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FEBRUARY 2025

Required to Fail

Beyond Documents: Accelerating Joint Advantage through Direct Resourcing and Experimentation

BILL GREENWALT, SENIOR FELLOW, AMERICAN ENTERPRISE INSTITUTE
DAN PATT, SENIOR FELLOW, CENTER FOR DEFENSE CONCEPTS AND TECHNOLOGY, HUDSON INSTITUTE

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Hudson Institute
1201 Pennsylvania Avenue, NW
Fourth Floor
Washington, DC 20004

+1.202.974.2400
info@hudson.org
www.hudson.org

Cover: An F-35A Lightning II performs aerial maneuvers during an airshow at Jacksonville Naval Air Station in Florida on October 20, 2024. (US Air Force photo)

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ABOUT THE AUTHORS

William C. Greenwalt

William C. Greenwalt is a senior fellow at the American Enterprise Institute, where he focuses on the expansion of America's defense industrial base and defense management issues. Dr. Greenwalt is also a founder of the Silicon Valley Defense Group. Before rejoining AEI, Dr. Greenwalt served in senior positions at the Department of Defense, in Congress, and in the defense industry. As deputy under secretary of defense for industrial policy, he advised the under secretary of defense for acquisition, technology, and logistics on all matters relating to the defense industrial base. In Congress, he served as a senior staff member for the Senate Armed Service Committee, the Senate Governmental Affairs Committee, and the House Appropriations Committee. In the private sector, Dr. Greenwalt worked for Lockheed Martin and the Aerospace Industries Association.

Dr. Greenwalt has a BA in economics and political science from California State University, Long Beach, an MA in international relations and defense and security studies from the University of Southern California, and a PhD in public policy from the University of Maryland.

Dan Patt

Dan Patt is a senior fellow with Hudson Institute's Center for Defense Concepts and Technology. His experience is at the intersection of technology, business, and national security strategy. His work at Hudson focuses on the role of information and innovation in national security.

Dr. Patt supports strategy at the national security technology company STR and supports Thomas H. Lee Partners' automation and technology investment practice. He has more than 20 years of experience operationalizing emerging technology, including artificial intelligence, networked information systems, robotics, supply chain automation, and enterprise information technology. He holds advisory board roles at the University of Michigan College of Engineering, Worcester Polytechnic Institute, and Andrew W. Marshall Foundation.

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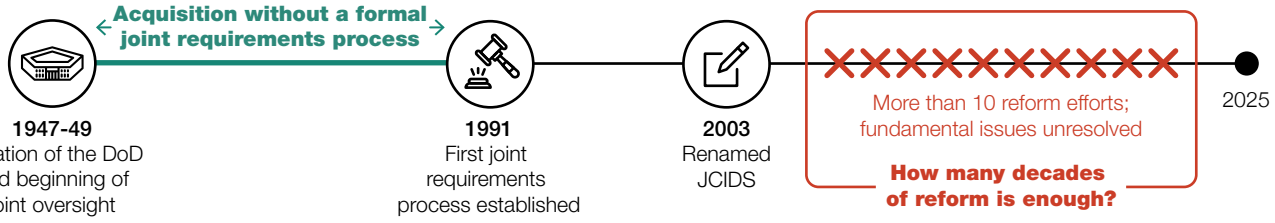

Five Broken Promises

Jointness

What Was Promised
Harmonized service needs

What Happened
Entrenched parochial interests

Interoperability

What Was Promised
Seamless connectivity

What Happened
Delivered stovepiped, incompatible solutions

Combatant Command Voice

What Was Promised
Aligned acquisition with warfighter demands

What Happened
CCMD needs routinely ignored

Future-Facing Innovation

What Was Promised
A proactively shaped future force

What Happened
Locked in rigid, outdated specs

Strategic Alignment

What Was Promised
Strategy translated into action

What Happened
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Retards Progress
2+ years to validate a requirement; adversaries cycle technology faster

Weaponizes Bureaucracy
Bureaucratic hurdles used to block innovation

Centralizes Control, Diffuses Responsibility
Everyone passes the buck; no one owns results

Substitutes Process for Insight
Paper-shuffling overshadows combat effectiveness

Mandates System Specs Over Needs
Locks in rigid attributes before understanding actual operational gaps

Enforces Rigid Prediction Over Adaptation
Freezes assumptions; kills agility in fast-evolving threat environments

JCIDS DOES NOT IMPROVE CAPABILITY DEVELOPMENT—removing it has no downside

Eliminating JCIDS frees energy, time, and talent to focus on genuine innovation and rapid adaptation

Path to a Better Future
(Chapter 4)

Operational imperatives first: Let combatant command problems shape needs.

Iterative, real-world evolution: Rapid prototyping + experimentation = faster learning.

Joint resource holdback: Scale what works, discard what doesn't—no multi-year delays.

Continuous adaptation: Embrace emerging tech and evolving threats; don't cling to stale specs.

EXECUTIVE SUMMARY

The Joint Capabilities Integration and Development System (JCIDS) has evolved from an aspiring solution to meet joint warfighting needs into a bureaucratic impediment that actively impedes military modernization. Analysis reveals a system that consumes more than 800 days to validate requirements—nearly 2.5 years during which technology evolves, threats advance, and opportunities evaporate. This is not merely inefficient; it represents an existential threat to America's military advantage in an era when commercial technology cycles span only months and adversaries are increasingly agile in capability development.

We recommend immediate legislative and executive action to eliminate JCIDS through modification of Title 10 of the US Code and parallel Department of Defense directives. This action requires no extended study or transition period—existing mechanisms within the resource allocation process can better achieve JCIDS's core functions of ensuring jointness and strategic alignment, particularly by empowering the Joint Staff's analytical arm to shape investment priorities.

JCIDS represents the ultimate perversion of military strategy—a system in which America's brightest officers spend their days debating section headers and formatting while our adversaries field new capabilities. It transforms strategic thinking into document compliance, measuring success by staffing completion rather than combat advantage. The vice chairman's calendar, which should be devoted to shaping the future of joint warfare, is instead consumed by ceremonial reviews of memoranda that neither guarantee funding nor deliver capabilities. The real work of joint warfighting adaptation happens despite JCIDS, not because of it.

Far from powering American military advantage, JCIDS has devolved into a ceremonial priesthood—fixated on formatting, enthralled by committees, and divorced from tangible warfighting needs. Its illusion of jointness cloaks a system in which vital modernization efforts wither under paperwork and parochial battles, even as adversaries advance at speed. By enshrining bureaucratic theater rather than true capability, JCIDS poses a structural liability that saps America's competitive edge, undermining the very warfighting potential it was meant to unleash.

1. INDICTING JCIDS FOR ITS SYSTEMIC FAILURE

The Joint Capabilities Integration and Development System (JCIDS), colloquially known as the joint requirements process, is a bureaucratic obstacle that offers no tangible benefit to national defense and should be abolished.

We begin this report with an indictment of JCIDS and a concrete and actionable recommendation. Congress should eliminate the JCIDS requirements process through modification of Title 10 USC §181(b), which outlines the role of the Joint Requirements Oversight Council (JROC).[1] In parallel, the secretary of defense, working in conjunction with the Joint Staff, should eliminate the process through a departmental directive.[2] The Requirements process as it exists today serves no positive or useful function in advancing the national defense and, in net effect, impedes and stifles military progress.

This elimination would have minimal impact on the generation of military power and future military capability. As we will demonstrate, JCIDS itself is superfluous—a layer of bureaucratic window dressing that neither secures resources nor ensures accountability, thus failing to alter our future trajectory. The US military does not need further commissions or protracted studies; eliminating JCIDS is a discrete, immediate reform that addresses a sizable bureaucratic burden.

The Department of Defense (DoD) established JCIDS to solve fundamental challenges: ensuring military capabilities serve joint force needs rather than individual services, driving interopera-

Photo: Birds fly near the Pentagon building over the US Air Force Memorial on December 22, 2024, in Arlington, Virginia. (Getty Images)

bility across services, and connecting strategy to acquisition by validating the alignment of new requirements with the National Defense Strategy. These were rational objectives. But the key promises of a joint requirements system—ensuring interoperability, advocating for combatant command needs, driving jointness, imagining the future of warfare, and aligning resources to our most strategic military opportunities—are broken and unmet. The structure and mechanics of JCIDS are so distant from these important goals that no amount of reform is likely to salvage it.

Tightly integrated joint warfighting capabilities hold tremendous promise for returning American advantage. Emerging information technologies and new operational concepts that coordinate many systems and platforms present an unprecedented opportunity. But JCIDS does not have a structure that seeks out and exploits opportunity, amplifies nascent capability, or rushes to fill our most treacherous gaps. Instead, it has evolved to protect status-quo power structures. This is not the moment in history to retrench. JCIDS needs to go.

A Bureaucratic Charade

The JCIDS (joint requirements) process is unnecessary; it does not meaningfully alter the future trajectory of the DoD. To recognize this truth, one should examine military capability through a pragmatist's lens.

Military power manifests across multiple dimensions—concepts, manpower, structure, materiel, will, creativity—and most of these do not run through the Pentagon. The Pentagon's primary institutional purpose is the complex art of resource allocation: orchestrating the conversion of taxpayer dollars into national defense through trained forces, capable organizations, efficient processes, and effective technology. The Pentagon shapes doctrine, manages crises, and crafts policy. However, its defining challenge remains transforming America's resources into America's security.

Two fundamental decisions drive real outcomes in resource allocation. First, what priorities deserve more funding? This is the essence of strategy—identifying the best uses of constrained resources, and especially identifying the least important uses. Second, who has the authority and accountability to convert those dollars into actual military capability? This means assigning clear ownership and responsibility for results. Put simply, the two core decisions are what gets funded and who is accountable for delivering outcomes. JCIDS touches neither of these core decisions.

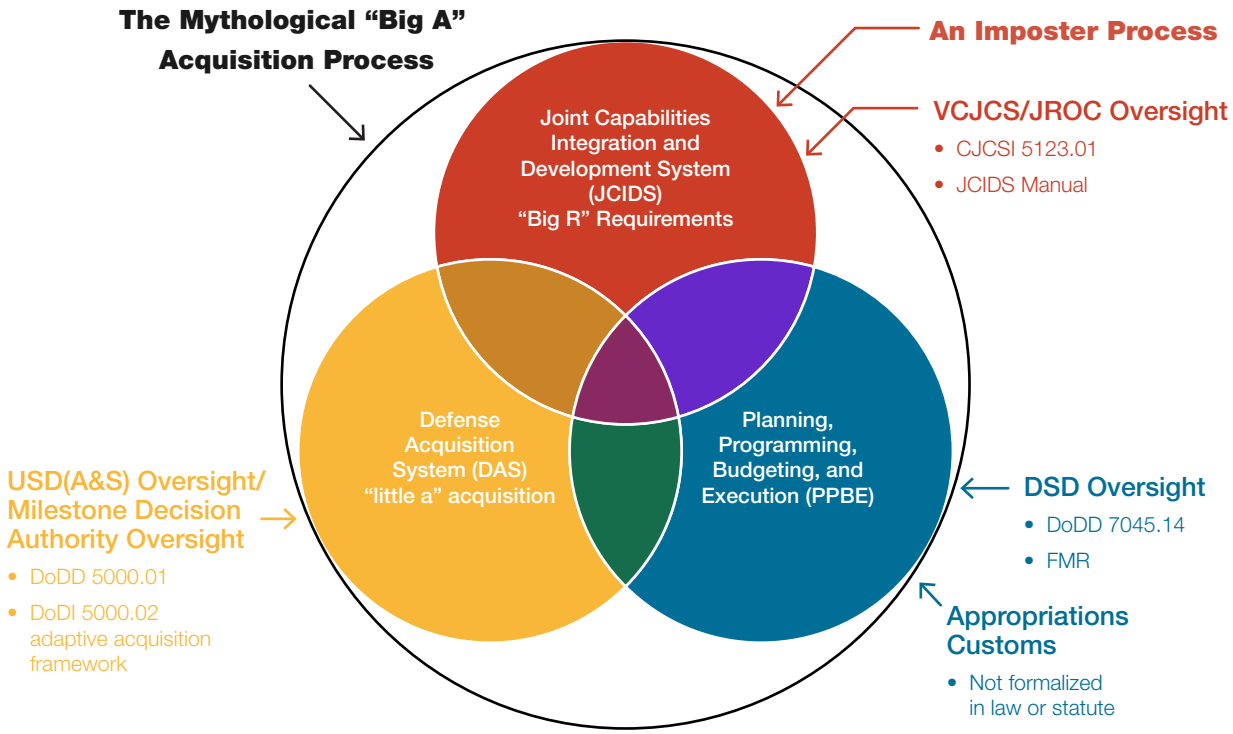
Where the system has demonstrated positive impacts, they have emerged from the bully pulpit of senior officers and their empowered agents exercising direct leadership—not from the process itself. This reveals what JCIDS truly is: a bureaucratic ceremony that creates the illusion of rigor while adding no value to the critical decisions that actually shape military capability.

The Big Acquisition Myth

Those immersed in the defense acquisition community frequently encounter jargon-filled assertions about two views of acquisition. *Big A* acquisition is the largest view of how the DoD converts dollars into capability, and *little A* acquisition is the defense acquisition system's policies and processes for managing individual programs.

The prevailing myth portrays formal acquisition as one of three essential pillars, alongside the resource allocation process (planning, programming, budgeting, and execution, or PPBE) and the joint requirements process. The three-pillar model suggests optimal outcomes emerge from the intersection of these processes. The 2024 Defense Acquisition University (DAU) training materials celebrate the model by highlighting legacy systems: "It is important to remind ourselves that the Big-A process, largely executed sequentially, [works] as intended. . . . Consider the following systems still serving warfighter needs: B-52 Stratofortress [1950s], . . . PATRIOT weapon system [1984], . . . [aircraft carrier] USS *Dwight D. Eisenhower* [1977], . . . Mameluke Sword [1804]."[3] The irony is striking—these examples of acquisition success all predated JCIDS. Three predated the modern

Figure 1. The Acquisition Process According to Defense Acquisition University



Note: Contemporary acquisition mythology suggests JCIDS is an integral part of capability delivery, whereas it is actually superfluous, influencing neither funding nor assignment of accountable parties.

