



EXCERPT FROM THE
PROCEEDINGS
OF THE
TWENTY-THIRD ANNUAL
ACQUISITION RESEARCH SYMPOSIUM AND
INNOVATION SUMMIT

THURSDAY, MAY 7, 2026 SESSIONS
VOLUME II

“ACCELERATING WARFIGHTING CAPABILITIES”

**The Value Hexagon of Warfighting Acquisition:
Applying the Six Competing Constraints to Accelerate
Warfighting Capability and Revitalize the U.S. Defense
Industrial Base**

Published: April 30, 2026

Approved for public release; distribution is unlimited.

Prepared for the Naval Postgraduate School, Monterey, CA 93943.

Disclaimer: The views expressed are those of the author(s) and do not reflect the official policy or position of the Naval Postgraduate School, US Navy, Department of Defense, or the US government.



The research presented in this report was supported by the Acquisition Research Program, Graduate School of Defense Management at the Naval Postgraduate School.

To request defense acquisition research, please contact:

Acquisition Research Program
Department of Defense Management
Naval Postgraduate School
E: arp@nps.edu
www.acquisitionresearch.net

Copies of Symposium Proceedings and Presentations; and Acquisition Sponsored Faculty and Student Research Reports and Posters may be printed from the **NPS Defense Acquisition & Innovation Repository** at <https://dair.nps.edu/>.



ACQUISITION RESEARCH PROGRAM
DEPARTMENT OF ACQUISITION, FINANCE, AND MANPOWER
NAVAL POSTGRADUATE SCHOOL

The Value Hexagon of Warfighting Acquisition: Applying the Six Competing Constraints to Accelerate Warfighting Capability and Revitalize the U.S. Defense Industrial Base

Jeff Dunlap, CAPT USN (Ret.)—Lecture, Naval Postgraduate School. [Jeffrey.dunlap@nps.edu]

Abstract

This paper proposes the adoption of the Value Hexagon of Warfighting Acquisition. By adding three dimensions—Benefit/Value, Sponsor/Combatant Commander (CCMD) Priority, and Risk Tolerance—alongside the original three—Cost, Schedule, and Performance (C/S/P)—the Warfighting Acquisition System can shift from a risk-averse/risk-minimization focus to one of program value optimization and innovation.

The Value Hexagon is a visualization tool that provides Portfolio Acquisition Executives (PAE) with the analytical basis to make transparent decisions and swiftly, decisively shift funding within portfolios' authorized boundaries. Rather than shifting funds based on gut feel or political pressure, a PAE can show two Value Hexagon spider profiles side by side—a “Legacy Drifter” program bleeding resources and a “Rapid Responder” program starved of them—and document the trade; this is defensible to Congress and to the Secretary in a way that a narrative memo is not.

The PAE has the authority to ensure honest scoring on the Value Hexagon and to make real decisions about which programs continue to add warfighting value and which should be terminated. Requiring the decision authority to co-sign an explicit risk tolerance statement—rather than leaving risk as a hidden variable—creates accountability that does not currently exist in acquisition.

The Structural Flaw: The Compliance Culture

For decades, the Defense Acquisition System has relied on a Cost, Schedule, and Performance (C/S/P) framework to manage program health. The metrics collected indicated whether the acquisition programs were tracking the initial plan, but visibility into the value to the warfighter was based on static requirements that remained relatively stable in the post-Cold War era. This method is ill-suited for today's pacing challenge. Its core flaw is structural: by focusing exclusively on administrative compliance, it lacks a mechanism to assess whether a program actually delivers operational value. In reality, C/S/P are not independent of each other, and this oversimplified concept creates flawed expectations in managing Department of Defense (DoD) acquisition programs.

The Iron Triangle frames acquisition management as a zero-sum game: success means staying within baselined cost, schedule, and technical performance bounds. Program Managers (PMs) are therefore incentivized to treat any variance as a failure, regardless of whether that variance might have produced a better operational outcome. Earned Value Management (EVM) decomposes the program into a Work Breakdown Structure (WBS), and each WBS element gets its own cost and schedule baseline. The Iron Triangle compliance mentality is not just at the program level—it is replicated down to every work package. A team completing a sub-task is measured against its local cost and schedule targets, with no visibility into whether that sub-task is contributing to operational value. The compliance culture is therefore baked into the DNA of program execution at every level, not just the executive reviews (GAO, 2025; SAE International, 2019).



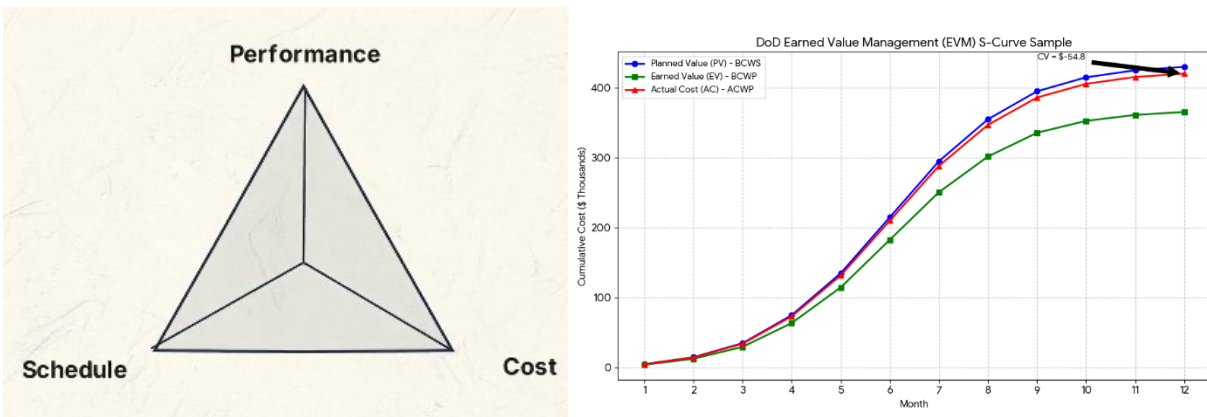


Figure 1. Concepts of the Iron Triangle and Earned Value Dimensions

The core EVM metrics—Cost Performance Index (CPI) and Schedule Performance Index (SPI)—tell you whether you are spending money at the rate you initially planned to spend it. A program that is burning budget on schedule looks “green” regardless of whether the work being done is producing anything useful. The fundamental measurement unit is planned value consumed, not capability delivered (SAE International, 2019).

The Core Point

The fundamental limitation of EVM is that compliance with cost and schedule baselines does not assure that the capability being produced remains operationally relevant to the warfighter.



Figure 2. Earned Value Reward Model and Impact on Warfighter

The deeper problem is that these models treat warfighter requirements as static artifacts. Under the legacy “Big A” Defense Acquisition System, requirements were often locked years—or even decades—before a system reached production. Because there was no formal “Value” axis, technical specifications inevitably drifted out of sync with a changing threat environment. The result was a compliance culture that reliably produces systems that satisfy outdated requirements while failing current operational needs. The Warfighting Acquisition System is the centerpiece of a major overhaul designed to shift the Pentagon from a slow, “requirements-based” process to a rapid, “solutions-based” model (initiated in late 2025 and codified in the 2026 National Defense Authorization Act [NDAA]). The strategy essentially treats acquisition as a warfighting function rather than a back-office administrative task, prioritizing “speed to capability” above traditional compliance (DoD, 2025).



The proposed Value Hexagon provides visibility, on an analytical basis, to enable swift, decisive decision-making. Authority without a documented rationale is politically and legally exposed. When a Portfolio Acquisition Executive (PAE) kills a program or redirects funding, the first question from Congress, IG, and GAO is “on what basis?” Under the current system, the honest answer is often “judgment”—which invites second-guessing, protest, and reversal. An auditable six-axis score that shows a “Legacy Drifter” consuming resources a “Rapid Responder” needs is a *defensible record*, not just a decision. The analytical basis is what converts authority into durable action.

