing system architecture, sustainment infrastructure, and funding structure. Finally, the Catalogue into Acquisitions Knowledge Base (COA 6) focuses on documenting Griffin's development process, architecture, and transition challenges within an Army acquisition knowledge repository so that lessons learned can inform future software transition efforts rather than maintaining Griffin as an operational capability.

2.2 Weighted Scoring Matrix

Value Criteria	Obj	Weight	Relative Wt	Raw Score					
				COA 1	COA 2	COA 3	COA 4	COA 5	COA 6
Credibility of Organization	Maximize	9.0	0.231	5	10	9	7	8	2
Soldier and User Engagement	Maximize	9.0	0.231	8	2	2	7	6	2
Software Uptime & Techinical Reliability	Maximize	7.0	0.179	7	6	8	5	5	1
Unit Availability	Maximize	8.0	0.205	8	9	9	6	6	0
Longevity	Maximize	6.0	0.154	3	5	10	8	9	0
SUM		39.0							

Figure 1: Assigned Weighted Scoring Matrix used to evaluate Griffin transition alternatives.

Weighted Score					
COA 1	COA 2	COA 3	COA 4	COA 5	COA 6
1.15	2.31	2.08	1.62	1.85	0.46
1.85	0.46	0.46	1.62	1.38	0.46
1.26	1.08	1.44	0.90	0.90	0.18
1.64	1.85	1.85	1.23	1.23	0.00
0.46	0.77	1.54	1.23	1.38	0.00
6.36	6.46	7.36	6.59	6.74	1.10

Figure 2: Resulting Weighted Scores from Scoring Matrix above.

The six COAs were evaluated using a weighted scoring matrix, displayed in Figure 1, based on five value criteria: Credibility of Organization, Soldier and User Engagement, Software Uptime and Technical Reliability, Unit Availability, and Longevity. These criteria reflect the core transition problem that Griffin faces. Griffin does not merely need to remain

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technically functional; it must be supported by an organization credible enough to secure institutional trust, close enough to users to remain relevant, stable enough to remain operational, and available enough to reach the force. Each row in the matrix represents an attribute of the software's transition that AI2C values, named in the Value Criteria column. Each column provides a different part of the COA scoring calculation. These value criteria were derived through a structured brainstorming process, attended by members of Army Acquisitions, AI2C, Army Logistics, and Army Infantry, that first identified a broad set of stakeholder values related to Griffin's development and use. Overlapping values were then consolidated, and the list was narrowed to criteria related to the transfer of responsibility for the software, rather than to the software's attributes. Finally, the criteria were refined to reflect the priorities of AI2C, the client organization responsible for transitioning Griffin to a long-term owner. The Obj column indicates whether AI2C wanted to maximize or minimize that value criterion. In every case, the objective was to maximize performance, meaning higher scores reflect a more desirable outcome.

The Weight column records the authors' assessment of the extent to which AI2C values are relative to the others. The weights were established through discussions with the stakeholders. Credibility of Organization and Soldier and User Engagement were each assigned a value of 9.0, Software Uptime and Technical Reliability were assigned 7.0, Unit Availability was assigned 8.0, and Longevity was assigned 6.0. To assign value weights effectively, we had the stakeholders rank-order their values and discuss their importance to the stakeholders' mission and organization. These values were then converted into the Relative Weight column by dividing each criterion value by the total value sum of 39.0.

The Raw Score column displays how the authors rated each COA against each value criterion on a 0-10 scale. This scale is described in detail in Figure 3: Value Scoring Criteria. A higher raw score is better for the criterion that we aim to maximize. For instance, COA 3 received a raw score of 10 in Longevity because a formal acquisitions pathway offers the strongest long-term institutional continuity. In contrast, COA 6 received a raw score of 0 in both Unit Availability and Longevity because archiving Griffin in a knowledge base would not preserve the system as an accessible operational tool. The Weighted Score columns were calculated by multiplying each raw score by the relative weight of that criterion shown in Figure 2. This step ensures that the client's priorities are accounted for in the final COA performance. The final score for each COA is the sum of its weighted scores across all five criteria. This method is important because it prevents any single strength from dominating the analysis. A COA that performs very well in one category but poorly in the others may still rank below a more balanced option.