Source: Authors, inspired by DAU materials. DoDD = Department of Defense directive; DoDI = Department of Defense instruction; DSD = deputy secretary of defense; FMR = financial management regulation; CJCSI = chairman of the Joint Chiefs of Staff instruction; USD(A&S) = under secretary of defense for acquisition and sustainment.

acquisition process, and two even predated PPBE. The notion that the DoD requires a big A acquisition system with three components is not merely misguided—it is actively harmful.

A JROC-validated requirement offers no guarantee of funding; years spent chasing that bureaucratic approval can yield little progress for the capability in question. In principle, good requirements should target capability gaps rather than system specs, yet even a validated requirement doesn't automatically translate into a dedicated budget line. Program managers—expected to balance performance and system characteristics—too often inherit rigid, solution-focused documents that constrain them (and industry) and produce suboptimal trade-offs among capability, cost, and speed. Meanwhile, even well-crafted requirements often fade from view until actual funding emerges through the program objective memorandum process. Require-

ments documents simply don't help deliver useful outcomes. Other JCIDS elements, such as analyses of alternatives, can become long, expensive exercises in paperwork—routinely bypassed when real budget decisions collide with tight timelines or scarce resources. The net result is a process that can siphon years of effort and still fail to move critical capabilities forward.

In this supposed triad, JCIDS is an imposter. The idea of needing joint requirements validation through this specific mechanism is relatively new—and as our work will demonstrate, this was no modern innovation but a regression in defense capability development.

Current DoD policy and the law[4] have already reduced the need for JROC-validated requirements, deferring to services in most cases. We argue that this can be taken further, eliminating the need for joint requirements documents entirely in favor of a problem-focused approach. In today's reality, as throughout much of history, what program managers truly need are funding and clear mechanisms of accountability. Some services may choose to implement this through their own requirements processes, but the notion of mandatory joint requirements validation is more of a cultural assumption than policy mandate or bedrock truth.

While this report's analysis and recommendations focus primarily on the joint requirements process (JCIDS), it is important to acknowledge that each service maintains its own internal mechanism for defining capability needs—such as the Army's Requirements Oversight Council (AROC), the Navy's Resources and Requirements Review Board / Marine Requirements Oversight Council (R3B/MROC), and the Air Force's AF Requirements Oversight Council (AFROC).[5] These service-level processes generally derive their authority and structure from statutory guidelines and adapt the overarching JCIDS framework to their respective domains.

While many of the critiques in this report also apply to service-specific requirements processes, our focus remains on the joint layer because of its especially superfluous structure and marginal influence on true resource allocation. We do not suggest that eliminating JCIDS automatically fixes every deeper pathology of requirements-based planning in the services. As long as the services drive the bulk and structure of the DoD's budget formulation, they require a means to articulate unique domain needs, resolve doctrinal nuances, and address urgent operational gaps directly relevant to their force structure and missions. However, because JCIDS adds considerable overhead without consistently enhancing joint capabilities or improving strategic alignment, we advocate its removal as a distinct, achievable action that can streamline modernization at the DoD level.

Our central recommendation to abolish JCIDS rests on the finding that its joint validation step consumes time and resources disproportionate to any unique value it adds. Service processes, by contrast, often tie directly to responsibility and accountability for delivering capabilities that service budgets fund. Where those service processes remain better tethered to resource decisions and operational realities, they stand on firmer ground, even if they also need updates to be more dynamic and problem driven. Any localized inefficiencies or bureaucratic pathologies they exhibit are distinct from the existential dysfunction we observe in JCIDS. In short, our core indictment of JCIDS does not extend wholesale to the services' internal requirements systems, even if certain elements of our critique could inform improvements within them.

The Promise and Paralysis of Joint Requirements

The fundamental challenge of military modernization lies in balancing service expertise and force objectives with near-term operational challenges and long-term threat developments, the latter of which require the best of a jointly applied force. Individual services possess deep domain knowledge and operational experience, but without a uniting influence, their natural tendencies toward parochialism can fragment joint capability development. This legitimate concern drove the creation of JCIDS—a

system theoretically designed to transcend service boundaries and shape future military capabilities through strategic foresight.

The promise was compelling: America's most talented officers would peer into the future of warfare, synthesizing intelligence assessments with emerging technologies and operational concepts. They would convene with combatant commanders to understand operational challenges, leverage sophisticated wargaming and analysis to identify capability gaps, and drive investments toward the most promising opportunities for joint warfighting advantage. This forward-looking system would ensure that America's military power evolved faster than our adversaries' ability to counter it.

The reality of JCIDS betrays this promise utterly. Instead of dynamic strategic analysis, we find a system obsessed with document formatting and bureaucratic procedure. It has reduced the Joint Staff gatekeeper—theoretically in a position to shape the future of American military capability—to measuring margins and scrutinizing font sizes. According to appendix C in the JCIDS manual,[6] this coveted O-6 position focuses primarily on ensuring submissions meet administrative requirements before entering an endless cycle of staffing and validation. This is not merely inefficient—it represents a fundamental failure of strategic adaptation. While China rapidly fields new capabilities and commercial technology cycles accelerate, JCIDS remains trapped in its bureaucratic amber. Due to the process's average multi-year timelines for requirements validation, by the time a document completes its journey, the technology it describes may already be obsolete.

Congress attempted to address this dysfunction through its 2016 reforms,[7] empowering the vice chairman of the Joint Chiefs of Staff to proactively identify and validate joint capabilities. Yet in the years since then, JCIDS has largely reverted to its passive default. Our analysis identified only a single instance of proactive requirements initiation. Meanwhile, the process mostly focuses on individual service proposals—such as the JROC validation of the Army's Future Attack and Reconnaissance Aircraft (FARA) or the Navy MQ-25 Stingray aircraft despite limited joint implications. In essence, the JCIDS has become a brake on service- and department-wide action and a source of comparative advantage for our challengers.

The system has evolved precisely backward from its intended purpose. Rather than driving strategic adaptation and joint integration, JCIDS has become an obstacle to innovation—consuming the creative energy of talented officers in administrative ceremony while failing to deliver any meaningful improvement in joint warfighting capability.

The Anti-Strategy

The fundamental failure of JCIDS lies in its structural inability to enable strategic decision-making. In an era of constrained resources and accelerating technological change, the DoD requires mechanisms to make difficult choices between competing priorities. Yet JCIDS operates as a binary validation system—certifying that capabilities are important without providing any framework to determine their relative strategic value.

The JCIDS process lacks any mechanism to cull outdated requirements or redirect resources toward true priorities, instead accumulating an ever-expanding inventory of "validated" needs with no strategic triage. Further, the system's focus on individual program validation prevents meaningful assessment of cross-cutting capabilities or alternative approaches to achieving military effects. Band-Aids like the Capability Portfolio Management Review (CPMR) process and Joint Staff substructures like functional capability boards (FCBs) are supposed to look broadly across activities in the DoD, but their output is largely constrained to editing documents flowing through the JCIDS pipeline. And once a requirement enters the JCIDS pipeline, institutional dynamics drive toward inevitable approval. Service officers participating in joint reviews hesitate to reject sister service proposals, anticipating future reciprocity needs. This creates a mutual validation society in

which everything becomes important and therefore nothing truly is. The actual JROC meetings have devolved into ceremonial proceedings for pre-written approval memorandums to receive pro forma signatures.

Congress recognized these strategic shortfalls in its 2016 reforms, specifically mandating alignment between requirements and strategy.[8] However, in the eight years since implementation, the JROC has demonstrated minimal progress toward meaningful prioritization. The process remains under the thumb of middle-management bureaucracy; staffing officers focus on documentation compliance rather than strategic assessment. For these participants, the safest course is always to expand requirements and attempt to future-proof capabilities—regardless of technical feasibility or resource constraints.

This bureaucratic risk aversion produces requirements documents that often defy physical or fiscal reality. With no dedicated technical assessment capability within the Joint Staff and no incentive to constrain requirements to achievable parameters, the process validates performance specifications that engineering analysis would quickly reveal as impossible.[9] Further, it provides no meaningful framework to assess whether a requirement's projected cost justifies its potential military utility. The Joint Staff lacks both the analytical tools and the expertise to make these assessments, yet it continues to validate requirements associated with billions in future service spending.

Instead of forcing difficult choices about relative priorities and resource allocation, JCIDS encourages universal validation of requirements without regard for feasibility or strategic alignment. We ask the JROC to slap a joint flavor onto requirements at the backend while expecting the budget process alone to deliver truly integrated joint force capabilities—a self-defeating contradiction that all but guarantees misalignment. The process has become so disconnected from its intended purpose that no amount of incremental reform can salvage its utility as a strategic planning tool.

The Tyranny of Documentation: Process over Purpose

The primary focus of JCIDS has devolved into an obsession with obtaining documents, revisions, and signatures rather than accelerating capability delivery or meaningfully analyzing warfighting gaps and opportunities. The lead instruction Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 5123.01I and its accompanying manual exemplify this documentary fixation. Enclosure B of the manual presents exhaustive requirements for document formats, including byzantine specifications for initial capabilities documents (ICDs), capability development documents (CDDs), and doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTmLPF-P) change recommendations (DCRs). This framework measures success not by delivered military capability but by the production of properly formatted and approved documents that conform to the DoD Architecture Framework (DoDAF).

This documentation-centric approach creates several compounding pathologies. First, it drives an excessive focus on defining detailed system performance specifications rather than addressing overarching capability gaps. JCIDS documents routinely include highly specific system performance attributes—thresholds and objectives that constrain program managers and industry partners before meaningful technical analysis or trades of technical approaches can occur. This premature specification of solutions shifts attention away from the broader operational challenges these systems should address. It prioritizes the articulation of rigid system-level characteristics over the identification and analysis of warfighting gaps, stifling adaptation to evolving threats or technological opportunities.

The documentary burden extends further: each submission must navigate an elaborate matrix of certifications, many poorly documented in policy but discovered only through the coordination process. This creates a so-called hidden curriculum of requirements—institutional knowledge that further separates form from function. It feeds a cottage industry of consultants

and consulting firms that specialize in the dark arts of drafting initial capabilities documents, analyzing alternatives, correcting document formatting, and filling in DoDAF views at the cost of millions of dollars. Bureaucrats wield this hidden knowledge as power, disadvantaging new entrants or novel approaches.

The tragedy lies not merely in wasted time and resources but in the opportunity costs this system imposes. Rather than enabling rapid identification and exploitation of emerging capabilities, JCIDS creates artificial barriers between warfighters and solutions. The process has become so disconnected from its intended purpose that it now serves primarily as an administrative obstacle course rather than a meaningful framework for capability development.

The Curse of Predictive Linearity

Perhaps JCIDS's sins would be forgivable if it were merely a vestigial ceremony, a matter of tradition. However, the DoD treats it as a core practice element—a mandatory path to any positive impact on warfighting. This institutional commitment to linear prediction creates compounding negative effects on military adaptation and innovation.

The delays inherent in JCIDS critically impede the DoD's ability to respond to emerging threats and rapidly evolving technological opportunities. Recent studies reveal that progressing from an ICD to a CDD approval takes an average of 852 days;[10] specific examples show 516 days for ICD approvals and an additional 336 days for CDD approvals. The conflict in Ukraine, for example, has featured drone/counter-drone tactical evolution measured in days, so the notion that spending more than two years staffing documents to "get the requirement right" is overindulgent folly.[11]

Instead of experimenting with end users or emerging technologies, our senior joint officer corps spends time in coordination meetings. JCIDS enforces a process that aims to minimize perceived risks more than to accelerate capability delivery—a structural flaw that perpetuates America's inability to compete effectively in rapid technological adaptation. Perhaps JCIDS's most damning indictment is that it fails to incorporate feedback loops or iterative learning during capability development. Much of the time it consumes stems not from active work but from delays in comment adjudication and document reviews, with a single joint comment adjudication phase adding over 100 days to the process.[12] These delays yield no actionable insights or adjustments; instead, they reflect a systemic prioritization of formal approvals over substantive progress.

As we noted in our prior study on defense resourcing,[13] all of the DoD's legacy processes, including JCIDS, remain trapped in a Stalinist planning model that prioritizes predictability over adaptability. Instead of iterating solutions to operational problems, the DoD iterates document revisions. The 100-day CDD staffing process circulates, revises, and resubmits documents to meet various formatting and stakeholder review requirements, slowly gathering signatures on a routing sheet. In the meantime, actual warfighting capabilities languish.

Even the original defense acquisition system structure—the first version of the venerable DoD 5000 instruction—recognized that capability breakthroughs emerge from empowered individuals, not over-wrought consensus documents: "System need shall be clearly stated in operational terms, with appropriate limits, and shall be challenged throughout the acquisition process. . . . Responsibility and authority for the acquisition of major defense systems shall be decentralized to the maximum practicable extent . . . the development and production of a major defense system shall be managed by a single individual (program manager)."[14]

Rather than proactively pursuing joint imperatives, JCIDS removes useful degrees of freedom from acquisition program managers and the industrial base. Instead of seeking out combatant commander gaps and opportunities, iterating and experimenting with new solutions, and finding new levers of ad-

vantage, JCIDS constrains American creativity and innovation potential.

Beyond Requirements: Strategic Adaptation

What the DoD needs is a proactive, future-facing mechanism to amplify and accelerate the joint capabilities that would best advance American military advantage. Such a mechanism should operate through resourcing—allocating funds to responsible individuals who can develop capabilities. It should enable vibrant experimentation, discovery, and innovation. These are vital needs, but they are uniquely ill-suited to tedious consensus staffing of documents. The DoD cannot achieve them by altering the JCIDS process, which after two decades has proven itself beyond reform.

Our analysis reveals elements within the current joint staff structure that demonstrate value and merit amplification. For example, a small cell in the Joint Staff—the J81—performs rigorous analysis at the operational level and represents the type of capability worth expanding. Other parts of the Joint Staff support important joint experimentation activities. And many talented officers simply don't have an opportunity to apply their insights or energy to productive use. Currently, the Office of Cost Assessment and Program Evaluation (CAPE) serves as the primary guide for service spending decisions. The DoD needs a robust joint military perspective as a natural counterweight, but this should manifest in adjustments to resource allocations, not pointless paperwork.