The Core Argument

Where existing frameworks measure fidelity to an administrative baseline, the proposed Value Hexagon measures fidelity to operational need. The distinction is not merely semantic—it determines what program managers are incentivized to optimize.

Alignment with the Joint Force Requirements Process

The Value Hexagon is designed to operate in concert with the Joint Force Requirements Process (JFRP), which replaced the document-heavy Joint Capabilities Integration and Development System (JCIDS). Unlike JCIDS, which produced capabilities documents that took years to approve, the JFRP is a continuous cycle of Sponsor/ Combatant-command gap assessment (CJCS, 2026; GAO, 2025).

This cadence transforms the Value Hexagon from a static snapshot into a living program profile. When a threat shifts and a Sponsor/CCMD elevates a gap from Tier 3 to Tier 1, the program’s silhouette changes immediately, prompting a review of whether the cost, schedule, and risk settings need adjustment. In JFRP-era acquisitions, the high-priority/low-risk-tolerance mismatch will appear more frequently, not less, precisely because gaps are surfaced more quickly. The Value Hexagon makes those mismatches visible; the JFRP cadence provides natural decision points to correct them.

The Value Hexagon was designed to operate in precisely the JFRP environment. Every structural feature of the JFRP has a direct counterpart in the hexagon’s six-axis framework, and the alignment is not coincidental—the hexagon’s architecture was conceived specifically to make the JFRP’s operational logic visible at the program level.

Joint Operational Problems → Benefit/Value and CCMD Priority Axes

The most fundamental structural change in the JFRP is its pivot from requirements documents to problem statements. The JROC identifies and prioritizes Joint Operational Problems (JOPs) to communicate the Joint Force’s most pressing problems, focus analytical efforts, and align requirements to acquisition and resourcing.

JCIDS asked: what capability does the force need? The JFRP asks: what operational problem must the joint force solve? That reframing maps directly onto two hexagon axes working in tandem. This is a profound shift.

The **Benefit/Value axis** captures the answer to the JFRP question at the program level: what mission outcome does this capability deliver toward solving the identified JOP? Under JCIDS, benefit was implicit—assumed to be captured in the Key Performance Parameters. Under the JFRP, the JOP framing requires that benefits be stated explicitly in operational-effect terms, which is exactly what the Benefit/Value axis requires. A program that cannot articulate its contribution to a JROC-prioritized JOP cannot justify a high Benefit score, and that diagnostic failure is immediately visible in the hexagon silhouette.



The **CCMD Priority axis** captures the warfighter's tier assessment of the gap that the program addresses. The JROC oversees the prioritization of CCMD capability gaps and approval of joint requirements. That prioritization is the direct input to the CCMD Priority axis score. When the JROC elevates a gap from Tier 3 to Tier 1—because a JOP has risen in urgency—the hexagon profile changes immediately. The two axes together translate the JFRP's problem-centric logic into a program-level decision frame.

Capability Portfolio Management → Fiscal Sustainability Axis

The Requirements and Resourcing Alignment Board (RRAB) will align fiscal resources to JROC-prioritized JOPs during the Program Budget Review process. By exception, the RRAB may recommend modifying or terminating component activities that conflict with those priorities. This is the JFRP's portfolio management mechanism—the institutional instrument for ensuring that dollars follow operational problems rather than administrative inertia.

The hexagon's **Fiscal Sustainability axis** is the program-level expression of exactly this logic. It asks: Is this program consuming portfolio resources at a rate proportionate to its contribution to JROC-prioritized JOPs? A Legacy Drifter program that is administratively perfect but addresses a JOP the JROC has deprioritized scores poorly on Fiscal Sustainability—precisely the condition that should trigger RRAB attention. The hexagon makes that condition visible before the RRAB review cycle rather than surfacing it only when budget pressure forces the issue.

The Capability Portfolio Management (CPM) framework also introduces the concept of divestment as a legitimate portfolio outcome—recommendations will identify capabilities and constructs that require additional investment, maintenance of current investment levels, or divestment. The hexagon's Legacy Drifter and Gold-Plated Anchor archetypes are the diagnostic tool that makes divestment decisions auditable rather than political. The PAE can point to the silhouette—poor Benefit, low CCMD Priority, poor Fiscal Sustainability—as the documented analytical basis for a termination recommendation.

Continuous CCMD Gap Assessment → Dynamic Scoring Cadence

Under JCIDS, requirements were generated through a document-heavy process that could take years. Once a Capability Development Document was validated, the requirements were effectively frozen. The updated direction eliminates JROC validation of Service- and component-level requirements and refocuses the JROC on Joint Force Development, Joint Capability Integration, and CCMD requirements. By narrowing JROC oversight to Joint and CCMD priorities, the revised framework places greater emphasis on Service-level responsibility while strengthening alignment to joint warfighting outcomes and portfolio-based capability management.

The JFRP's continuous cadence transforms the Value Hexagon from a static scoring tool into a living program profile. JFRP's nominal timeline is 55 business days, representing a dramatically compressed cycle compared to JCIDS. Each JFRP cycle is a natural synchronization point at which the Value Hexagon's **CCMD Priority axis** must be rescored and the **Fiscal Sustainability** assessment updated to reflect whether the program's cost trajectory remains proportionate to its current JOP alignment.

This continuous cadence prevents the Value Hexagon from becoming the same kind of static artifact that JCIDS requirements documents have become. The JFRP provides the institutional clock that forces the Value Hexagon to be updated and provides the visualization that makes each JFRP update visible to decision authorities in a form they can act on immediately.



Joint Force Design → Schedule and Risk Tolerance Axes

The JFRP and JROC evaluate Joint Force Design (JFD), Joint Capability Integration (JCI), and CCMD requirements through a lens of JOPs underpinned by CPM, including Warfighting Acquisition System trade-space decisions. This is significant—the JFRP explicitly connects to the Warfighting Acquisition System (WAS) introduced by the 2026 NDAA, which reframes acquisition as a warfighting function rather than an administrative one.

The Value Hexagon’s **Schedule** axis—reimagined as Time-to-Field rather than administrative milestone compliance—directly embodies the WAS’s “speed to capability” mandate. The question is not whether the program is on its approved baseline, but whether the capability is arriving in time to address the JOP before the threat environment shifts again. The JFRP’s 55-business-day cycle creates the operational urgency context within which that schedule judgment must be made.

The **Risk Tolerance** axis is where the Value Hexagon makes its most distinctive contribution to JFRP alignment. The JFRP’s emphasis on speed and warfighting outcomes inherently demands that programs be authorized to accept risk. But the JFRP itself does not provide a mechanism for documenting the level of risk authorized for a given program. The Value Hexagon’s Risk Tolerance Statement fills that gap—it converts the implicit risk posture embedded in every acquisition decision into an explicit, co-signed, auditable policy setting that can be compared against the CCMD Priority score at each JFRP refresh.

JROC Structure and the PAE Accountability Chain

The reoriented JROC is focused on JFD, JCI, and CCMD requirements. It conducts analytic due diligence to prioritize capability gaps, leveraging data-driven assessments to inform planning and budgetary decisions, and manages the JFRP to ensure its processes are streamlined, transparent, and focused on delivering capabilities at speed.

The Value Hexagon’s governance design mirrors this structure at the program level. The JROC prioritizes JOPs and gaps at the joint level; the PAE translates those priorities into program-level trade-space decisions using the Value Hexagon as the analytical instrument. The hexagon does not replace the JFRP’s deliberative process—it operationalizes its outputs at the milestone review level. When the JROC elevates a gap, the hexagon’s CCMD Priority score rises, the risk tolerance mismatch diagnostic fires if the program’s posture has not adjusted, and the PAE has an auditable basis for whatever decision follows.