Value Scoring Critera										
Value Critera	Obj	1	2	3	4	5	6	7	8	9	10
Credibility of Organization	Maximize	Viewed as experimental; limited acquisition credibility; weak PEO alignment; informal or ad hoc transition processes. User trust lost or severaly degraded.			Recognized partner with growing credibility; some successful coordination; improving but not enterprise-trusted. Maintains some user-trust.			Trusted acquisition partner within specific PEO or functional communities; demonstrated successful transitions and institutional confidence. Maintains user trust.			Fully institutionalized acquisition authority with established sustainment ownership and Army-wide trust; proven, repeatable transition model.
Soldier and User Engagement (Ensure the product is in the hand of soldiers)	Maximize	Minimal or late soldier input; limited integration of feedback into development lifecycle.			Regular coordination; users engaged in testing or refinement phases but not embedded in full lifecycle (like maintenance and improvements).			Continuous co-development with PEO and operational users integrated across development cycles.			Fully embedded, enterprise-level operational ecosystem from concept through sustainment; user feedback structurally drives prioritization and updates.
Software Uptime & Techinical Reliability	Maximize	Frequent crashes or extended downtime; maintenance response is reactive and slow; operational use regularly disrupted.			Occasional crashes or service interruptions; maintenance team restores functionality but with noticeable downtime; reliability sufficient for limited operational use.			High uptime with infrequent disruptions; maintenance processes are responsive and structured; system reliably supports operational demands.			Near-continuous uptime under sustained operational load; proactive monitoring and rapid recovery protocols minimize disruption; enterprise-grade resilience.
Unit Availability	Maximize	Restricted to 1–2 divisions or pilot units. Access requires special authorization and isolated/experimental funding.			Fielded across a corps, multiple divisions, or within a specific theater. Funded for participating units, but access is not Army-wide and may depend on command prioritization.			Available to most operational units across the Army. Program is resourced and supported at scale, though some niche or specialized units may not yet be fully integrated.			Universal access across the entire Army by default. Embedded in doctrine, training, sustainment, and baseline funding. No special approval required.
Longevity	Maximize	Short-term or pilot effort; dependent on temporary funding, specific personnel, or informal support structures.			Sustainable in the mid-term (3–5 years) but vulnerable to leadership turnover, funding shifts, or architectural limitations.			Designed for long-term integration; modular and adaptable; aligned with formal funding pathways and sustainment planning.			Fully institutionalized program with enduring funding lines, governance structure, lifecycle sustainment authority, and integration into Army enterprise architecture.

Figure 3: Value Scoring Matrix used to assign a raw score to each value for each COA.

3. Analysis

The COA scoring, displayed in Figure 2, shows a clear ranking. COA 3, the Acquisitions Pathway, scored highest at 7.36 because it performs strongly across nearly all of the heavily weighted criteria, especially credibility, availability, and longevity. COA 6, Catalogue into Acquisitions Knowledge Base, earned the lowest score (1.10) because it fails to satisfy key AI2C values. The remaining four operational alternatives, COAs 1, 2, 4, and 5, clustered within a relatively narrow range,

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from 6.36 to 6.74. That narrow spread suggests these options provide roughly equal value to AI2C, and the slight differences in final scores should not be used as decision criteria. The total weighted score captures not just one isolated strength of a proposed alternative, but the overall value each option offers AI2C. A sensitivity analysis was conducted to evaluate the extent to which the COA order changes with respect to changes in value weights. This sensitivity analysis was conducted by varying each value weight by ±10% and examining the resulting final weighted score for each COA. The results reveal that the weighted scores are not sensitive to change, as COA 3 remains the sole dominant COA. In contrast, COAs 1, 2, 4, and 5 remain in a tight, interchangeable grouping, and COA 6 consistently achieved the lowest score.