Additionally, the hard work of imagining future ways of fighting requires a dedicated effort. Most military breakthroughs come from enlightened practitioners, not annual review processes. The Joint Staff needs to create cells where freethinking innovators can drive wargaming to ask uncomfortable questions. New concepts cannot, of course, be proven through analysis. The Joint Staff also needs to work with the Office of the Secretary of Defense (OSD) to execute campaigns of structured experimentation that intersect combatant command (CCMD) challenges with technology and military units. While injecting net new systems and technologies has transformative potential, the DoD should do so in a context designed to drive learning and change—in its systems, organizational structure, and concepts.

Chapter 4 will outline specific mechanisms to achieve the objectives of enabling a more adaptive, future-ready, joint military without the overhead of a formal requirements system. The path forward is not reform of JCIDS but recognition that the DoD can better achieve its core intended functions through other means. The foundations for effective joint capability development already exist—the Pentagon needs only remove the bureaucratic obstacles that prevent their proper function.

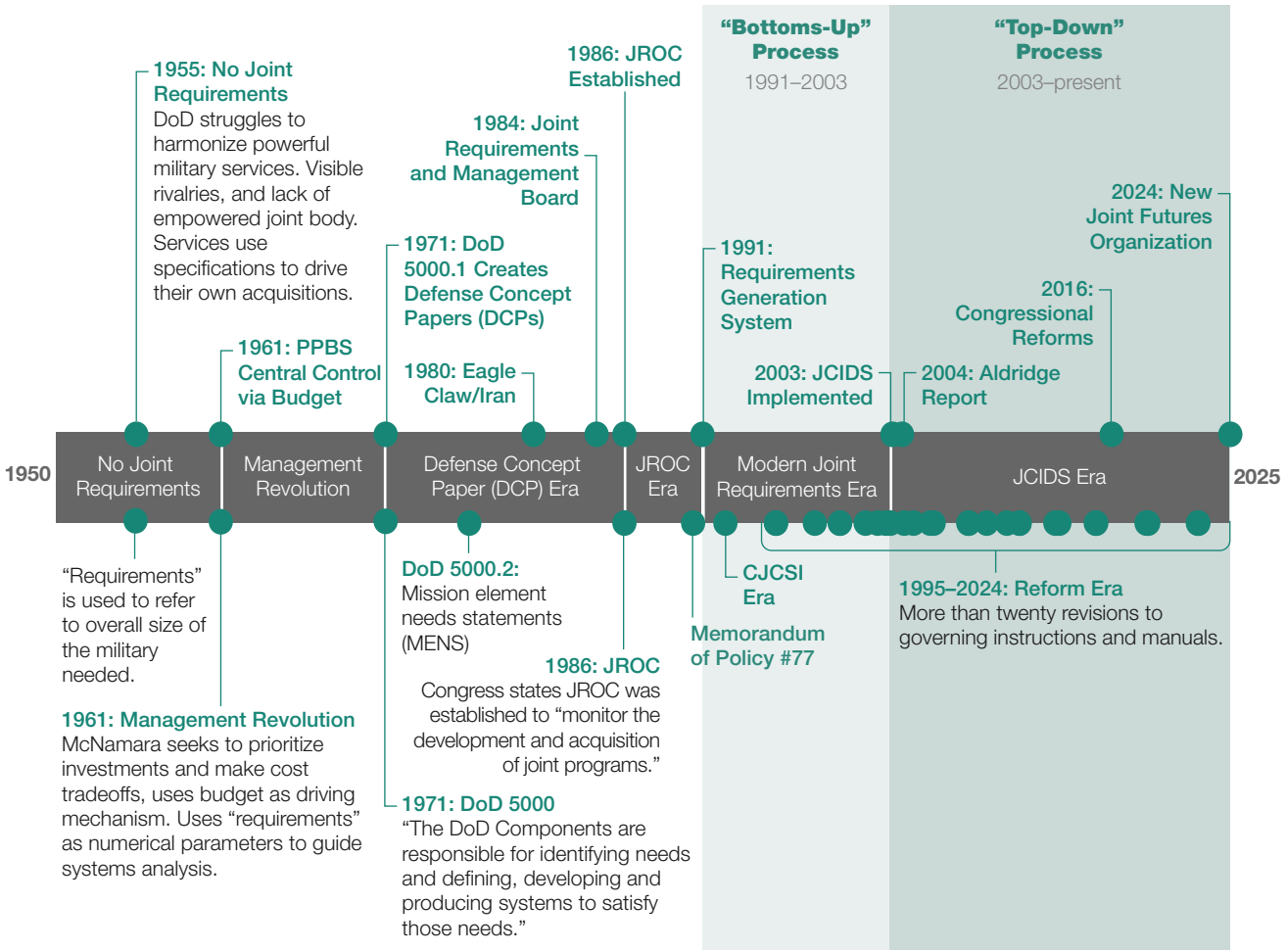
2. THE EVOLUTION OF JOINT REQUIREMENTS PROCESSES

At its core, a requirement is merely the expression of a need or desire for a military capability. Over the decades, the DoD's approach to defining and managing military requirements has evolved through distinct eras, each reflecting broader shifts in strategic thought, organizational priorities, and governance structures. After World War II, no formal requirements process existed at the joint level, leaving services to pursue their own interests. The scarcity of resources, stringent goals for time to deployment, and the technological art of the possible policed the danger of unlimited appetites. Following the creation of the DoD, several activities sought to rationalize service activities under OSD control.

The budget emerged as the most effective mechanism to shape service activities at a department-wide level. The 1960s brought a "management revolution" under Secretary of Defense Robert McNamara, emphasizing rationalized trade-offs and the cost-effectiveness of individual systems, and the dawn of using the budget process to drive activity. Later, Secretary Melvin Laird sought to reduce micromanagement, exerting his influence through establishing budget ceilings, leaving the analysis of military requirements to the services.[15] The Defense Concept Paper era of the 1970s followed as a first attempt to link program decisions to strategic guidance through structured documents. Subsequent operational failures in the 1980s spurred the creation of joint oversight bodies like the JROC, culminating in the Requirements Generation System (RGS) of the early 1990s. By 2003, JCIDS emerged as an attempt to ensure jointness and strategic alignment, but repeated reforms into the 2010s and beyond revealed persistent struggles. In essence, rather than leading to questions about the underlying premises of McNamara's centralized management scheme and its impact on operational failures, these failures became the catalyst for more centralized processes and linear thinking.

Photo: An F-117 Nighthawk lands at Joint Base Elmendorf-Richardson, Alaska, on May 10, 2023. (US Air Force photo)

Figure 2. Timeline of DoD Requirements Processes



Note: JCIDS evolved from a combination of joint operational failures and central planning initiatives.

Source: Authors.

The Eternal Dilemma: From Needs to Specifications

JCIDS is, at its core, an attempt to answer a fundamental question: How can the DoD ensure the weapons and systems it develops and procures actually meet the operational needs of its warfighters? The struggle to align technological capabilities with battlefield requirements has been a recurring theme throughout military history. The development of military aviation during World War I, a period before the advent of joint military coordination, formalized so-called big R requirements processes or the modern acquisition system. This history offers valuable insights into the enduring nature of this challenge and the pitfalls that the DoD still needs to avoid today.

In this era, the development of new weapons was often a haphazard affair driven by a chaotic mix of technological opportunity, individual advocacy, and perceived military necessity. There was no systematic process for translating the operational needs of the battlefield into clear, concise technical specifications that could guide the efforts of engineers and manufacturers. This lack of a formal process perhaps permitted innovation, but it also left a fundamental disconnect between what the warfighter needed and what the system provided.

This missing link was less of an issue for procuring high-quality variants of known end-items, like boots. In such cases, it was clear that high-quality, waterproof boots of various sizes and quantities were necessary.[16] However, when the specifications of future technology intertwined with how the US military would use that technology, this issue became acute.

The Army's original contract for the Wright Flyer—all four pages of it—neatly illustrates this tension between specification and capability. The contract's payment structure hinged almost entirely on achieving specific speed thresholds, with dramatic variations in fees for minute differences: achieving 41 mph would earn a 10 percent bonus, while 39 mph would incur a 10 percent penalty.[17] There was no discussion of the effects of tailwinds. While the Army clearly understood they wanted an observation platform grounded in the operational concept of aerial reconnaissance, they approached the problem like ordering boots, focusing on precise technical specifications rather than broader mission capabilities. The contract's obsession with speed benchmarks reflects a fundamental misunderstanding of how to procure transformative technology. Rather than emphasizing adaptability, reliability, or ease of operation—factors that proved crucial to military aviation—the requirements defaulted to easily measurable and verifiable parameters. This "boots mentality" toward revolutionary technology became a recurring pattern in military acquisition.

Holley's study of World War I aviation further illustrates the problem.[18] In the early days of the war, the US Army's approach to aircraft acquisition remained largely reactive and lacked a coherent doctrinal framework. The Signal Corps, responsible for aviation, initially focused on procuring aircraft that met certain technical specifications, such as speed and rate of climb. The US military judged early competitions for military aircraft almost exclusively on these grounds, with little consideration for how the specifications translated into operational effectiveness. It was akin to building a faster car without first asking what the car would be used for—commuting, racing, or hauling cargo.

The consequences of this *technology-push* approach, rather than a *usage-pull* approach, were soon apparent. The initial focus on observation aircraft, with impetus from the prevailing (and ultimately flawed) notion that this was the airplane's primary role, led to a critical shortage of bombers. The Ribot cable incident of 1917 perfectly illustrates the dysfunction. When French Premier Alexandre Ribot requested American aircraft production support for the war effort, his cable's accidental omission of the phrase "half bombers, half fighters" led the Joint Army-Navy Technical Board to default to their preexisting bias for more observation aircraft. Without an understanding of the operational need, a simple communication error resulted in a massive production program misaligned with actual wartime requirements. The United States committed enormous resources based not on battlefield realities or strategic analysis but on a misinterpreted message and institutional preferences—another pattern that has repeated throughout military acquisition history.

Even when attempting to incorporate operational experience, as in the 1917 Bolling Mission to Europe,[19] the lack of an effective means to memorialize requirements undermined success. This team of engineers and officers was responsible for selecting European aircraft designs for American production, but they operated without clear guidance regarding actual combat needs. Their decisions, though well intentioned, often proved detrimental. For instance, they selected the French SPAD fighter as a shiny object without considering its suitability for American manufacturing or its growing obsolescence against new

German aircraft. The mission effectively demonstrated how technical decisions made in isolation from operational requirements could lead to costly misalignments—a third pattern that has repeated throughout acquisition history.

The World War I experience demonstrates that simply throwing money and technology at a problem is not enough. Without a clear understanding of the operational need—the *why* behind the *what*—even the most well-intentioned development efforts can go awry. The challenge, then and now, is to bridge the gap between the technical specifications that engineers work with and the operational requirements that define the warfighter's needs. Yet as historically noted, sometimes "required item characteristics" come less from solid operational feedback and more from "a fertile and sometimes overactive imagination," underscoring the risk of locking programs into hollow specifications without timely technical grounding.[20] We believe feedback cycles are an essential element of the solution. Serial operational prototyping of new capabilities, and combinations of capabilities, that incorporate user feedback is one way to achieve this outcome.

The US military demonstrated iterative development and operational concept experimentation in World War II as it delivered a remarkable string of time-driven innovations in weapon systems and adaptation of operational concepts. This was a unique period for disruptive defense technological developments as the urgency of time drove rapid experimentation based on user input. Much as in the contemporary conflict in Ukraine, the feedback cycle between developers and user experience and needs became the pacer for innovation.[21] Meeting urgent operational needs was critical to success, and solution development was highly time-constrained—which focused both military operators and industry through a lens of problem-solving, not specification drafting.

Requirements and the Birth of the Pentagon

In the years immediately following World War II, the concept of "requirements" as a formalized, rigorously defined element of defense acquisition did not yet exist in the manner it does today. Instead, the nascent DoD inherited procurement traditions that were largely ad hoc, service-centric, and technology-driven rather than guided by systematic, future-oriented planning. As Shannon Brown notes, it often emphasized "providing the means of war" as weapons rather than articulating and validating structured, mission-based needs.[22] In this era, each service determined its own needs according to service doctrines, technological opportunities, and immediate strategic considerations rather than through a unified, enterprise-level requirements process.

The persistent quest for technological superiority during the early Cold War years shaped this environment. Technological advances—ranging from atomic weapons and long-range bombers to guided missiles—spawned a more integrated approach to developing and acquiring complex weapon systems.[23] As a result, the mid-twentieth century saw growing recognition of the importance of a *systems approach* to acquisition, which eventually defined mission needs and performance goals for entire systems, not just individual components.[24] However, during the 1950s and early 1960s, what the DoD now calls requirements remained implicit. It often expressed them through performance specifications and service-driven programs rather than through explicit capability documents or validated need statements.

In this environment, it frequently employed concurrency—overlapping development, production, and fielding—to accelerate timelines and meet urgent strategic objectives.[25] While concurrency aimed to, and did, deliver capability more rapidly, it confounded the work of systems analysis as the uncertainty, iteration, and improvement made it difficult to clearly articulate stable specifications early in a program's life cycle. At the time, the services tended to focus on the most advanced technology achievable, which could lead to performance overshoot and unpredictable costs. While this performance may have had military utility and peripheral economic benefits, the DoD viewed it as undisciplined and potentially beyond the minimum it truly required. Further, as the true consequences of nuclear employment came into focus,

arms limitation and control factored into strategic thinking, and a mentality of risk mitigation in technological advances crept into the Pentagon's corporate planning processes.