The JFRP does not delineate actions required to satisfy acquisition rules and regulations. Services and Components must ensure their programs meet and satisfy the statutory and regulatory requirements for fielding capabilities to the warfighter. This is the precise gap the Value Hexagon fills. The JFRP tells the acquisition enterprise what the joint force needs and how urgently it needs it. The Value Hexagon tells program managers and decision authorities how to translate that signal into a defensible, continuously updated program posture—with the six axes providing the structure, the scoring rubric providing the rigor, and the spider chart providing the visualization that makes complex, multi-dimensional trade spaces accessible in a single portfolio review.

The Fundamental Alignment: Requirements Validation to Operational Problem-Solving

The deepest alignment between the Value Hexagon and the JFRP is philosophical. JCIDS was a validation system—it asked whether a stated requirement had been properly documented and approved. The JFRP is a problem-solving system—it asks whether the joint force’s most pressing operational problems are being addressed with appropriate urgency and resources. The Value Hexagon is the measurement and visualization instrument that makes the problem-solving orientation operational at the program level.



Under JCIDS, a program manager asked, “Am I delivering against my validated requirements?” Under the JFRP/Value Hexagon framework, the question becomes: am I delivering against the joint force’s current operational problems at the speed and fiscal posture the situation demands? That shift—from requirements compliance to operational problem-solving—is what both the JFRP and the Value Hexagon are designed to institutionalize, and it is why they are structurally complementary rather than merely compatible.

The Value Hexagon: A Six-Dimension Framework

The Value Hexagon extends program management discipline within a six-dimensional framework that adds explicit measures of mission benefit/value, warfighter priority, and risk tolerance.

The Six Dimensions

The three retained legacy dimensions are reinterpreted as follows:

- **Cost:** Reimagined as **Fiscal Sustainability**, a portfolio-level affordability measure. The question is not whether the program is on its own baseline, but whether the portfolio can sustain it without crowding out higher-priority efforts. A program with high Benefit and CCMD Priority can still score poorly here if its cost trajectory consumes resources at a rate disproportionate to its JFRP tier.
- **Schedule:** Reimagined as “Time-to-Field.” Rather than a fixed administrative deadline, the schedule is balanced against the urgency of the identified capability gap.
- **Performance:** Technical Key Performance Parameters (KPPs) remain essential, but performance is now a tradeable variable—accepting an “80% solution” today to accelerate fielding is explicitly defensible.

The three new mission-driven dimensions are:

- **Benefit / Value:** The explicit mission outcome, measured in operational effects such as kill-chain compression (time to find, fix, and finish) or logistics footprint reduction.
- **Sponsor/CCMD Priority:** This axis ties a program’s importance to current campaign plans rather than decade-old documents.
- **Risk Tolerance:** An explicit policy setting, scored 1–10. This dimension transforms risk from a hidden program variable into a deliberate management choice.

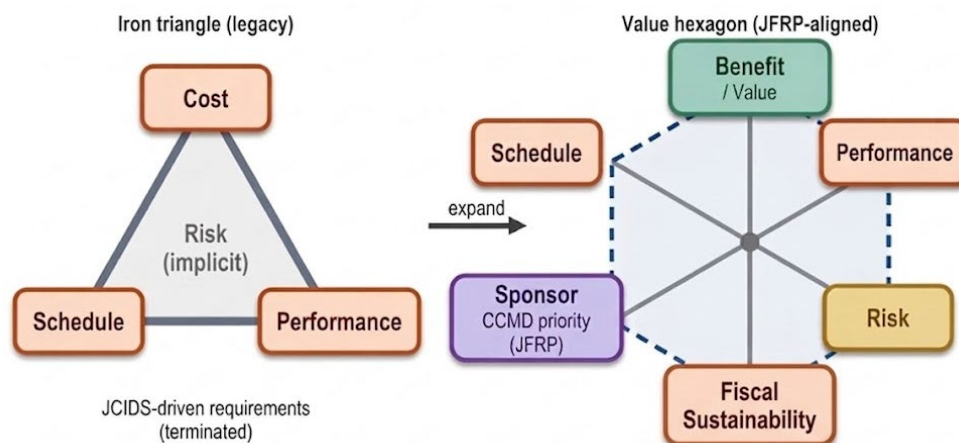


Figure 3. JCIDS to JFRP Value Hexagon Management Focus



Table 1. Comparison of the Iron Triangle and Value Hexagon Dimensions

Dimension	Iron Triangle	Value Hexagon
Cost / Fiscal Sustainability	Implicit; program-level baseline compliance, no portfolio visibility.	Portfolio affordability axis; scored against crowding risk to adjacent programs.
Schedule	Fixed milestones; delays are failures.	Time-to-Field; balanced against urgency of the capability gap.
Performance	Rigid KPP thresholds; hard to trade.	Variable; tradeable against benefit for faster delivery.
Benefit / Value	Implicit; assumed to be captured in specs.	Apex axis; measured in operational effects (e.g., kill-chain compression).
Sponsor/CCMD Priority	Static; derived from years-old requirements.	Dynamic (Tiers 1–3); refreshed each JFRP cycle.
Risk Tolerance	Hidden; managed as a shadow of cost/schedule.	Explicit policy setting; a deliberate PAE choice.

Risk Tolerance

The Risk Tolerance axis works differently from the other five. The other dimensions ask “how well is the program performing?”—higher is better. Risk Tolerance asks, “How much variance has the PAE authorized this program to absorb?” It is a policy setting, not a performance grade. A score of 3 does not indicate a troubled program; it indicates a program where the PAE has deliberately chosen a conservative posture, which may be entirely appropriate for a low-urgency effort.

The critical diagnostic insight is the relationship between Sponsor/CCMD Priority and Risk Tolerance. When these two scores are mismatched—High Priority paired with low Risk Tolerance—the Value Hexagon surfaces a structural tension that the Iron Triangle would have left invisible. A program the warfighter urgently needs cannot be acquired at the speed of relevance if the acquisition organization has no authority to accept meaningful risk.

Key Insight: The Mismatch Problem

When Sponsor/CCMD Priority scores are high, but Risk Tolerance scores are low, the resulting Value Hexagon profile reveals a structural tension that conventional C/S/P reporting cannot surface. This mismatch requires explicit resolution by the PAE—either through adjusting the authorized risk posture, restructuring the acquisition pathway, or formally acknowledging timeline constraints.

Three Readings of the Mismatch Profile

When a program shows High Priority alongside low Risk Tolerance, there are three distinct root causes—each with a different resolution:



- **Resourcing:** Low risk tolerance often reflects insufficient funding margin, immature technology, or an inexperienced program office. If the gap is genuinely Tier 1, this posture must be corrected by adding risk margin or escalating to the PAE.
- **Strategy:** The low-risk posture may be deliberate: a performance threshold set below operational need to buy time. The correct response is a spiral or incremental acquisition strategy—field a lower-capability increment quickly, then iterate at the next JFRP refresh (DoD, 2020).
- **Culture:** If multiple programs in the portfolio show this profile, it may indicate systemic risk aversion—scores suppressed to protect programs from scrutiny. The Value Hexagon is only as useful as the honesty of the scoring; this pattern warrants an audit.

All three paths converge on the same obligation: the PAE must resolve the tension explicitly and on the record, not allow it to dissolve into milestone paperwork.