3.1 Similar Operational Alternatives: COAs 1, 2, 4, and 5

COAs 1, 2, 4, and 5 produced similar overall scores because each preserves Griffin as an operational capability while addressing only part of the broader transition challenge, indicating that none of these alternatives clearly outperform the others across all five evaluation criteria. COA 1 maintains Griffin through unit-level outsourcing, preserving strong user engagement but offering limited institutional backing. COA 2 maintains Griffin within AI2C, maintaining technical familiarity and visibility while remaining outside the Army's normal capability management structures. COA 4 places Griffin under a sustainment-focused command, which improves long-term ownership but bypasses the formal acquisitions structure. COA 5 integrates Griffin into an existing program of record, providing stronger institutional placement but introducing integration complexity. This narrow grouping of COA scores highlights the trade-offs among operational accessibility, institutional credibility, and long-term support that characterize these middle-tier options.

3.2 AI2C Maintained with Funding and Contractors (COA 2)

COA 2 scored 6.46 overall. Its raw scores were 10 for Credibility of Organization, 2 for Soldier and User Engagement, 6 for Software Uptime and Technical Reliability, 9 for Unit Availability, and 5 for Longevity. We assessed that COA 2 has its greatest strengths in organizational credibility and Unit Availability. This reflects that AI2C already has institutional recognition, technical visibility, and a standing role as an innovator within the Army. AI2C is not an unknown entity, and its involvement can keep Griffin visible, funded in the near term, and available to units already connected to the innovation ecosystem. Even so, COA 2 performs poorly where the long-term decision matters most. The low score in Soldier and User Engagement indicates that, once Griffin remains inside AI2C, it remains structurally separated from a mature fielding-and-sustainment enterprise. The software may continue to exist, but it is not fully embedded in an Army-wide operational ecosystem.

3.3 Acquisitions Pathway (COA 3)

COA 3 scored 7.36 overall, the highest of all six alternatives. Its raw scores were 9 for Credibility of Organization, 2 for Soldier and User Engagement, 8 for Software Uptime and Technical Reliability, 9 for Unit Availability, and 10 for Longevity. The reason COA 3 wins is that it is the only option that directly addresses the full set of institutional conditions required for Griffin to survive as a formal Army capability. Its strongest scores come in Credibility of Organization and Longevity, because programs of record last for decades, and it would reflect favorably on AI2C to create something officially acquired by the Army. COA 3's score of 8 in Software Uptime and Technical Reliability indicates that a formal acquisition pathway also provides Griffin with a structured route to mature testing, release management, configuration control, and sustained technical support. Likewise, the score of 9 was awarded because, as a program of record, every Army unit would have access to Griffin. The reason COA 3 scores only 2 in Soldier and User Engagement is not because it loses all user relevance, but because formal acquisition introduces procedural distance. Requirements formalization, milestone reviews, documentation, and portfolio integration can slow the direct, iterative feedback loops that AI2C and local units enjoy. COA 3 sacrifices some agility, but in exchange, it gives Griffin the strongest chance of surviving as a trusted, funded, and defendable capability over time. That is why it receives the highest overall score and is the recommended option.

3.4 Catalogue into Acquisitions Knowledge Base (COA 6)

COA 6 scored 1.10 overall, the lowest of all alternatives. Its raw scores reflect that this option preserves documentation about Griffin but does not preserve the system as an operational capability. The low credibility score suggests that documenting

Griffin's development, architecture, and lessons learned could still inform future Army software efforts. However, the low scores in Unit Availability, Longevity, Uptime, and Technical reliability indicate that archiving Griffin removes it from operational use, meaning soldiers and maintainers would no longer have access to the tool, nor would it receive technical support. For these reasons, COA 6 does not provide a viable transition path and instead serves only as a knowledge-retention fallback if Griffin cannot be maintained as an operational capability.