During the 1950s and 1960s, what might be called proto-requirements emerged as various joint boards and commissions—such as the Munitions Board, the Research and Development (R&D) Board, and the Navy Board of retired admirals—organized democratic, court-like hearings where "dual-hatted" individuals oversaw both program execution and the pooling of ideas across services, yielding a more transparent view of each other's technological pursuits than today's siloed document process.[26] In many respects, these board hearings, with their testimony on weapons design and with unified commands submitting "Operational Capability Objectives,"[27] illustrate an earlier tradition of requirements-setting that connected warfighters, technologists, and decision-makers under one roof, but in a way that allowed passionate visionaries to emerge. This is a theme that we will return to in chapter 4.

In the 1960s, Secretary of Defense McNamara led the DoD's dramatic shift to a rationalist model of identifying defense capabilities, defining them, and linking them to national objectives. In line with the emerging systems approach and efforts to integrate planning, programming, and budgeting, McNamara introduced the Planning, Programming, and Budgeting System (PPBS).[28] PPBS encouraged more explicit consideration of cost, schedule, and performance trade-offs and required extensive use of a priori prediction as well as systems analysis and cost-effectiveness studies to guide decision-making. Although the process didn't initially use the term *requirements* as it does today, it advanced the notion that the military should derive what it sought to build or buy from a careful analysis of objectives, alternatives, and resource constraints.

By subjecting force structure and weapons acquisition decisions to systematic cost-effectiveness analysis, McNamara and his "whiz kids" introduced the idea that requirements were not inherited truths but reasoned judgments that the DoD could and should question, analyze, and refine.[29] The emerging view, and the focus of subsequent scholarship, was that requirements should reflect a reasoned selection process examining multiple possible capability options. Rather than being preordained, needs became something the DoD should validate, prioritize, and, if necessary, reconsider in the light of changing missions, technology, and strategic context.

Throughout the 1960s, this rationalist approach faced resistance. Some within the military services saw the new methods as an encroachment on their prerogatives or as overly reliant on quantitative models.[30] Others worried that cost-effectiveness analyses might prioritize efficiency at the expense of warfighting capability. Yet these debates marked the transition from a world where the services defined their own aims independently to one where centralized oversight—through OSD and new bodies like the Defense Systems Acquisition Review Council (DSARC), established in 1969—began to shape how they articulated, reviewed, and approved needs.[31]

By the early 1970s, the DoD had firmly planted the seeds of a modern requirements process. It began moving toward formal mechanisms to validate proposed acquisitions as meeting specific mission needs. However, it still largely framed them in terms of system performance and cost-effectiveness rather than articulated capability gaps.

Requirements in the Dawn of Formal Acquisition

The DoD began transitioning from the traditional notion of *procurement* to a more integrated process of *acquisition* following the shift of the 1960s. As David Acker and Shannon Brown note, this shift reflected lessons from previous attempts to apply systems analysis, cost-effectiveness methods, and the PPBS to guide decision-making.[32] The resulting reforms emphasized a clearer link between strategic objectives, operational needs, and the systems intended to fulfill them.

A key development was the publication of DoD Directive 5000.1 in 1971 and the preceding establishment of the DSARC. The directive introduced the development concept paper (DCP) as a crucial mechanism requiring DoD components to articulate program rationale, objectives, technological feasibility, and cost estimates before advancing to full-scale development. This process laid the groundwork for a more disciplined approach to requirements by compelling decision-makers to define and validate what capabilities the services needed—and why—before committing substantial resources.

Notably, DoD 5000.1 emphasized empowering program managers. The directive called for responsibility and authority to be "decentralized to the maximum practicable extent,"[33] underscoring the critical role of the individual program manager in balancing technical risks, costs, and schedules. Over time, however, subsequent policy developments and additional layers of conditions and constraints diluted this autonomy. They shifted the balance of power away from the program manager (and industry innovators) and back toward centralized oversight and prescriptive demands.

Furthermore, although DoD 5000.1 was forward-looking, it retained a central premise of its era: that performance objectives should be the dominant factor driving decision-making. The directive states, "Programs shall be structured and resources allocated to ensure that . . . achievement of program objectives is the pacing function. . . . Schedules shall be subject to trade-off."[34] This emphasis inadvertently fixed early technical and performance specifications as the primary targets and demoted timely delivery. In practice, it meant that initial predictions—often made under conditions of uncertainty—could unduly constrain future decisions, hindering adaptive learning and mid-course corrections as the program progressed. While the directive fostered a more systematic approach to acquisition, the primacy of predetermined performance goals could later become problematic. It worked against iterative refinement and the incorporation of new insights gleaned from testing and experimentation.

The DCP advanced the idea of linking mission needs and proposed solutions more explicitly and strengthened the role of the program manager. However, the continued focus on performance targets above all else later collided with calls for a more flexible, capability-driven, and learning-oriented requirements discovery.

How Failures of Jointness Led to Systemic Change

The impetus for formalized jointness within the DoD arose not from abstract theorizing but from a series of stark operational failures that exposed the dangerous consequences of interservice parochialism and inadequate coordination. Operation Eagle Claw, the disastrous 1980 attempt to rescue American hostages in Iran, served as a particularly brutal wake-up call. Analysts traced the mission's failure to a multitude of factors, including excessive compartmentalization of information due to extreme operational security concerns, poor definitions for the command and control structure, and critical equipment malfunctions that a lack of joint training and interoperability exacerbated.[35] Just three years later, Operation Urgent Fury in Grenada revealed similar deficiencies despite achieving its immediate objectives. Poor communication between Army and Navy units, a lack of joint rehearsals, and inadequate intelligence sharing led to fratricide and unnecessary casualties.[36] These high-profile failures, occurring against the backdrop of a perceived decline in American military effectiveness following the Vietnam War, created a sense of urgency for reform within both the Pentagon and Congress.

The initial response to these operational shortcomings was the establishment of the Joint Requirements and Management Board (JRMB) in March 1984.[37] As a forum for coordinating requirements across the services, it was a direct reaction to the kinds of systemic issues that Eagle Claw and Grenada had highlighted. The inability of the services to agree on basic operational parameters, communicate effectively, and integrate their capabilities had become glaringly obvious. However, the JRMB's limited authority hampered it from the outset. As an advisory

body, a "clearinghouse," it could only review and recommend but possessed no power to override service-specific priorities or compel joint solutions. This fundamental weakness meant that while the JRMB could foster dialogue, it couldn't enforce the kind of integrated approach that was so clearly necessary.

The JRMB's ineffectiveness, coupled with a growing sense that ad hoc cooperation was insufficient to meet the demands of modern warfare, drove a renewed push for more substantive reform. Many within the military and Congress began to see jointness as not just operationally desirable but strategically imperative. The prevailing view was that deeply ingrained service parochialism was actively thwarting meaningful jointness.[38] A growing number of officers also viewed the services, focused on their traditional roles and competing for resources, as resistant to any changes that might diminish their autonomy or budgets. They saw this resistance as increasingly dangerous. It also raised concerns that a fragmented approach to acquisitions, with each service pursuing its own programs, resulted in costly redundancies and capability gaps. The imperative for "combining Service capabilities effectively, as well as the long-established need to reduce redundant acquisition efforts among the Services" became the driving rationale for structural reform.[39]

It was against this backdrop that the Joint Requirements Oversight Council was established in June 1986.[40] DoD leaders intended it to be a more powerful successor to the JRMB, with a mandate to transcend service biases and drive a truly joint approach to capability development. The services' inability to effectively cooperate in the field had highlighted not only operational deficiencies but also acquisition problems. The thinking was that a joint body, with senior-level representation and the authority to validate requirements, could impose greater discipline on the acquisition process, forcing the services to prioritize joint needs over parochial interests. Many, including then Vice Chairman of the JROC Admiral William Owens, initially viewed this new focus on jointness as a means to rationalize spending in a resource-constrained environment.[41] There was an expectation, or at least a hope, that the JROC would help eliminate costly redundancies, promote interoperability, and ensure that major acquisition programs served the needs of the joint force as a whole. However, the JROC's early years revealed that changing entrenched institutional cultures and overcoming the allure of service-specific solutions would be a far more difficult task than simply creating a new oversight body.

The Packard Commission's 1986 report, *A Quest for Excellence*, offered a blueprint for vastly improving the management and organization of the DoD.[42] At a time when longstanding inefficiencies plagued defense planning and procurement, it called for fundamental reforms to streamline decision-making and align military capabilities with national strategy. In their own words, the commission emphasized the need "to assist the Executive and Legislative Branches as well as industry in implementing a broad range of needed improvements," underscoring their conviction that better defense management required collective action. They warned that "excellence in defense management will not come from legislative efforts to control and arrange the minutest aspects of DoD's operations."[43] Instead, they argued that long-range stability, clear lines of authority, and more realistic planning were essential to ensuring efficiency and effectiveness.

Key Packard Commission recommendations involved strengthening the role and responsibilities of the Joint Chiefs of Staff (JCS). They observed that current law limited the ability of the chairman (CJCS) to serve as the single, principal military adviser to the president and secretary of defense. To remedy this, the commission stated, "current law should be changed to designate the Chairman of the Joint Chiefs of Staff as the principal uniformed military advisor."[44] The change would make the chairman's counsel more authoritative and directly linked to the nation's highest decision-makers. Additionally, the commission urged placing the Joint Staff under the CJCS's exclusive direction and establishing a vice chairman position, all to clarify responsibilities, improve accountability, and integrate military advice more effectively at the national level.

These recommendations, which predated the formal joint requirements processes and paved the way for later structural reforms, provided a critical stepping stone. By reorienting the JCS toward a more unified and decisive advisory role, the Packard Commission laid the intellectual groundwork for reforms that later aspired to improve how the DoD identified and validated its capability needs. Although subsequent initiatives attempted to incorporate joint perspectives, the Packard Commission's guidance made it clear that true excellence demanded less bureaucracy and more empowered leadership. In doing so, it created a framework that continues to inform our understanding of how to align military advice, capabilities, and strategic objectives.

The commission came up with powerful and prescient findings, noting that change cannot be legislated, and excellence requires knowledge and enthusiasm from people working on the problem. It found that "rather than relying on excessively rigid military specifications, DoD should make much greater use of components, systems, and services available 'off the shelf.'"[45] It should develop new or custom-made items only when it has established that those readily available are clearly inadequate to meet military requirements.

In April 1986, President Ronald Reagan issued National Security Decision Directive (NSDD) 219, implementing many of the Packard Commission's recommendations and referencing the JRMB.[46] The Goldwater-Nichols DoD Reorganization Act of 1986 further built on the commission's recommendations by clarifying and strengthening civilian control, improving the chain of command, and enhancing the quality of military advice.[47] While the commission underscored the importance of unified strategic direction and reducing unnecessary layers of bureaucracy, Goldwater-Nichols turned these principles into detailed statutory reforms. For example, the conference report notes that the CJCS would now serve as the "principal military adviser to the President, the National Security Council, and the Secretary of Defense," a change that directly addressed the need for more coherent, timely, and strategically oriented military counsel.[48]

By establishing CJCS authority to provide independent assessments and requiring that "the Chairman shall also perform the duties prescribed for him as a member of the Joint Chiefs of Staff," Goldwater-Nichols implied a more integrated approach to operational requirements and resource allocation. It intended for this focus on jointness not only to improve military advice but also to strengthen the process of determining military missions, force structures, and acquisition priorities. The conferees emphasized that "the Secretary of Defense shall take appropriate action to resolve any disagreement" between the CJCS and the military departments, indicating that the Joint Staff's perspective would hold far more weight and would thus influence the validation and prioritization of military needs.

Finally, by directing the services to align their headquarters' activities and curb excessive personnel layers, Goldwater-Nichols also set conditions that indirectly changed the requirements process. With less duplication and streamlined staff structures, the DoD could respond more rapidly to shifting missions and adversary capabilities. In particular, requiring that "the Secretary of each Military Department shall ensure that the Office of the Secretary and the Military Headquarters Staff do not duplicate specific functions" paved the way to mitigate parochial interest in setting priorities. Taken together, these provisions allowed the DoD to shape future acquisition decisions in a more joint environment. Better-quality joint officer management and more consistent promotion policies for joint duty officers would now inform decision-making. It also added a stronger mandate for the chairman and the Joint Staff to influence how the DoD identifies, validates, and meets its operational needs.

Neither the Packard Commission nor the Goldwater-Nichols legislation explicitly employed the term *requirements* in the formal, systematized sense that JCIDS recognizes today. Instead, they focused heavily on enhancing overall effectiveness by improving organizational structures and lines of authority within the DoD. The Packard Commission emphasized streamlining acquisition and strengthening accountability, while Goldwater-Nichols

centered on increasing jointness—ensuring the military services operated more cohesively and synergistically as unified teams. Although both efforts influenced the conceptualization and management of future requirements, their immediate priority was not to create a comprehensive requirements-generation framework like JCIDS but to foster cooperation, efficiency, and more effective integrated military operations.

The Birth of Formal Joint Requirements and the Start of Futile Reforms

The period 1987-2005 was a time of intense scrutiny and attempted reform of the DoD's requirements processes. Following the Goldwater-Nichols Act, and building on the JROC (established in June 1986), its leaders made efforts to create a more joint, efficient, and strategically aligned approach to capability development. In 1987, as an interim step, the JRMB was restructured under NSDD 219, co-chaired by the newly created vice chairman of the Joint Chiefs of Staff, or VCJCS, and the under secretary of defense for acquisition, or USD(A). The revised body aimed to bridge the gap between warfighters and the acquisition community, providing a forum for challenging requirements, ensuring they were both operationally relevant and programmatically feasible. However, the JRMB still primarily handled multi-service programs, retaining a narrower scope. At the time, the DoD continued to view requirements as major characteristics or specifications of weapons systems, rather than framing them as operational problems to be solved.[49]

A lack of true decision-making authority, combined with its narrow focus on multi-service programs (the contemporary interpretation of jointness—more akin to common or universal than interlinked or synergistic) limited the JRMB's impact —particularly in contrast to the JROC's subsequent broader scope. Many operational requirements continued to be driven by individual service priorities, leading to accusations that the system remained overly parochial. Nevertheless, the JRMB represented an early step toward injecting greater jointness and analytical rigor, while the separate JROC—chaired by the VCJCS—would eventually gain broader authority. Early in 1988, the restructured JRMB was reorganized and renamed the Defense Acquisition Board (DAB), replacing the DSARC.