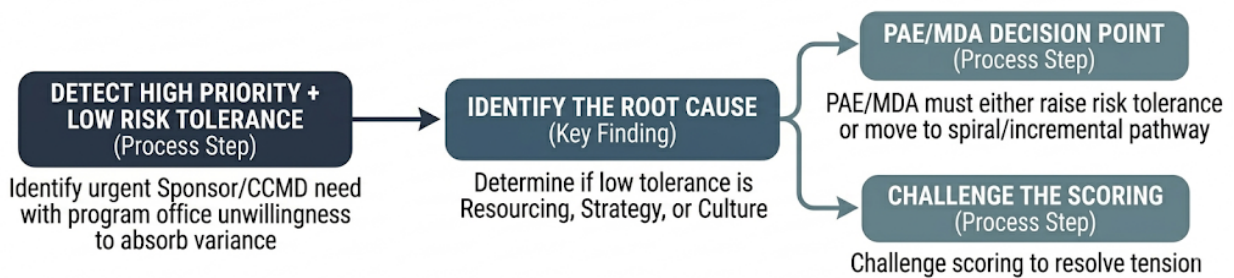


Figure 4. Tension in the Value Hexagon Drives Action

Program Archetypes

The true utility of the Value Hexagon lies in its analytically based visualization. Rather than parsing lengthy status reports, decision authorities can immediately read a program’s “silhouette”—the shape formed when its six scores are plotted—and identify mismatches between intent and execution.

Key Insight: The Shape of the Spider Chart is Important

The shape of the spider chart—not merely its area—communicates the program’s strategic posture. Large, balanced silhouettes indicate programs delivering broad value across all dimensions, while elongated or compressed profiles signal specific mismatches requiring PAE attention.

The Value Hexagon Spider Chart

The Value Hexagon spider chart is a single visual that tells you the strategic story of an acquisition program in about ten seconds. Instead of reading a 40-page program status report or parsing rows of earned value data, a PAE or Milestone Decision Authority (MDA) looks at one shape and immediately sees where the program is strong, where it is strained, and whether the tensions within it demand action.

It is called a “spider chart” because the six axes radiate outward from a center point like spokes on a wheel. Each axis is scored on a scale of 1 to 10. The program’s scores are plotted along those spokes and connected, forming a closed polygon—the program’s “silhouette.” The shape of that silhouette is the message.



The Six Axes

Each axis measures something genuinely distinct. None of them can be derived from the others, which is what makes the six-axis structure honest.

Axis	The Question It Answers
Benefit / Value	What mission outcome does this capability actually deliver?
Performance	Is the system meeting its technical specifications?
Fiscal Sustainability	Can the portfolio absorb this program without crowding out higher-priority efforts?
CCMD Priority (JFRP)	How urgently does a Combatant Command need this, right now?
Risk Tolerance	How much variance has the PAE/MDA authorized this program to absorb?
Schedule	Is the capability arriving in time to matter?

The first three axes on the left side of the Value Hexagon—Benefit, Performance, and Fiscal Sustainability—answer the question “what are we getting and at what cost to the portfolio?” The three on the right—CCMD Priority, Risk Tolerance, and Schedule—answer the question: “How urgently do we need it and how are we set up to deliver it?” A healthy program is balanced across both sides. A Full scoring rubric is provided in the Appendix.

How to Read the Shape

This is the core executive skill. The silhouette communicates faster than any number.

- A large, balanced hexagon—scores of 7 or above on all six axes—signals a program that is delivering high mission value on time, at a fiscally sustainable pace, with a clear warfighter sponsor, and with appropriate risk authorization. These programs deserve protection from budget pressure, not scrutiny.
- A small, compressed hexagon—low scores across most or all axes—signals a program that has lost its strategic rationale. It may be executing perfectly against an outdated requirement, but it is not delivering meaningful value to the joint force. This is the Legacy Drifter archetype: administratively perfect, operationally irrelevant.
- An elongated or lopsided shape—high on some axes, low on others—is where the real intelligence lies. Elongated shapes signal structural tension. Two specific mismatches demand immediate executive attention:
- High Sponsor/CCMD Priority + Low Risk Tolerance: The joint force urgently needs this capability, but the program has not been authorized to move fast. This is the Urgency Trap. The silhouette is thin and stretched. The PAE must either raise the authorized risk tolerance or honestly acknowledge that the timeline cannot be met—because the current posture demands speed, it has not enabled it.



- High Performance + Low Benefit/Value + Low Fiscal Sustainability: The program has over-engineered itself into irrelevance. It meets extreme technical specifications that drive costs up, but those specifications no longer translate into operational advantage. This is the Gold-Plated Anchor. The shape is heavy on the Performance spoke and thin everywhere that matters to the warfighter.

Why Shape Matters More Than Area

A common mistake when first reading spider charts is to focus only on the polygon's total area—bigger is better. That instinct is wrong, and understanding why is important.

A program can have a large total area by scoring high on Performance and Fiscal Sustainability while scoring low on Sponsor/CCMD Priority and Benefit. That large area tells you the program is well-managed and cheap—but it says nothing about whether anyone in the joint force actually needs it. The shape reveals which dimensions are driving the area, and that is what determines whether the investment is justified.

The PAE should train their eye to ask three questions when looking at any silhouette:

1. Are the Benefit and Sponsor/CCMD Priority spokes pointing outward? If not, the program lacks a strategic rationale regardless of how well it is executed.
2. Is the Risk Tolerance spoke consistent with the CCMD Priority spoke? If Priority is high and Risk Tolerance is low, there is a structural problem that no amount of good program management can resolve.
3. Is Fiscal Sustainability proportionate to Benefit and Priority? A program scoring 9 on Priority and 3 on Fiscal Sustainability is consuming Tier 1 resources faster than its contribution justifies—it is cannibalizing the portfolio.