4. Recommendations

COA 3, the Acquisitions Pathway, is the strongest option because it most directly resolves the transition gap identified throughout this research. Griffin's challenge is not usefulness or operational demand. The challenge is AI2C's lack of lifecycle planning. The Army acquisitions process exists specifically to establish those conditions. Through the acquisitions pathway, Griffin can receive validated requirements, a designated program manager, documented cost and risk analysis, and integration into a formal capability portfolio. These elements create the documentation and organizational support necessary for Griffin to move from a prototype to a widely supported Army capability. For that reason, the primary recommendation is for AI2C to utilize the formal acquisitions pathway but do so from problem conception rather than after prototype completion (COA 3).

However, the team recognizes that this COA has historically been difficult for AI2C to pursue because they take a full product rather than an idea for a verified operational requirement to the Acquisitions Corps, thereby bypassing many documentation-producing milestones that must now be generated post-hoc. If this COA is infeasible due to Griffin's maturity level or the lack of early acquisition engagement, the next-best option is COA 2: AI2C RDT&E Sustainment. Although COA 2 did not receive the second-highest score in the matrix, it represents the most feasible near-term option because it allows Griffin to remain operational while additional transition work is completed. Under this approach, AI2C would retain responsibility for the software while securing RDT&E funding and contractor support to maintain and expand the capability from the organizations that use Griffin and have come to rely on it in their operations. This preserves Griffin's connection to the innovation ecosystem and keeps the software accessible to units already using it.

These recommendations can be applied to other software developed by AI2C because the value criteria used in this analysis focus on the transition of responsibility rather than the specific technical characteristics of Griffin. Our analysis suggests that the long-term success of AI2C-developed software depends less on technical performance alone and more on early coordination with the acquisitions community to ensure that promising prototypes can transition into widely adopted Army capabilities.

5. References

Anonymous brainstorming session on acquisition pathway risks. (2026). *Value-criteria brainstorming session for the Griffin sustainment decision* [Internal meeting transcript].

Defense Innovation Board. (2019). *Software is Never Done: Refactoring the Acquisition Code for Competitive Advantage*. U.S. Department of Defense. Retrieved March 12, 2026, from Defense Innovation Board: https://media.defense.gov/2019/May/01/2002126690/-1/-1/0/SWAP%20EXECUTIVE%20SUMMARY.PDF

Driscoll, P. J., Parnell, G. S., & Henderson, D. L. (2022). Decision making in systems engineering and management (3rd ed.). Hoboken, NJ: John Wiley & Sons.

Lawton, D. (July 11, 2023). *PEO EIS to Change the Way it Acquires Software*. PEO Enterprise. Retrieved March 12, 2026, from PEO Enterprise: https://www.peoenterprise.army.mil/newsroom/news/peo-eis-wide/peo-eis-change-way-it-acquires-software

Major Capability Acquisition (MCA), Adaptive Acquisition Framework. Adaptive Acquisition Framework. (n.d.). Retrieved March 12, 2026, from Adaptive Acquisition Framework: https://aaf.dau.edu/aaf/mca/

Milestone C, Adaptive Acquisition Framework. aaf.dau.edu/aaf/mca/milestone-c/. (n.d.). Retrieved March 12, 2026, from Adaptive Acquisition Framework: https://aaf.dau.edu/aaf/mca/milestone-c/

U.S. Army. (2023). *Artificial Intelligence Integration Center (AI2C).* Retrieved March 12, 2026, from U.S. Army: https://ai2c.army.mil/

U.S. Army. (2024, October 2). *Commoditizing AI/ML models*. Retrieved March 26, 2026, from U.S. Army: https://www.army.mil/article/280160/commoditizing_aiml_models