In 1989, the newly appointed secretary of defense, Dick Cheney, initiated a major review of defense management practices known as the Defense Management Review (DMR).[50] The DMR aimed to streamline the Pentagon's bureaucracy, improve efficiency, and enhance the link between strategy and resource allocation. A key outcome was splitting requirements and acquisition oversight across the JROC and the Defense Acquisition Board (DAB). Now empowered to validate and prioritize all operational requirements, not just joint (multi-service) programs, the JROC gained expanded responsibilities before Milestone 0 approval, thereby granting combatant commanders (then combatant commander in chief, or CINCs) greater influence. The DMR also emphasized the need for long-range planning that integrated threat assessments, technology forecasts, and budget projections. A 1991 memorandum of policy, MOP-77, titled "Requirements Generation System," implemented this change.[51]

By the late 1990s, dissatisfaction with the new RGS had begun to fester. DoD leaders widely perceived it as slow, bureaucratic, and unresponsive to the rapidly changing security environment. The clearest evidence for this view is a damning statement by then Secretary of Defense Donald Rumsfeld to the VCJCS: "It is pretty clear [RGS] is broken, and it is so powerful and inexorable that it invariably continues to require things that ought not to be required, and does not require things that need to be required. Please screw your head into that."[52]

In response to deepening dissatisfaction with RGS, the Joint Staff undertook a major review that culminated in the creation of the Joint Capabilities Integration and Development System in 2003.[53] They designed JCIDS to be a more top-down, capabilities-based system. It emphasized identifying capability gaps based on joint warfighting concepts rather than simply vali-

dating service-specific requirements.[54] The newly established JROC, which the VCJCS chaired, received a central role in this process with a mandate to ensure that requirements aligned with the National Defense Strategy and reflected the needs of the joint force. Functional capability boards responsible for reviewing requirements within specific functional areas supported the JROC. The goal was to create a more holistic, integrated approach to capability development.[55]

In January 2004, the Joint Defense Capabilities Study—named the "Aldridge Report" after its lead, Pete Aldridge—reinforced the push.[56] Although the study began prior to the official release of JCIDS, its final report strongly endorsed the need for centralized guidance and more explicit senior leader involvement in shaping joint capabilities. The Aldridge team strongly recommended rationalizing the DoD's method of identifying, resourcing, and providing joint capabilities. They argued that success depended on senior leaders guiding decisions early, focusing on joint effects rather than single-service solutions, and making trade-offs more transparent. This framework aligned closely with JCIDS principles and served to validate and accelerate the DoD's shift from the older RGS model to a more strategic, capabilities-based requirements process.

Both progress and continued challenges marked the early years of JCIDS implementation. While the new system received praise for its stated focus on jointness and capabilities rather than programs, it remained complex and time-consuming. The average time to complete the initial requirements documents often stretched beyond two years, raising concerns that the system wasn't keeping pace with technological advancements and evolving threats. Moreover, despite its emphasis on jointness, the services continued to exert significant influence over the requirements process, leading to accusations that parochial interests still trumped joint needs.

In 2005, the CJCS issued CJCSI 3170.01E, reflecting an ongoing effort to fix a still-broken JCIDS process. This updated instruction sought to clarify the roles of the CCMDs yet again, strengthen the analytical rigor of capabilities-based assessments yet again, and better integrate JCIDS with the acquisition process yet again. Already the theme of trying the same approach, but harder this time, was emerging.

This period featured a persistent tension between the desire for a more joint, strategically aligned requirements process and the realities of deeply entrenched service cultures, bureaucratic inertia, and the inherent complexity of predicting future military needs. JCIDS was supposed to be a step toward addressing these challenges, but it created no substantive evidence of progress. For a comprehensive timeline of DoD requirements processes and further background on JCIDS directives history, see "From Defense Concept Papers to JCIDS: A History of Department-Wide Requirements," an appendix to this report.

It is worth emphasizing that much of the dysfunction that later plagued JCIDS also exists in other parts of the DoD's broader requirements culture. Some of the same slow, top-down specifications can and do manifest within service headquarters under their own processes. Yet our research finds that the bureaucratic layers that a *joint* requirements process introduces impose extra delays and formalisms—beyond those already in place at the service level—while offering little or no added value. Even if the services have to continue refining their own approaches, removing JCIDS remains a concrete step that relieves one major burden of modernization.

A Few Bright Spots

Amid the bureaucratic quagmire of traditional requirements processes, in 2006 the Joint Improvised Explosive Device Defeat Organization (JIEDDO) emerged as a rare beacon of operational relevance and agility. Its success was not an accident but a direct result of its unique authorities and a relentless focus on rapidly fielding solutions to a clear and present danger. Unlike other entities, JIEDDO possessed the ability to directly influence resource allocation, including the authority to provide up to $1

million in funding to jump-start promising initiatives. This, along with a dedicated budget line (in its earlier, more impactful years) and a streamlined decision-making process, enabled it to bypass much of the bureaucratic inertia that plagued JCIDS. The organization's operational imperative was singular and urgent: defeat the improvised explosive devices (IED) threat that was exacting a devastating toll on American forces. This clarity of mission, combined with an iterative, experimentation-driven approach, allowed JIEDDO to rapidly identify, test, and field capabilities like the CREW (Counter-Remote-Controlled Improvised Explosive Device Electronic Warfare) Duke electronic warfare systems, which disrupted enemy IED triggers.[57] In its prime, it demonstrated that when empowered with the right tools, the right focus, and the right leadership, the DoD could deliver meaningful capabilities at the speed of relevance. It proved that jointness and rapid adaptation were not mere fantasies but achievable realities—a stark contrast to the moribund JCIDS process.[58]

JIEDDO was by no means perfect and had many missteps. Ultimately the DoD retired it for many of the same reasons that it had been successful. It had a mission that the services were responsible for, and it lacked a repeatable, sustainable model for the broader problem of joint requirements.

There was one other notable development: the genesis of joint urgent operational needs (JUONs) and joint emergent operational needs (JEONs).[59] Their creation lay not in a visionary flash of bureaucratic brilliance but in the abject failure of the standard requirements process to meet the battlefield's pressing demands. As conflicts in Iraq and Afghanistan raged, combatant commanders found themselves hamstrung by a system that prioritized paperwork over practical solutions. The urgency of the front lines, where IEDs and other rapidly evolving threats exacted a daily toll, clashed with the glacial pace of JCIDS.

JUONs and JEONs, therefore, were born of necessity—a desperate attempt to create an escape valve from the bureaucratic morass. As expedited pathways, in theory, they allowed for rapid validation and fielding of capabilities, bypassing the most egregious delays of the standard process. Yet inconsistent criteria, funding bottlenecks, and the ever-present gravitational pull of the established bureaucracy often hindered even these workarounds.[60] The impact of JUONs and JEONs, where it materialized, was often attributable not to the inherent elegance of the process but to the sheer force of personality and relentless initiative of individuals who championed them.

One example of a successful JUON was the adaptation and procurement of the Cougar family of vehicles, and another was the adaptation of the Buffalo mine-clearing vehicle for the mine-resistant ambush protected (MRAP) vehicle effort.[61] In the face of resistance or indifference, it was often visionary leaders, both in uniform and within the acquisition community, who pushed through approvals, secured resources, and drove programs forward. Leaders like General Joseph Votel were able to use the elevated interest and their positions to secure resourcing and make prioritization calls to rapidly adapt systems to meet pressing warfighter needs.[62] Their successes were a testament to the power of individual agency and a damning indictment of a system that required such extraordinary efforts to achieve the seemingly obvious—getting life-saving equipment to the troops who needed it.

When JUONs and JEONs delivered, it was often despite the formal process, not because of it. The human element—their relentless drive, willingness to challenge the status quo, and ability to ally across organizational boundaries—proved to be the decisive factor. These were flesh-and-blood leaders who understood the stakes and refused to accept failure. They leveraged their positions, their networks, and their sheer force of will to cut through red tape, secure funding, and push initiatives across the finish line. Often acting outside the established lines of authority, they demonstrated that agility and responsiveness were not incompatible with military bureaucracy but were simply suppressed by it. Their successes were not isolated incidents

but rather proof that the system could work when individuals were empowered to make it work. The human factors of initiative, collaboration, and willingness to bend or break the rules in service of a greater goal were not optional extras but the very engine of progress, highlighting the profound limitations of a system that too often stifled the very qualities it should have celebrated. The story of JUONs and JEONs is ultimately a story of how determined individuals can, at least temporarily, overcome a broken system. This lesson should inform our efforts to build a better one.

An Endless String of Futile Reform Efforts

These bright spots, however, didn't measurably improve the mainline process. And senior leadership was noticing. In 2011, then VCJCS General "Hoss" Cartwright suggested JCIDS needed to end. "It has been gamed to death," he said in a speech. "We're going to throw it away."[63] He had just launched the 2010 Joint Capabilities Development Process Review (JCDPR) to drive improvement. Under the leadership of the Joint Staff's Force Support Division, this effort outlined the system's shortfalls and ultimately proposed improvement, not jettison.[64] Their research acknowledged both internal criticisms, such as the process being bureaucratic, consensus-driven, and lacking prioritization, as well as external criticisms from bodies like the Defense Science Board and Government Accountability Office (GAO), which highlighted the system's failure to make hard decisions and its perceived slowness. They detailed initiatives to reform JCIDS, including the introduction of three "lanes" for requirements (deliberate, emergent, and urgent), consolidated guidance and training, streamlined documentation, and organizational changes. These changes sought to create a more agile, analytical, and responsive system capable of addressing the fiscal constraints and evolving strategic environment. They reflected a still-naive belief that structural adjustments could salvage JCIDS.

Despite the identified need for significant change, the 2010–12 reforms represented an attempt to modify JCIDS rather than replace it, maintaining faith in the system's utility and potential for improvement. Initiatives including the expanded (advisory) role for CCMDs, the establishment of the Joint Staff Analysis Cell, and a more robust tripwire process aimed to enhance the system's ability to make difficult choices earlier and provide better up-front fidelity on cost/schedule/performance trade-offs. However, these efforts still operated within the fundamental framework of JCIDS, reflecting institutional reluctance to abandon the established process entirely despite its systemic flaws. This period featured a continued, yet ultimately misplaced, optimism that reform could enable JCIDS to meet the demands of modern warfare. The sentiment faced increasing challenges in subsequent years as the system's inability to adapt became more apparent.

During his tenure as VCJCS, Admiral Sandy Winnefeld followed the trend and also introduced measures to trim the bureaucratic sprawl of the JROC and JCIDS. He reduced the "stadium audience" format to a smaller, more informed group of decision-makers, limited document length, insisted on up-front analysis of alternatives, and highlighted non-materiel solutions. These changes aimed to encourage meaningful debate and accelerate decisions, offering a momentary glimmer of hope for greater responsiveness. But ultimately they remained within the rigid boundaries of the existing system.[65]

In 2015, President Barack Obama appointed General Paul Selva as VCJCS. During his confirmation hearing, Selva acknowledged ongoing problems with JCIDS.[66] He stated his goal of refocusing on CCMDs: "There's an active effort inside the [JROC] to reinvigorate the relationship with the stakeholders who bring requirements to the table." He also launched a campaign for an ambitious timeline of only three months from setting a requirement to starting an acquisition program of record. However, these efforts at improvement again fell short.

By this time, however, Congress was fully attentive to the repetitive cycle of high-level promises and hollow attempts at

JCIDS reform. Congressional committees, frustrated and unimpressed, moved beyond their initial mild nudges and enacted substantial legislative changes around 2017. Focusing strictly on joint warfighting and interoperability, they aimed to limit JCIDS and the JROC's reach.[67] They even sought to empower the VCJCS to proactively generate new joint requirements—an extraordinary shift in authority that should have jolted the system forward. Yet, conspicuously, outside of one instance, no VCJCS has used this authority. Congress also sought to bypass the JCIDS process entirely in defense acquisition by creating middle tier of acquisition (MTA) authority and nudged the DoD to create a time-based requirements process.[68]

When General John Hyten stepped into the role of VCJCS, he openly recognized JCIDS as a relic of a bygone era; he went so far as to describe the JROC as an "industrial age model" unsuited for the information age. Yet, in the same breath, he insisted he didn't want to "blow up" the JROC and instead chose to make another round of incremental adjustments. Hyten sought alignment with acquisition reforms under then USD(A&S) Ellen Lord's Adaptive Acquisition Framework and introduced the software initial capabilities document (SW-ICD) to accommodate software acquisition. But these tweaks were no more potent than his predecessors' efforts. Moreover, although Congress explicitly granted authority to facilitate more direct and timely interventions, Hyten failed to employ these tools to usher in significant change. His tenure, too, ended with JCIDS intact, still plodding in predictable circles.

Admiral Christopher Grady, taking on the VCJCS position in 2021, offered yet another rhetorical shift. He spoke of a "top-down" approach, attempting to impose joint requirements that devolve from the Joint Warfighting Concept and cascade neatly into doctrine and portfolio reviews.[69] Ironically, this echoed the approach of the Aldridge Report from two decades earlier, which, like nearly every JCIDS reform initiative, struggled to achieve impact. Grady painted a picture of a more coherent, portfolio-oriented model where the JROC could guide service investments rather than rubber-stamping them. Yet these words, much like those of his predecessors, offered no evidence that he could break free from the same structural quicksand.

The GAO's most recent review slammed the door on any lingering illusions. It found that the Joint Staff lacked basic data tracking how many programs had completed the revised JCIDS process or how long the process had taken.[70] Without even the most basic ability to track performance, the JCIDS enterprise was revealed as a black hole of accountability. GAO's unvarnished assessment made it painfully clear that no matter what rhetoric or minor reforms leaders offered, the system was too broken to measure, much less improve. Apparently immune to every well-intentioned tweak, JCIDS continued to serve as merely an administrative ritual without demonstrable value.