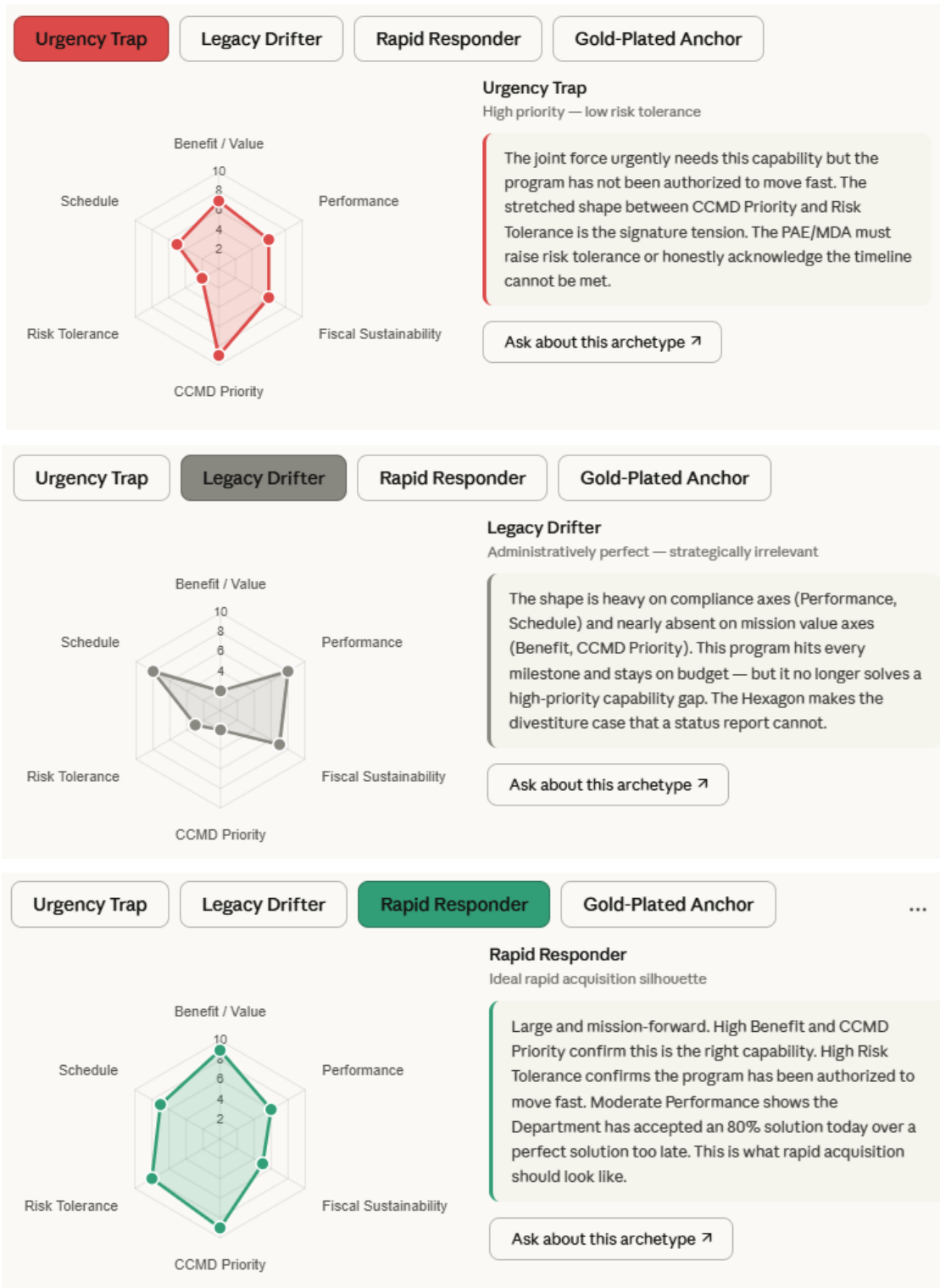


Figure 5. Sample Archetypes (Urgency Trap, Legacy Drifter, Rapid Responder)

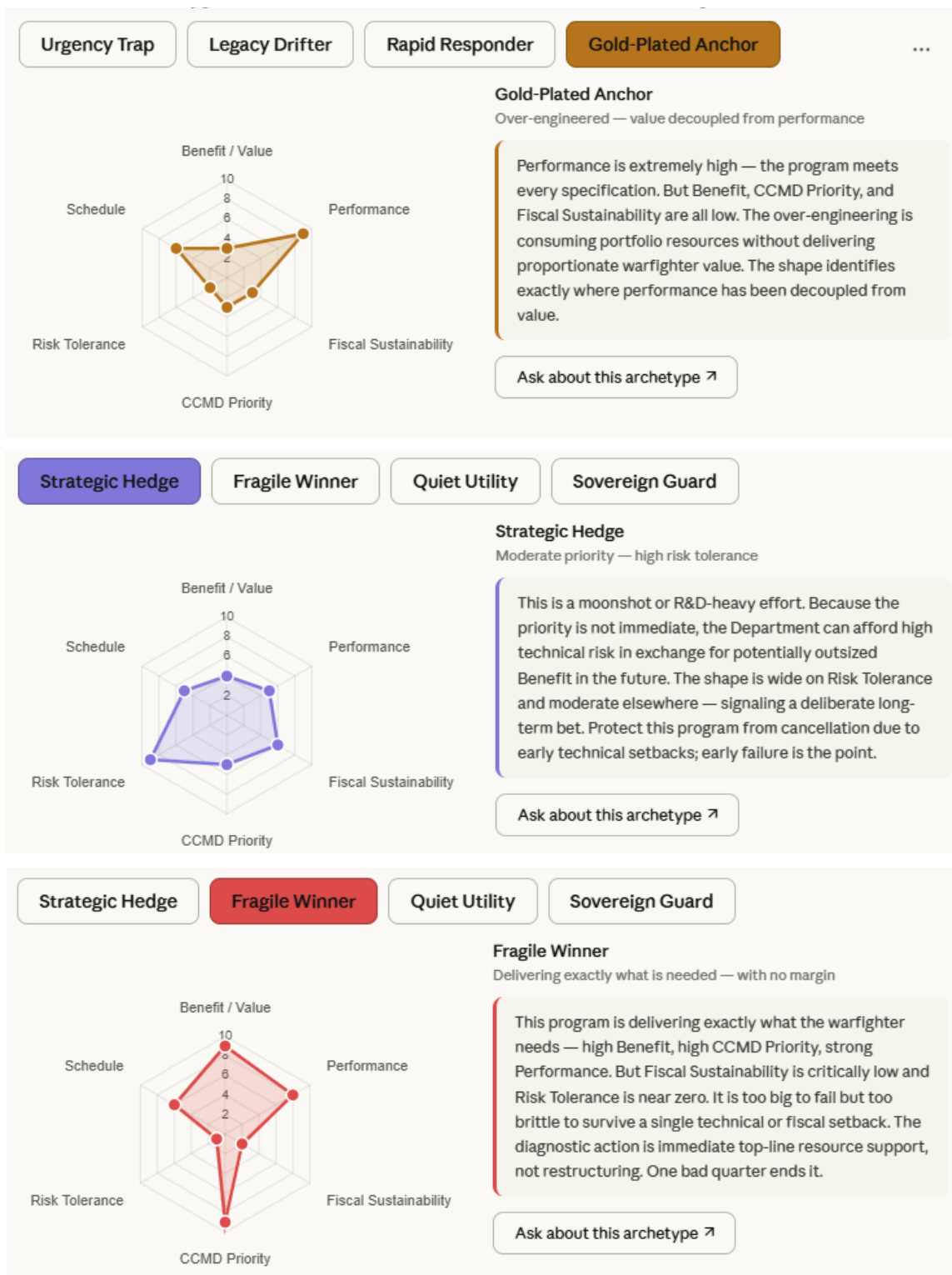


Figure 6. Sample Archetypes (Gold Plated, Strategic Hedge, Fragile Winner)



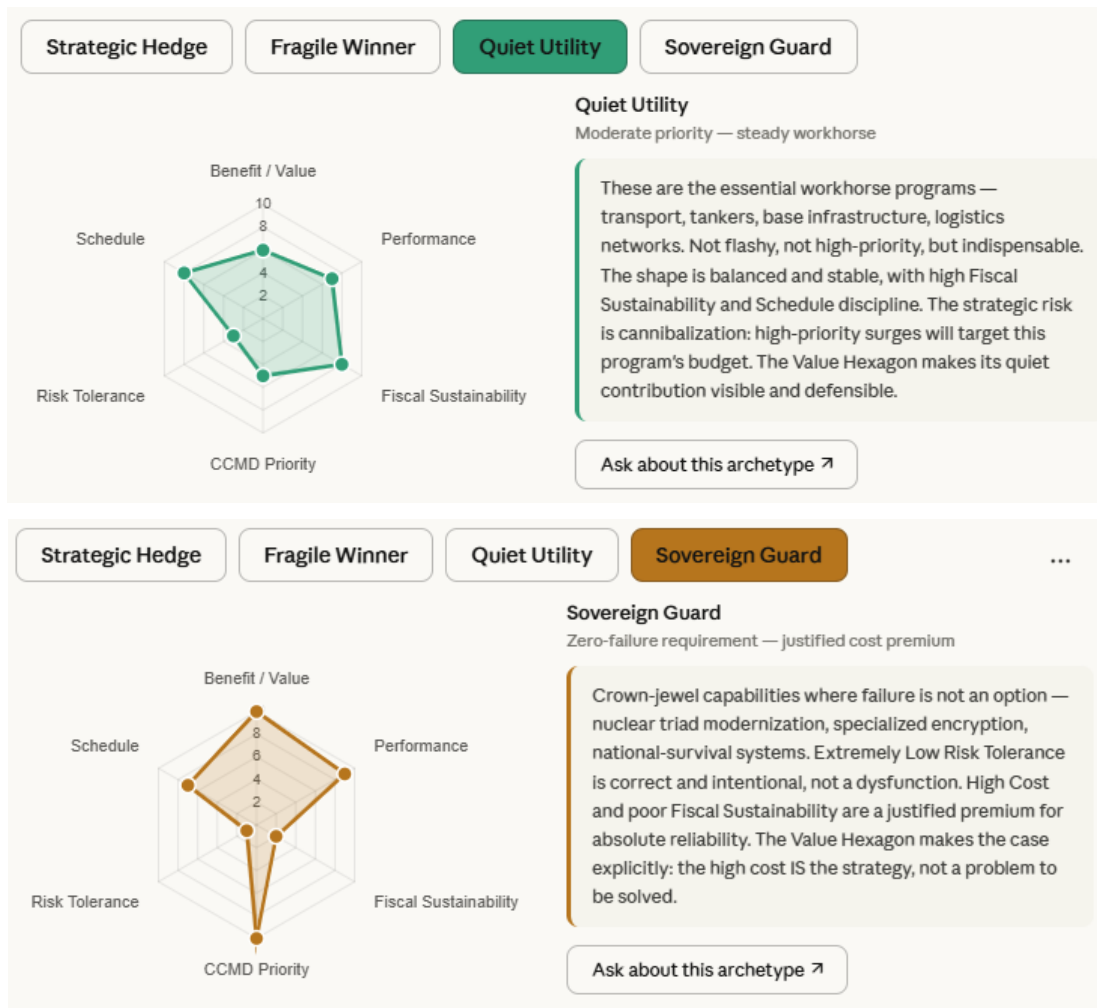


Figure 7. Sample Archetypes (Quiet Utility, Sovereign Guard)

Comparing Programs Side by Side

The spider chart's most powerful use is portfolio comparison. When two programs are plotted side by side—or overlaid on the same chart—the PAE can support transparent, auditable, and defensible reallocation decisions for Congress, the Inspector General, and the Secretary.

Consider this example. A *Legacy Drifter* scores 8 on Performance, 7 on Fiscal Sustainability, and 8 on Schedule—it is executing beautifully. But it scores 2 on CCMD Priority, 1 on Benefit, and 3 on Risk Tolerance. Its silhouette is heavy on the administrative compliance spokes and nearly absent on the mission value spokes.

Placed next to a *Rapid Responder*—which scores 9 on CCMD Priority, 8 on Benefit, 8 on Risk Tolerance, but 5 on Performance and 4 on Fiscal Sustainability because it is being starved of resources—the case for reallocation is visual, not narrative. The PAE does not have to argue from judgment. The two shapes make the argument.

Operationalizing the Hexagon Across the Life Cycle

Implementing the framework requires process changes at every acquisition phase, not merely new charts.



Requirements Phase

The JFRP gap submission replaces the former Initial Capabilities Document as the program's value baseline. Mission-outcome metrics—not KPPs alone—are established before development begins and tied explicitly to the Sponsor/CCMD's tiered priority.

Analysis of Alternatives

Alternatives are scored across all six dimensions with explicit weighting visible to the PAE. A more expensive option that addresses a Tier 1 JFRP gap with higher mission benefit can be selected transparently, with the trade documented rather than obscured.

Portfolio Management

Across the portfolio, the Value Hexagon enables direct comparisons between programs competing for limited resources. A program delivering high benefit against a Tier 1 gap with manageable risk may warrant continued investment even if it shows cost or schedule variance—a trade the Iron Triangle could not represent and the Value Hexagon makes both explicit and defensible.

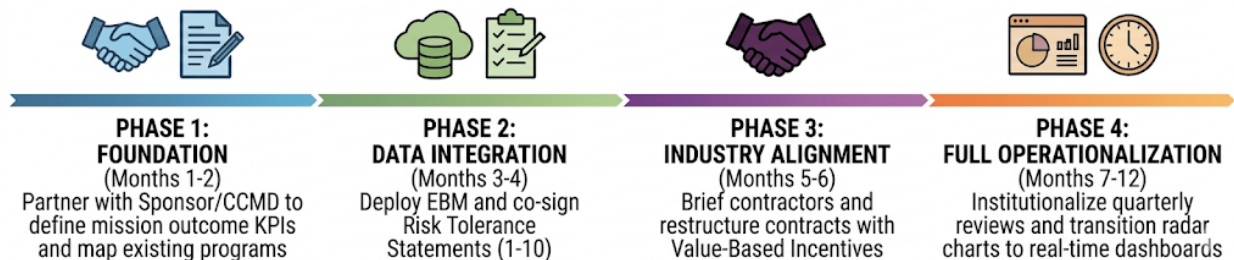


Figure 8. PAE Implementation Roadmap

Phase 1: Foundation (Months 1–2)

Objective: Establish the initial Value Hexagon profile for the program.

- Partner with the Sponsor/CCMD to translate existing requirements into 3–5 mission-outcome KPIs (e.g., “Reduction in target identification time” rather than “processor speed”).
- Conduct a independent baseline assessment to assign the program’s current archetype.
- Update the Program Management Plan to include the Value Hexagon spider chart as the primary reporting artifact for milestone reviews.

Phase 2: Metrics Integration (Months 3–4)

Objective: Make scoring auditable and objective.

- The PAE and PM co-sign a Risk Tolerance Statement (scored 1–10) that defines observable conditions for each score level.
- Establish a direct data link to the Sponsor/CCMD’s JFRP gap-submission cycle for real-time Priority axis updates.

Phase 3: Industry and Stakeholder Alignment (Months 5–6)

Objective: Signal the new demand standard to the industrial base.

- Brief prime contractors and key suppliers on how performance will now be judged against “Mission Benefit,” not just cost and schedule compliance.



- Incorporate value-based incentive structures into upcoming contract actions (e.g., bonus for reducing kill-chain time by an additional 15%).
- Conduct a mock milestone review using Value Hexagon archetypes to train senior leaders on reading program silhouettes.

Phase 4: Full Operationalization (Months 7–12)

Objective: Institutionalize the model as the single source of program truth.

- Run quarterly portfolio silhouette reviews to identify systemic patterns (e.g., inadvertent accumulation of Gold-Plated Anchors).
- Migrate Spider charts from manual slides to automated dashboards drawing from the Common Data Environment.
- Conduct an annual Value Audit comparing benefit realized against Risk accepted to calibrate the next JFRP cycle.

Critical Success Factors

Table 2. PAE Implementation Critical Success Factors

Factor	Requirement
Honest Scoring	Axes must be scored on observable, auditable conditions—not set to “green” for political safety.
PAE Backing	The PAE must protect the PM when authorized risk is taken and fails, provided it was aligned to a Tier 1 Sponsor/CCMD Priority.
Sponsor/CCMD Access	The program office must maintain a direct line to the warfighter’s operational planners to keep the Benefit axis current.
Dynamic Baselines	The program must be prepared to pivot its archetype when the JFRP signals a shift in threat priority.

Revitalizing the Defense Industrial Base

The Paradigm Shift: From Compliance to Mission Optimization

The U.S. Defense Acquisition landscape is undergoing its most significant structural evolution in fifty years. The transition to the Joint Force Requirements Process (JFRP) and its diagnostic centerpiece, the Value Hexagon, represents a shift from administrative compliance to mission optimization. For the Defense Industrial Base (DIB), this is not merely a policy change; it is a competitive imperative. Executives must now weaponize mission-value data to justify higher-margin, high-benefit solutions that provide the “speed of relevance” required for modern deterrence. The following table identifies the structural flaws of the legacy model and the advantages of the JFRP-aligned framework:

For industry leaders, the “So What?” is transformative. The Value Hexagon effectively “bridges the Valley of Death” for non-traditional contractors by making a prototype’s mission value visible to senior leadership long before a formal Program of Record is established. Traditional primes, conversely, must shift from “green-washing” underperforming programs to



proving “Earned Benefit.” Understanding the six dimensions of this hexagon is the prerequisite for portfolio realignment and capturing market share in the JFRP era.