Congress, stung by repeated disappointments, unleashed another barrage of mandates in 2023 and 2024. The House and Senate Armed Services Committees tried once more to impose rational structure, modern agility, and commercial practices on an ossified system. They instructed the VCJCS to integrate the Adaptive Acquisition Framework,[71] to speed up requirements definition,[72] and to embrace iterative, data-driven approaches. Yet, just as in previous legislative interventions, their solutions placed faith in a Joint Staff apparatus that had repeatedly failed to deliver.[73] Congress identified many of the right problems but remained locked in the misguided belief that giving the same players new instructions would yield a different outcome.

The pattern is unmistakable: from General Cartwright's blunt calls for elimination through Admiral Winnefeld's miniaturized JROC forums, General Selva's accelerated timelines, General Hyten's software-era rhetoric, and Admiral Grady's retro top-down pronouncements, each VCJCS inherited the same unwieldy machine and promised to fix it—only to be absorbed into its inertia. This ongoing cycle epitomizes the definition of insanity. Not so long ago, the question of defining and prioritizing capabilities commanded the direct attention of presidents

and secretaries of defense—from Reagan's personal directives to Cheney's and Rumsfeld's attempts to reshape the system. Today, requirements have devolved into an obscure ceremony that the VCJCS and a Joint Staff cell manage, far removed from the era when top-level leaders seized on these decisions as instruments of national strategy. It was never about the competence or vision of these reformers; the problem was, and remains, the irredeemable nature of JCIDS itself.

The Process Today

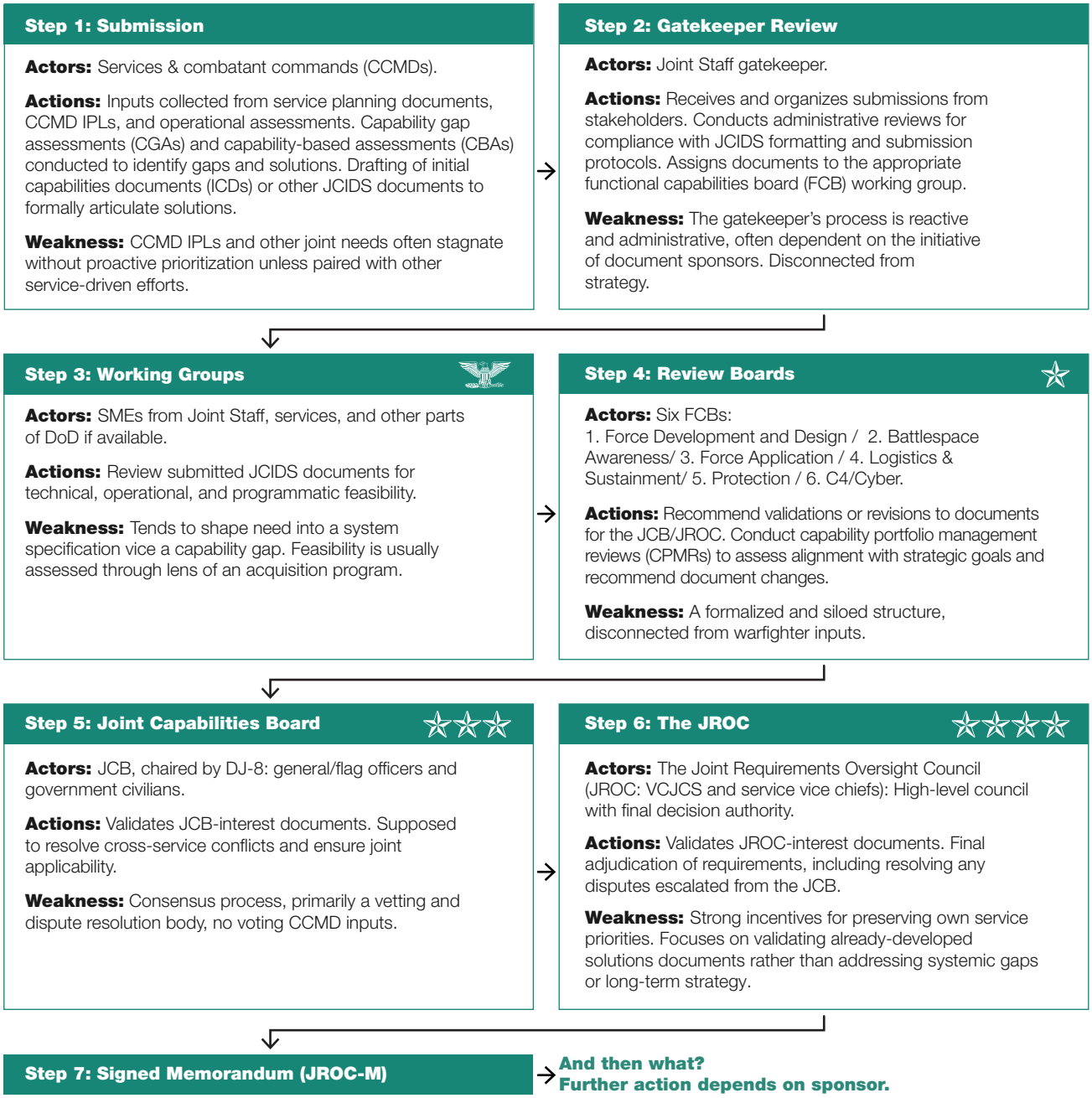
JCIDS today remains a formalized, document-centric process focused on validating capability requirements.[74] As depicted in figure 2, it typically begins with service sponsors identifying capability gaps and drafting formal requirements documents—such as ICDs or CDDs[75]—before proceeding through an extensive Joint Staff review cycle. Although its developers intended it to ensure jointness and interoperability, this step-by-step staffing cycle often becomes lengthy and transactional. Multiple review boards, including FCBs, the Joint Capabilities Board (JCB), and ultimately the JROC, scrutinize each submission for joint equity and strategic alignment. The production of a JROC memorandum (JROCM), rather than the timely delivery of a necessary capability, usually measures the outcome.[76]

While the DoD conceived JCIDS to provide top-down, concept-driven, and threat-informed guidance, in practice it remains heavily and fundamentally bottom-up. The recent JROCM 053-20 explicitly called for shifting from a sponsor-driven process, in which services submit requirements documents, to a more strategic, top-down model.[77] This directive instructs FCB chairs to conduct proactive capability portfolio management, submitting annual capability portfolio management reviews (CPMRs) to the JROC with recommendations for addressing capability gaps, redundancies, and trade-offs.[78] In theory, it intended CPMRs to enable FCBs to look across portfolios and inform senior decision-makers, including the JROC and the broader acquisition community, on where to direct capability development efforts.

However, the implementation of CPMRs has not lived up to these aspirations. Matt MacGregor's excellent 2024 critique highlights that while they formalize the idea of top-down direction and portfolio-based thinking, they often degenerate into bureaucratic exercises yielding little more than annual reports or memoranda and often lack serious analytic rigor.[79] Further, the structure of the CPMRs and FCBs makes it difficult to look holistically at an operational problem like a long-range kill chain—they examine only one aspect (like command and control or sensing) in isolation. The rigid portfolio construct may seem broader than a look at only one weapon, but it still has stovepipes that block meaningful consideration of solutions to CCMD problems. The process remains disconnected from actual resource allocation levers and strategic decision-making. Where CPMRs have made an impact, it is because their products were integrated with products from the USD(A&S) or CAPE teams and informed a Deputy's Management Action Group (DMAG) decision. And, as our interviews reveal, CPMRs themselves just feed into a system that generates JROCMs—documents that are thoroughly predetermined by earlier staff coordination—rather than flexible, forward-looking guidance that genuinely shapes investment decisions. As a result, capability portfolio management doesn't truly enforce strategic direction at the JROC level. Instead, the flow of service-proposed programs tends to dictate it, under greater influence from budget decision-makers than from top-down prioritization.

A case in point is the new Capstone Combined Joint All Domain Command and Control (CJADC2) ICD, which some within the Joint Staff cite as a shining example of reform.[80] In reality, this capstone approach merely formalizes a wide-open bypass around normal requirements scrutiny, letting sponsors wave the banner, "I have a validated requirement!" without any traceable operational commitments or service-specific accountability. Rather than enforcing the integration and discipline one might expect from a formal Joint Staff approval, the Capstone CJADC2 ICD framework hands out generic, fill-in-the-blank language that any program can nominally align to—ensuring no actual

Figure 3. Intended Workflow Under JCIDS



Note: JCIDS imagines a workflow based on documents that move from sponsor input through JROC validation.

Source: Authors, based on Joint Staff memos and documents.

oversight of which service references it, how they implement it, or whether it succeeds in real-world scenarios. The result is a hollow binning exercise cloaked in the dignity of a validated requirement that signals JCIDS's inutility: if a capstone document is so broad that one can "drive a truck through it," how can it provide tangible constraints, resources, or follow-through? If the formal ICD process is too burdensome to support actual needs, or so generic as to be meaningless, then why is it there at all?

Another telling signal that the JROC is largely sidelined, and thus that JCIDS itself is superfluous, is the prominence of the DMAG. Unlike the JROC, which is empowered by statute, the DMAG has no direct legal mandate—yet it wields decisive authority over resourcing, prioritization, and joint taskings. Emerging from the earlier Deputy's Advisory Working Group (DAWG), the DMAG's membership includes the VCJCS and key civilian leadership, providing it with both military credibility and civilian oversight for major decisions.[81] In practice, it functions as a senior governance forum that routinely overrules service proposals or compels cooperation to meet CCMD needs. Although never intended by law to address joint requirements, the DMAG has evolved to fill exactly that role, effectively achieving what JCIDS was originally supposed to ensure—a DoD-wide mechanism for setting priorities and directing investment toward shared objectives. With the DMAG now serving as the go-to authority for cross-service capabilities decisions, the JROC's bureaucratic ritual contributes little, underscoring how the joint requirements process has lost its centrality to the DoD modernization enterprise.

In short, while recent rhetoric has focused on a top-down, proactive capability management approach, JCIDS still struggles to transition from its deeply ingrained procedural document-processing roots, as the contemporary process of figure 3 indicates. The services continue to drive capability proposals that align with their own internal priorities, and genuine top-down strategic influence through CPMRs remains limited and of questionable quality. The net effect is that, despite these attempts at reform and the creation of CPMRs, the structural orientation of JCIDS continues toward consensus-based document validation rather than dynamic, strategic shaping of the future force.

3. FIVE BROKEN PROMISES AND SIX ACTIVE HARMS

JCIDS represents more than mere inefficiency—it embodies a fundamental disconnect between institutional process and military effectiveness. It has failed to fulfill five core promises that justified its creation:

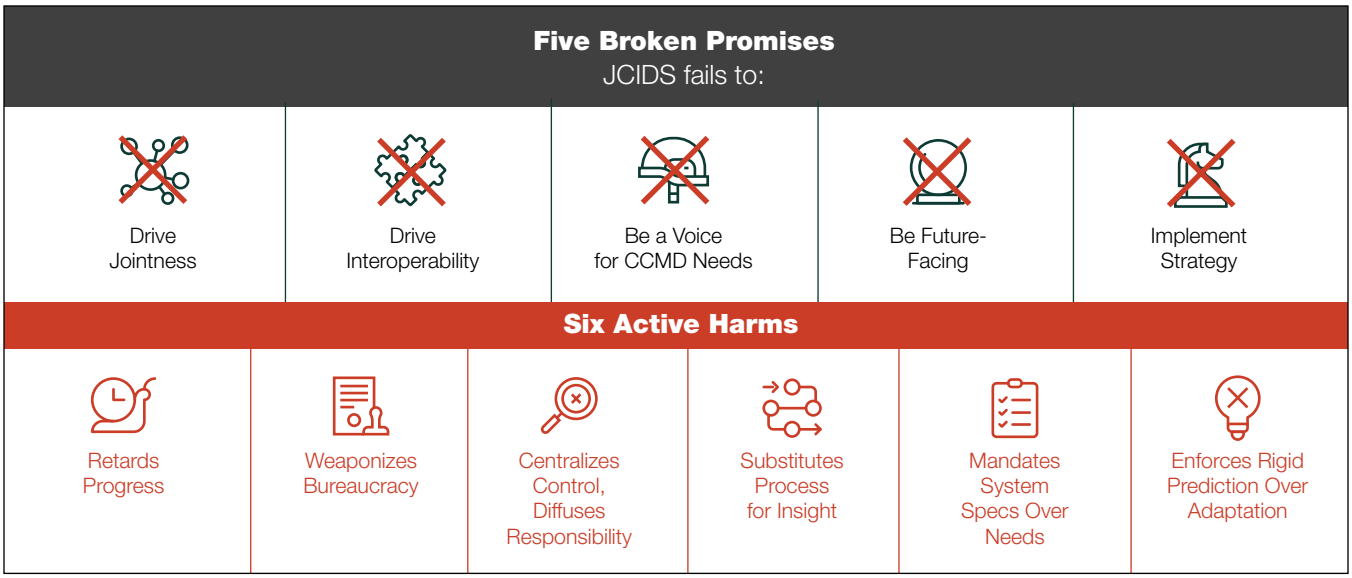
1. It has not meaningfully driven jointness, instead reinforcing service-centric approaches through bureaucratic ceremony.
2. Its aspirations to enhance interoperability have devolved into checkbox exercises disconnected from technical or operational reality.
3. Despite structural positioning to amplify CCMD needs, it has marginalized operational voices in favor of service priorities.
4. It has subordinated future-facing imperatives to near-term compliance requirements.
5. Its intended role in implementing strategy has amounted to document validation rather than strategic enablement.

More concerning than these broken promises are the active harms the system inflicts on military modernization. JCIDS not only fails to deliver intended benefits but actively impedes military effectiveness through six distinct mechanisms:

1. It demonstrably impedes military modernization, with validation timelines stretching beyond 800 days in an era when adversaries field new capabilities in months.

Photo: Sailors, assigned to Strike Fighter Squadron (VFA) 147, spin up an F-35C Lightning II for maintenance operations on the flight deck of *Nimitz*-class aircraft carrier USS *George Washington* (CVN 73) while underway in the Pacific Ocean on June 14, 2024. (US Navy photo)

Figure 4. How JCIDS Has Failed to Fulfill Its Purpose



Note: JCIDS breaks the five promises that underwrote its formation and inflicts six active harms on the DoD.