The Six Dimensions of the Value Hexagon

The Value Hexagon is a holistic decision-making framework designed to anchor program health to mission-driven axes. It allows the DoD to move beyond checking boxes and to maximize deterrence by adjusting resources based on the evolving realities of the battlefield.

Fiscal Sustainability

- *Industry Impact:* Executives must demonstrate that their program’s cost trajectory is proportionate to its JFRP priority tier. A program consuming Tier 1 portfolio resources while addressing a Tier 3 gap is fiscally unsustainable regardless of its technical performance. Conversely, a high-cost program addressing a Tier 1 gap with no alternative scores well here.

Schedule

- *Industry Impact:* Speed is a primary differentiator. Firms that can deliver “80% solutions” today will outperform those promising perfection in a decade.

Performance

- *Industry Impact:* Performance is now a tradeable variable. Contractors should be prepared to trade exquisite specs for faster delivery or higher mission utility.

Benefit / Value

- *Industry Impact:* This is the apex metric. Every engineering decision must be mapped to a warfighting effect rather than a static document.

CCMD Priority

- *Industry Impact:* Contractors must track CCMD needs “left” of the RFP. A high-tier signal indicates the DoD’s willingness to authorize increased risk or funding.

Risk Tolerance

- *Industry Impact:* High tolerance signals an opportunity for aggressive, “fail-fast” prototyping. Low tolerance demands reliability-maximized engineering.

Analytical Note: Risk Tolerance as a Policy Lever

Note on Fiscal Sustainability: Unlike the old “Cost” axis—which measured whether a program was tracking its own approved baseline—Fiscal Sustainability is a portfolio-level measure. It asks whether the program is consuming resources at a rate proportional to its JFRP priority tier and whether it is crowding out adjacent programs that may have higher operational urgency. A program can deliver excellent mission value and still score poorly on Fiscal Sustainability if its cost trajectory is structurally unsustainable within the portfolio.

Fiscal sustainability is genuinely independent—a program can score high on both Benefit and Priority and still be fiscally unsustainable. Unlike the other five axes, Risk Tolerance is a policy setting, not a performance grade. A low score (e.g., 3) is not a “bad” grade; it reflects a deliberate choice by the Milestone Decision Authority (MDA) to hold the line tightly.

Strategic Portfolio Mapping: Analyzing Program Archetypes

“Silhouette analysis” using spider charts allows leadership to identify mismatches between intent and execution at a glance. By mapping portfolios to these archetypes, firms can identify which programs to scale, pivot, or divest.



The Capture Strategy: Winning in the Value-Based Environment

Winning in the JFRP era requires shifting business development “left” to influence requirements through CCMD intimacy before the RFP is released.

Directives for Proposal Innovation:

1. Pitch the Silhouette: Use spider charts in white papers to visually demonstrate how your solution maps to the government’s desired archetype (e.g., trading extreme specs for a 40% improvement in Time-to-Field).
2. Propose Value-Based Contracts: Move away from “lowest price” mindsets. Propose incentive fees tied to bonuses for specific “kill-chain” reduction metrics.
3. Frame Risk Transparency: For high-priority gaps, explicitly define the technical risks required to meet the timeline and the specific “Risk Tolerance” setting required from the MDA.

Resolving the “Urgency Trap”: A Diagnostic Flowchart

When a contractor identifies a high-priority/low-risk mismatch, they must guide the PAE through a root-cause analysis:

- Resourcing (Insufficient Margin): If the low risk tolerance stems from immature technology or thin funding, the contractor must advocate for a raised risk tolerance through added margin or TRL increases.
- Strategy (Deliberate Constraint): If the constraint is intentional, the contractor should propose a Spiral/Increment approach—using Other Transaction Authorities (OTAs) to field a lower capability fast and iterate.
- Culture (Systemic Aversion): If risk scores are being suppressed to “protect” the program from scrutiny, the contractor must challenge the score and request a re-baselining against the actual JFRP gap tier.

The Value Hexagon Functions as a Demand Signal to the Private Sector

The sustained emphasis on administrative compliance metrics has created structural incentives within the DIB that favor expertise in program management and regulatory navigation over speed-to-innovation. This is a rational response to the demand signals the acquisition system has historically transmitted, rather than a failure of industrial capacity per se. The Value Hexagon corrects this by making mission benefit an explicit, scoreable, and contractable variable (DoD, 2022; Schwartz et al., 2024).

Five Mechanisms for DIB Revitalization

- **Clearer demand signals:** Scoring programs across all six dimensions tells industry exactly which combinations of attributes DoD values, allowing firms to shape R&D and bids toward high-priority gaps rather than generic “better, cheaper, faster” targets.
- **Innovation incentives:** When a more expensive but higher-benefit solution can win a Tier 1 JFRP gap, firms are rewarded for innovation and speed-to-field rather than margin compression. This attracts venture-backed defense-tech entrants who cannot compete on administrative compliance alone.
- **Transparent source selections:** Explicit, auditable six-axis scoring reduces perceived arbitrariness in award decisions, lowering protest risk and business volatility—which in turn unlocks private capital investment in defense-oriented firms.



- **Incremental production opportunities:** Hexagon profiles showing high priority but low risk tolerance naturally point to spiral acquisition strategies, creating recurring production and upgrade contracts rather than single large programs of record.
- **Portfolio stability for critical suppliers:** The hexagon enables the DoD to sustain investment in programs delivering high mission value even under cost or schedule pressure, stabilizing demand for specialized industrial capabilities (advanced munitions, space, C2) that are vulnerable to cancellation during short-term budget cycles.

Conclusion

The Iron Triangle was a useful tool for an era of stable requirements, predictable threats, and a primary concern with fiscal discipline. None of those conditions reliably exists today, and a framework designed to optimize for compliance cannot be repurposed to optimize for deterrence.

The Value Hexagon does not discard what the Iron Triangle established. Cost discipline, schedule performance, and technical rigor remain embedded in three of the six axes. What the hexagon adds is the structure to ask the question the Iron Triangle was never designed to answer: is this capability worth what we are spending, and does the joint force actually need it right now? Anchored to the JFRP's continuous combatant-command-driven prioritization cycle, the framework ensures that answer is updated as the threat evolves rather than frozen at the moment a requirements document was signed.

The practical result is a portfolio management instrument that converts authority into durable action. When a PAE reallocates funding from a Legacy Drifter to a Rapid Responder, the hexagon provides the auditable six-axis record that survives Congressional scrutiny, Inspector General review, and GAO inquiry—not because it is bureaucratically airtight, but because it is operationally honest. The shape of the spider chart is defensible precisely because it reflects the CCMD commander's gap assessment, the MDA's co-signed risk posture, and the value actually delivered—not a program office's narrative.

The deeper purpose, however, is not administrative. It is cultural. The acquisition system has spent decades measuring what is easy to measure—dollars spent, milestones hit, specifications met—and calling that program health. The Value Hexagon measures what the system was always supposed to deliver: operational capability at the speed of relevance. Adoption of this framework, paired with the institutional conditions necessary to sustain honest scoring, is not merely an acquisition reform. It is a step toward an institution that earns the trust of the warfighter it serves.



Appendix: Notional Scoring Rubric

Value Hexagon — Scoring Rubric (1-10)			
Score	Benefit / Value	Performance	Fiscal Sustainability
1	No measurable mission outcome. Nice-to-have; no campaign plan dependency.	KPPs not met; system fails basic functions in operational environment.	Program is fiscally unsustainable. Cost trajectory is accelerating; EAC growth is crowding out Tier 1 and Tier 2 programs in the portfolio. Immediate portfolio-level intervention required.
2	Marginal improvement to existing capability; not linked to any CCMD gap.	Fewer than half of KPPs met; significant gaps vs. threshold requirements.	Severe sustainability risk. Unit cost growth or TOA consumption is disproportionate to the program's JFRP tier. Portfolio is absorbing Tier 3 costs at Tier 1 rates.
3	Supports a lower-tier gap; benefit qualitative and hard to quantify.	Most KPPs at threshold only; no objectives achieved; marginal utility.	Poor sustainability. EAC trending significantly above original estimate; funding profile unstable across the FYDP. Adjacent programs are at risk of underfunding as a result.
4	Validated gap addressed; benefit measurable but modest (minor sortie improvement).	All KPP thresholds met; some objectives achieved; adequate in limited conditions.	Below-average sustainability. Cost trajectory shows upward pressure; funding stability requires attention before next milestone. Portfolio rebalancing may be needed at JFRP refresh.
5	Meaningful improvement to one mission area; supports a Tier 3 JFRP gap.	All thresholds met; majority of KPO objectives achieved; reliable in primary cases.	Moderate sustainability. Program is consuming its authorized share of portfolio resources with minor variance. Stable but offers no margin against unexpected cost growth.
6	Significant improvement across multiple mission areas; supports Tier 2 JFRP gap.	All thresholds and most objectives met; performs well across expected conditions.	Acceptable sustainability. Cost trajectory is flat or gently declining. Portfolio share is proportionate to JFRP priority tier. No immediate portfolio risk.
7	Addresses Tier 1 JFRP gap; quantified improvement to kill-chain or logistics.	All KPPs at or above objective values; exceeds baseline in primary mission.	Good sustainability. Unit costs stable or declining; EAC at or below original estimate. Program is not crowding adjacent efforts and has adequate funding margin.
8	Critical to a specific campaign plan; removal would degrade CCMD concept.	Objectives exceeded across all KPPs; validated in live operational testing.	Strong sustainability. Demonstrated cost discipline over multiple reporting periods. Portfolio obligation share is declining relative to capability contribution.
9	Joint-force-wide impact; enables/protects strategic objective in priority theater.	Significantly exceeds all objectives; validated under adversarial/degraded conditions.	Excellent sustainability. Unit cost reduction confirmed through production or competition. Program is freeing resources that can be redirected to higher-priority gaps.
10	Existential mission criticality; no substitute; absence creates unacceptable NDS risk.	Best-in-class; sets new baseline for capability area; no known shortfalls.	Exceptional sustainability. Net contributor to portfolio health; declining unit costs, stable funding profile, zero crowding of adjacent programs, surplus available for Tier 1.

Value Hexagon — Scoring Rubric (1-10)			
Score	CCMD Priority (JFRP)	Risk (Tolerance)	Schedule
1	Not referenced in any CCMD gap submission; service-internal requirement only.	Zero tolerance; any variance unacceptable; program rigidly constrained.	IOC delayed >2 years against APB; recovery plan not credible.
2	Referenced in CCMD submission but not prioritized; informational mention only.	Extremely low tolerance; minor variance requires immediate escalation; no margin.	Delay of 1-2 years; SPI <0.8; critical path at risk; recovery under development.
3	Addresses a Tier 3 JFRP gap for a single CCMD; limited joint applicability.	Low tolerance; small management reserve; near-zero technical risk required.	Delay of 6-12 months; SPI 0.8-0.9; recovery needs resources or descope.
4	Tier 3 gap across multiple CCMDs; broader but still lower-priority need.	Limited tolerance; modest reserve; accepts low risk on mature technologies.	Delay of 3-6 months; manageable with current resources; no IOC breach.
5	Tier 2 JFRP gap for a single CCMD; meaningful operational priority.	Moderate tolerance; adequate reserve; accepts some schedule slip for capability.	Minor slip 1-3 months; SPI >=0.95; within normal variance; no APB breach.
6	Tier 2 gap across multiple CCMDs; joint force relevance clear and documented.	Balanced tolerance; accepts cost/schedule variance if performance is preserved.	On schedule against APB; SPI >=1.0; all major milestones tracking green.
7	Tier 1 JFRP gap for one CCMD; directly linked to a priority campaign plan.	Elevated tolerance; significant reserve; accepts risk on higher-TRL innovations.	Ahead of schedule 1-3 months; SPI >1.0; milestone compression possible.
8	Tier 1 gap across multiple CCMDs; cross-theater relevance validated in JFRP cycle.	High tolerance; flexibility explicitly approved; willing to prototype and fail fast.	Tracking 3-6 months early; demonstrated schedule discipline across phases.
9	Top-tier joint force priority; cited in Joint Warfighting Concept guidance.	Very high tolerance; structured for experimentation; failure is a planned outcome.	Significantly ahead; early IOC achievable; delivering capability ahead of plan.
10	Highest-priority gap in JFRP cycle; supports NDS pacing threat; SECDEF visibility.	Maximum tolerance; OTA/rapid acquisition vehicle; speed over cost certainty.	Exceptional performance; IOC substantially early; new benchmark for speed.

1-3 = Unsustainable / High Portfolio Risk (red) | 4-6 = Moderate Sustainability (yellow) | 7-10 = Strong / Portfolio-Enhance



References

- CJCS. (2026). *CJCSI 5123.01J: Charter of the Joint Requirements Oversight Council (JROC) and implementation of the Joint Force Requirements Process (JFRP)*. U.S. Joint Chiefs of Staff.
<https://www.jcs.mil/Portals/36/Documents/Library/Instructions/CJCSI%205123.01J.pdf>
- Defense Acquisition University. (2022). Valley of death. Defense Acquisition University glossary.
<https://govmates.com/defining-the-valley-of-death/>
- Department of Defense, Office of the Under Secretary of Defense for Research and Engineering. (2023). *National defense science & technology strategy 2023*.
<https://www.cto.mil/wp-content/uploads/2024/05/2023-NDSTS.pdf>
- DoD. (2020, January 23). *DoD Instruction 5000.02: Operation of the adaptive acquisition framework* (incorporating change 1, June 8, 2022). Office of the Under Secretary of Defense for Acquisition and Sustainment.
<https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/500002p.PDF>
- DoD. (2022, February). *State of competition within the defense industrial base*. Office of the Under Secretary of Defense for Acquisition and Sustainment.
<https://media.defense.gov/2022/Feb/15/2002939087/-1/-1/1/STATE-OF-COMPETITION-WITHIN-THE-DEFENSE-INDUSTRIAL-BASE.PDF>
- DoD. (2025, November 7). *Warfighting Acquisition System implementation directive establishing Portfolio Acquisition Executives*. Office of the Secretary of Defense.
<https://media.defense.gov/2025/Nov/10/2003819442/-1/-1/1/REFORMING-THE-JOINT-REQUIREMENTS-PROCESS-TO-ACCELERATE-FIELDING-OF-WARFIGHTING-CAPABILITIES.PDF>
- GAO. (2025, June). *Defense acquisition reform: Persistent challenges require new iterative approaches to delivering capabilities with speed* (GAO-25-108528).
<https://www.gao.gov/products/gao-25-108528>
- National Defense Authorization Act for Fiscal Year 2026, Pub. L. No. 119-60, 140 Stat. 1 (2026). [Warfighting Acquisition System provisions]
- SAE International. (2019). *Earned value management systems* (EIA-748D). SAE International.
<https://www.sae.org/standards/eia748d-earned-value-management-systems/>
- Schwartz, M., Peters, H., Guo, A., & Siripurapu, A. (2024). *The U.S. defense industrial base: Background and issues for Congress* (CRS Report No. R47751). Congressional Research Service. <https://crsreports.congress.gov/product/pdf/R/R47751>





ACQUISITION RESEARCH PROGRAM
DEPARTMENT OF ACQUISITION, FINANCE, AND MANPOWER
NAVAL POSTGRADUATE SCHOOL
555 DYER ROAD, INGERSOLL HALL
MONTEREY, CA 93943

WWW.ACQUISITIONRESEARCH.NET