Source: Authors.

2. It weaponizes bureaucracy, providing institutional tools to block innovation rather than enable it.
3. It centralizes control while diffusing responsibility, such as through restricted knowledge management systems that hoard rather than share critical information.
4. It substitutes bureaucratic compliance for meaningful analysis by validating requirements that defy physical possibilities.
5. It mandates specific solutions rather than enabling capabilities, forcing senior leaders to adjudicate minute technical specifications instead of strategic choices.
6. It enforces rigid prediction over adaptation, locking programs into inflexible requirements while circumstances evolve.

While figure 4 lists these failures briefly, the following sections examine them in detail, documenting specific examples of both the scale and consequences of the system's dysfunction. This analysis reveals not just a broken process but a system that actively degrades America's ability to field relevant military capabilities in an era of strategic competition and rapid technological change.

Our assessment draws from extensive interviews and program data, spanning multiple major defense acquisition programs (MDAPs) and requirements validation cycles. The evidence demonstrates that JCIDS's failures are neither anecdotal nor isolated—they represent systemic deficiencies that demand wholesale reconsideration rather than incremental reform. The duration and consistency of these patterns, coupled with their measurable impact on military capability development, constitute a compelling case for fundamental change.

Broken Promise: Creating Jointness

One of JCIDS's central promises was to foster meaningful jointness across the US armed services, ensuring that capa-

bilities and force structures address the true operational needs of CCMDs rather than perpetuating narrow service agendas. Instead, it provided only a facade of jointness—committees with multiple uniform colors, procedural compliance, and joint program offices that bear no resemblance to the kind of joint operational advantage leaders have envisioned. The harsh reality is that JCIDS fails to meaningfully integrate service priorities, as true decision-making happens at the service level in budget allocations and program reviews.

In theory, achieving jointness should mean leveraging the distinctive strengths of each service to create a force package better suited to complex, dynamic missions. As future-facing constructs like multi-domain joint operations or mission integration have envisioned,[82] real jointness would empower combatant commanders to rapidly recompose forces from multiple domains—land, sea, air, space, cyber—on the fly. They would gain a decision-making edge and be able to tailor capabilities to the operational problem at hand rather than relying on preordained service-specific solutions. Proper jointness would mean the Joint Staff works to collect, understand, share, and address actual CCMD operational challenges (like distributed counter-invasion operations in contested environments) by combining capabilities across services and domains, and rapid adaptation and continuous feedback would underpin their efforts. Instead, JCIDS conflates jointness with universality, one-size-fits-none solutions, and committee work that dodges real integration challenges and never yields the adaptive force structures or solutions that CCMDs actually need.

One of the early victories that joint requirements proponents tout is the validation of the requirement for the Joint Strike Fighter (JSF).[83] In theory, the JSF program was fighting back against service parochialism—instead of giving every service what it asked for, the program aimed to realize efficiencies by coming up with a common, affordable fighter that would offer scale advantages. This was to be a great victory for central planning. Over time, of course, it evolved into a mega-project of a one-size-fits-all fighter, which all services would share but did not fit into any of their true operational niches. This travesty of fake jointness produces Frankenstein-like outcomes—force elements shoehorned together, not a flexible mosaic of mission-tailored solutions that solve CCMD problems.

The data tells a stark story about the real costs of fake jointness. When the JSF program passed Milestone B in the early 2000s, its total life cycle costs were estimated at approximately $330 billion (fiscal year 2002 dollars) for about 2,852 aircraft. Today, those costs have ballooned to over $1.7 trillion—roughly three times the $550—$600 billion that three separate single-service fighter programs would likely have cost[84]—representing a massive premium for the illusion of central planning's joint efficiency. This isn't mere inefficiency; it represents a trillion-dollar penalty in taxpayer funds that could have funded other critical military capabilities. Concentrating so much into one program also undermined the competitiveness and innovative potential of the fighter design and production industrial base.

The timeline implications are equally concerning. The program's attempt to be all things to all services has led to significant delays in crucial capabilities. For instance, the integration of anti-radiation missiles like the AGM-88G and Stand-In Attack Weapon critical for the F-35's core suppression and destruction of enemy air defenses roles didn't begin until 2024[85]—decades after the original requirements were set. These delays mean that even as the F-35 consumes ever-larger portions of the defense budget, it struggles to deliver the full spectrum of capabilities each service needs. Had the services pursued separate programs tailored to their specific missions, they likely could have fielded these capabilities years earlier and at a substantially lower total cost.

The JSF saga exemplifies how JCIDS-style jointness leads to suboptimal outcomes. Rather than solving CCMD problems, creating new joint models of warfare, or fostering genuine integration of service capabilities, the system drives toward lowest-common-denominator solutions that ultimately sat-

isfy no one completely while costing everyone more. When the JROC validates a "joint" requirement like the JSF, it isn't creating efficiency—it is mandating compromise, complexity, and cost growth that will echo through decades of defense spending.

When JCIDS does try to impose joint solutions, the result is too often a forced "universal" design that meets none of the services' distinct needs. In the far more common scenario, programs simply pass through JCIDS with a superficial nod to jointness. The procedures tack on a few cross-service buzzwords or minor interface tweaks while remaining essentially service-specific. Empirical evidence confirms that neither approach yields genuine joint capability: the former stifles each service's unique strengths with one-size-fits-all mandates, and the latter fails to address cross-domain synergies at all. A comprehensive GAO study found that during 2003–08, military services dominated requirements generation, sponsoring 67 percent of ICDs, while joint organizations sponsored only 26 percent.[86] The same study found that the DoD validated virtually all capability proposals that completed the JCIDS process, indicating insufficient scrutiny of joint warfighting needs.

The Acquisition Innovation Research Center's (AIRC) 2022 analysis of Navy-sponsored JCIDS documents revealed that Joint Staff and FCB reviews had little influence in promoting joint solutions.[87] Although they had opportunities for collaboration, the services and CCMDs did not routinely work together to identify possible joint solutions.

These empirical findings paint a damning picture: despite JCIDS's explicit mandate to prioritize joint warfighting needs, the joint requirements process remains fundamentally service-centric. The persistent dominance of individual service perspectives in requirements generation, combined with limited joint influence in validation decisions, indicates a systemic failure to achieve JCIDS's core objective of fostering truly joint capabilities development.

Broken Promise: Ensuring Interoperability

The US military has long recognized harmonious operational integration between different units as operationally impactful. Since the dawn of the information age in the decades after World War II, it has become increasingly important to achieve technical integration between warfighting systems and warfighters: the movement of data from one system or unit to another to synchronize action, inform decision, or accelerate effect. The DoD has for decades attempted to mandate interoperability through top-down requirements and impose universal standards across the joint force. In particular, it envisioned the net-centric key performance parameter (KPP) as the silver bullet, a mechanism to ensure all systems could seamlessly plug and play within a global information grid.[88] In practice, this approach has not only fallen short but actively hindered the development of a truly interoperable force. The core issue is not a lack of standards but a fundamental mismatch between the static, document-driven nature of top-down mandates and the dynamic, rapidly evolving character of modern information systems and operational needs. Simply put, the problem is not too little standardization but too much, applied in the wrong way, and at the wrong time.[89]

The F-22 and F-35 saga serves as a particularly stark example of this failure. The DoD developed both aircraft under the aegis of JROC, and they were subject to the net-centric KPP as well as the Tactical Data Link Standardization and Interoperability directive.[90] However, their ability to share data was a topic of longstanding mockery.[91] Initially the F-22 could only receive, but not transmit, Link 16 data due to concerns that transmissions could compromise its stealth profile. It relied on the proprietary Intra-Flight Data Link (IFDL) for internal communication. The F-35, meanwhile, uses the Multifunction Advanced Data Link (MADL). These different, incompatible data links highlight the limitations of top-down mandates. Despite the mandate for "net-centricity," the operational need for stealth and the technical challenges of integrating Link 16 onto the F-22 resulted in stovepiped solutions. The fact that two of the most advanced fighters in the Air Force

arsenal couldn't directly share critical targeting data underscores the futility of relying on predefined standards to ensure interoperability in complex multi-platform environments. Subsequent efforts to bridge this gap, including Project Hydra or the Advanced Battle Management System using other aircraft as bridge nodes,[92] represent costly and time-consuming workarounds, essentially retrofitting interoperability onto brittle, non-adaptable systems.

Moreover, the Joint Staff, which administers JCIDS through the J-8 Directorate (Force Structure, Resources, and Assessment) and is also home to the J-6 (Command, Control, Communications, and Computers/Cyber), is structurally ill-equipped to solve technical integration problems. Its strength lies in high-level planning and document coordination, not in the iterative, technical, detail-oriented work necessary to achieve true interoperability. The imposition of universal standards from above, without a deep understanding of specific technical challenges and operational contexts, often leads to requirements that are either unachievable or irrelevant. For example, mandating a specific data format, like the US Message Text Format (USMTF),[93] for a particular message, might seem straightforward. However, if the receiving system's software can't parse that format in real time, or if someone needs to send a picture, or if the bandwidth it takes to transmit the message exceeds the capacity of the available communication link, then the standard becomes a hindrance rather than an enabler.

Instead, interoperability demands a bottom-up approach embedded in the software and hardware development processes of the services and their vendors. Actual technical integration requires flexible architectures, tool chains that can reformat and translate data on demand, and continuous collaboration among engineers who understand the details of each system. The best approaches to achieving interoperability at scale depend on federated execution and aligned incentives, not mandates. No requirements body forces cellular providers or internet equipment manufacturers to conform to static standards; incentives (and dollars) align to evolve reference architectures broadly useful to scattered engineers.[94] Extensive investment has yielded other technical tools to advance interoperability, including toolkits for rapidly generating "glue code" that can translate between disparate systems.[95] This allows developers to focus on mission-level outcomes, leaving the details of data exchange to automated processes. Similarly, development, security, and operations (DevSecOps), which emphasize continuous integration, automation, and iterative development, offer a more agile and adaptive approach to building interoperable systems.[96] In this model, interoperability is not a static end state but an ongoing process of adaptation and refinement.

The failure of Link 16 to achieve true interoperability, despite its status as the DoD's primary tactical data link standard, serves as a potent example of this dysfunction. While the DoD intended Link 16 to enable seamless communication across platforms and services, in practice, persistent compatibility issues have plagued it.[97] Different manufacturers, even when technically compliant with the standard, often implement Link 16 in subtly different ways. This can lead to significant data loss, slow refresh rates, and a host of other communication problems in the field. For instance, variations in the definitions of network participation groups (NPGs) or formatting of J-series messages (though technically compliant with documentation) can create situations in which critical information simply fails to get through. These are not trivial technical glitches; they represent fundamental breakdowns in the ability of different systems to share a common operational picture and coordinate actions. The challenges don't affect only legacy systems and are not simply engineering oversights. They reflect fundamental limitations of a requirements process that prioritizes theoretical compliance over practical integration and real-world outcomes.

The JCIDS process, with its emphasis on detailed requirements documents and lengthy approval cycles, is ill-suited to the rapid evolution of information technology. By the time formal validation of a requirement occurs, the underlying technology may have already moved on. For example, the specifications for a

particular data format or communication protocol might be outdated by the time forces can field a system, rendering it partially or wholly incompatible with newer systems. This is particularly problematic in areas like software and cyber capabilities, which evolve in days to months, not years. A system designed to meet a rigid, predefined standard will inevitably struggle to keep up with the constant flux of new technologies, threats, and operational concepts.

Addressing these failures requires undergoing a fundamental mindset shift. The DoD needs to move away from a rigid, document-driven approach toward a more dynamic, iterative, and user-centric model. This means empowering engineers and operators to experiment with new technologies, develop flexible architectures, and continuously test and refine solutions based on real-world feedback.[98] It means embracing emerging concepts like DevSecOps, with its emphasis on continuous integration and delivery, and leveraging the underlying graph structure that connects our weapons and information systems to enable on-demand interoperability. It also means giving CCMDs a stronger voice in the requirements process, ensuring that their operational needs drive the development of joint capabilities. Only by embracing such a paradigm shift can the DoD move beyond the broken promise of interoperability and build a truly integrated joint force.

Broken Promise: Serving Combatant Commands

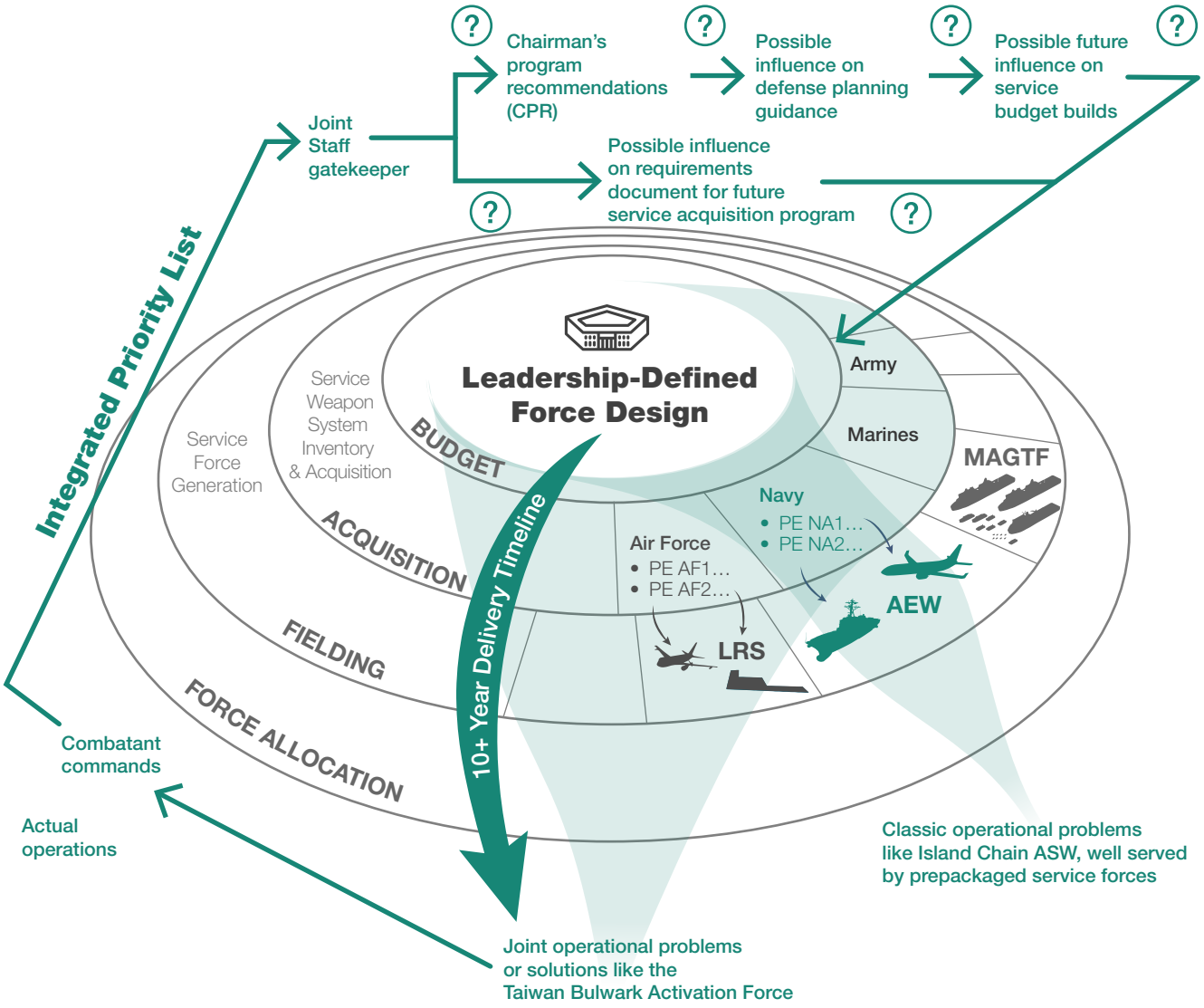
One of JCIDS's foundational promises was to elevate the needs of CCMDs, ensuring those on the front lines had a decisive voice in shaping the capabilities meant to support them. In theory, JCIDS was to be a conduit translating the urgent and evolving requirements of the CCMDs into actionable acquisition priorities. The reality, however, is a stark betrayal of this promise. Despite their critical operational responsibilities, CCMDs find themselves marginalized within a system that prioritizes bureaucratic process over battlefield realities. The bureaucracy often treats their integrated priority lists (IPLs), which articulate their most pressing capability gaps, as mere formalities. The Joint Staff gatekeeper, a role intended to facilitate the flow of critical information, instead functions as a choke point, and the IPLs rarely spawn in-depth analysis or drive meaningful action.

The stated purpose of IPL submissions is to allow CCMDs to highlight their highest-priority needs, cutting across service and functional lines to provide a holistic view of operational requirements. Yet these submissions frequently become lost in the Pentagon's bureaucratic machinery, with no guarantee that anyone will address or even acknowledge them beyond a pro forma review. As previously documented, a significant percentage of IPLs that the Joint Staff receives fail to influence programming or budgeting decisions.[99] This systemic disregard for CCMD input is not merely a procedural oversight; it is a strategic failure undermining the very premise of jointness and operational relevance that JCIDS was meant to embody.

In the FY 2011 National Defense Authorization Act (NDAA), Congress acted to strengthen the influence of combatant commanders on the JROC and the requirements process. The law designated CCDRs as advisors to the JROC so that their operational insights and frontline perspectives would shape the validation of joint capabilities.[100] In addition, it directed the secretary of defense to review JROC outputs, confirm the consideration of CCDR input, and ensure a balanced evaluation of trade-offs among cost, schedule, and performance objectives. These legislative actions aimed to more closely align the requirements process with actual warfighting needs, securing a more meaningful role for CCDRs and better integrating strategic priorities into capability development.

The years that followed saw little change in results from the JROC, and as a result, CCDRs must rely on persuasion or personal relationships to draw attention to their needs. They frequently wait years for even minor capability updates—if they ever arrive at all. From the CCMD perspective, the system's inability to deliver timely, interoperable capabilities is more

Figure 5. Combatant Command Capability Delivery Apparatus Design



Note: JCIDS is like a Rube Goldberg machine that is supposed to turn CCMD needs into fielded capability. AEW = airborne early warning, ASW = anti-submarine warfare, LRS = long-range strike, MAGTF = Marine air-ground task force, PE = program element.

Source: Authors.

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than an inconvenience; it represents a critical vulnerability. The DoD tasks CCMDs to fight tonight, yet many of the capabilities they request remain stalled in multi-year debate cycles at the Pentagon. CCMDs directly confront evolving threats—whether near-peer adversaries testing layered defense networks or asymmetric actors leveraging commercial tech. But the joint

requirements apparatus is too rigid, too slow, and too insulated from their operational realities.

In a systematic context, the intended operation of the system is indeed ludicrous. Figure 5 illustrates the convoluted, multi-step pathway a CCMD must navigate to address a unique need that the prepackaged Service force structures will not serve well. For instance, consider the requirement for simple one-way attack systems forming a localized denial force, as the Hedge Force concept describes.[101] The figure visually encapsulates how a seemingly straightforward capability request becomes entangled in an unwieldy bureaucratic chain.

As illustrated in figure 5, the process forces the CCMD to wait for the annual submission window of their IPL before even starting. They send the request to the Joint Staff gatekeeper for review but have no assurance of further action. If the issue garners attention, it might appear in the Chairman's Program Recommendation (CPR), which itself lacks the authority to drive immediate action. In turn, the CPR might influence the Defense Planning Guidance (DPG), but the DPG generally appears too late to meaningfully shape service budget decisions.[102] Throughout this entire drawn-out sequence, neither the Joint Staff nor the CCMDs wield direct, decisive power over resource allocation, just a tenuous hope that a single mention might eventually filter into a future budget.

The figure underscores how even an improbable success scenario remains glacially slow—well over a decade.[103] Suppose the Joint Staff tries to incorporate a CCMD's IPL concerns into a requirements document at an FCB or CPMR. Even if these efforts bear fruit, the service must still request and secure funding—a process that can span multiple budget cycles. Afterward, acquisition teams must conduct studies and market research, leading to development efforts lasting a decade or more. Only then might the CCMD finally receive a capability, at which point the original need may have evolved or vanished. In other words, as shown in the figure, the journey from pressing operational requirement to fielded solution stretches across decades, rendering timely responsiveness a distant fantasy.

JCIDS effectively chokes off any meaningful collaboration between CCMDs and the developers who can rapidly deliver joint capabilities. It forces requests from CCMDs—supposedly the prime beneficiaries of this process—through a gauntlet of approvals, formatting checks, and standardization exercises that dilute urgency and operational insight. Rather than empowering flexible, engineer-led innovation in response to CCMD-identified shortfalls, the system reverts to handing down incremental directives from above. The result is a top-heavy, sluggish apparatus in which CCMDs lack both leverage and a direct line to action, leaving their most pressing capability needs to languish as mere inputs into a vast, unresponsive bureaucracy.

Recognizing the frequent irrelevance of the standard JCIDS process, the Joint Staff developed the JUON and JEON processes. These mechanisms, in theory, provide a pathway for CCMDs to bypass the bureaucratic morass and obtain rapid action on their most pressing requirements. The Joint Staff designed JUONs for immediate crises and JEONs for anticipated near-term needs, and they expedite the review and validation processes, ostensibly allowing rapid acquisition and fielding of critical capabilities. In theory, they represent a commendable effort to inject agility into an otherwise rigid system.

The reality, however, is far more complex. While JUONs and JEONs have, in some instances, accelerated delivery of necessary capabilities, they remain the exception rather than the rule. Where they have been particularly impactful, it has largely been due to visionary and enterprising members of the Joint Staff using their elevated position to force change by interacting with other DoD mechanisms to move resources and assign responsibility. The vast majority of CCMD requirements, even those the DoD has deemed urgent or emergent, still find themselves mired in the traditional JCIDS process. Moreover, the existence of these workarounds serves as a tacit admission of the

standard system's inadequacy. It is a telling indictment that the DoD requires emergency escape hatches to accomplish what should be routine functions of its requirements process.

Furthermore, the JUON and JEON processes themselves are not without flaws. The criteria for invoking these expedited pathways are often unclear and subject to inconsistent interpretation, leading to further delays and disputes. Even when a JUON or JEON receives approval, bureaucratic hurdles and funding constraints can hamstring the subsequent acquisition and fielding processes. In essence, while JUONs and JEONs offer a glimmer of hope for rapid action, they remain Band-Aid solutions to a systemically broken process. They are an acknowledgment of failure, not a sustainable path forward.

Until the DoD acknowledges that CCMD needs are not just administrative inputs but vital signals guiding preparation for future conflicts, the broken promise of serving the warfighter will remain unfulfilled. Without embracing bottom-up adaptation, risk-taking experimentation, and direct alignment of resources to battlefield demands, the JCIDS process will continue to undermine the very operational advantage its creators intended it to secure. In a world of accelerating threats, failing to empower CCMDs is not merely a bureaucratic shortfall—it is a strategic vulnerability that the US military can no longer afford.

Broken Promise: Being Future Facing

JCIDS not only struggles to deliver operationally relevant capabilities at speed but, more critically, fails to prepare the force for tomorrow's challenges. An unprecedented pace of technological change and the rise of peer competitors designing leap-ahead systems are throwing the shortcomings of the current joint requirements process into stark relief. Instead of empowering rapid iteration and forethought, JCIDS ties the US military to the anchor of linear and predictable methods that discount disruptive possibilities. This rigidity undermines what should be one of its core functions: ensuring the military is always ready for the wars and missions of the future, not just for refighting the last one.

The very structure of JCIDS, with its rigid focus on predefined requirements and quantifiable system performance parameters, makes it fundamentally incompatible with the kind of revolutionary breakthroughs that have historically reshaped warfare. True military revolutions—such as the advent of blitzkrieg—don't emerge from incremental improvements to existing systems neatly capturable within KPPs or key system attributes (KSAs). Blitzkrieg was not simply a matter of fielding faster tanks or longer-range radios; it was a radical conceptual leap, a holistic doctrine that integrated mobility, combined arms, decentralized execution, and empowered junior leaders to achieve unprecedented operational tempo.[104] Such transformations arise from a synthesis of technology, operational innovation, and organizational culture, defying the rigid and reductionist, specification-driven templates that the JCIDS Manual demands. How could the JROC, adhering to today's JCIDS framework, have possibly validated a requirement for blitzkrieg? The concept's essential elements—fluid maneuver, deep penetration, and the primacy of tempo—contradicted the entrenched paradigm of static, attrition-based warfare. By design, JCIDS refines and optimizes existing models rather than shattering them. To expect it to anticipate and endorse the next blitzkrieg is to misunderstand both the history of military revolutions and the limitations of JCIDS itself. It is a system built for incremental evolution, not the kind of discontinuous, disruptive change that redefines the character of war.

This absence of forward-looking imagination is not new. Past reforms have repeatedly tried to push JCIDS and the broader acquisition apparatus to embrace emergent technologies, more diverse concepts, and unexpected operational paradigms. Yet, as members of the Section 809 Panel have noted,[105] the system typically defaults to "faster horses" rather than envisioning "cars." It often defines requirements based on legacy archetypes—more armor for ground vehicles, longer range for existing missiles, additional bandwidth for outdated radios—rather than exploring entirely new ways to achieve desired mission effects. The resulting incrementalism leaves the US military in a poor

position to exploit breakthroughs in artificial intelligence, autonomous systems, quantum computing, or other game-changing fields that mature at commercial, not bureaucratic, velocity.

The broken promise extends beyond missed opportunities in technology adoption. JCIDS remains oriented around a twentieth-century model of conflict in which capability development followed a protracted, forecast-centric path. The system still presupposes relative certainty about future threats and scenarios, attempting to "optimize" for a predicted environment. However, as a prior analysis points out,[106] the challenge now is to produce optionality and agility in the face of profound uncertainty. Potential adversaries will exploit technology cycles that span months, not decades, and deploy capabilities that confound US planning assumptions. Without a process that encourages exploration, adaptation, and iterative discovery, JCIDS can't help the force stay ahead.

While there are nascent drivers of change, these largely lie outside the formal JCIDS process. The software acquisition pathway[107] that the Joint Staff recently adopted attempts to inject agility into the development of software-intensive capabilities.[108] It acknowledges the poor fit between traditional, hardware-centric acquisition models and the rapid, iterative nature of software development. However, this pathway remains the exception and is not a feature of the JCIDS process but of the acquisition and budget processes. The core JCIDS process, with its emphasis on up-front, comprehensive requirements definition and lengthy validation cycles, remains fundamentally ill-suited to a strategic environment defined by rapid technological change and unpredictable threats. JCIDS is irredeemable in the face of change.

Ultimately, JCIDS's broken promise of being future-facing stems from its adherence to static standards, exhaustive documentation, and staff-driven conjectures about what the future should hold. Instead of harnessing competition at the requirement-definition phase—where industry, wargaming, experimentation, and novel concepts could suggest leaps ahead—the current system enforces a narrow path. The result is not only lost time and efficiency but also the inability to shape the force for an environment where threats evolve unpredictably. Unless the DoD reimagines JCIDS to embrace uncertainty and incentivize imaginative thinking, it will remain on the back foot, reacting to adversary moves rather than shaping the future battlefield.

The saga of the Army's Future Attack Reconnaissance Aircraft (FARA) provides a stark, recent illustration of how JCIDS fails as a strategic compass for future warfighting needs, even when viewing traditional systems. As adversary tactics evolved and reconnaissance increasingly shifted toward uncrewed systems, the Army faced a genuine inflection point—abandoning traditional rotorcraft assumptions for advanced drones and data-driven mission architectures. Yet even as senior Army leaders publicly questioned FARA's core assumptions,[109] and ultimately proposed its cancellation in early 2024 after spending billions of dollars and years of effort, the JROC had just "revalidated" FARA requirements. It essentially re-stamped a dying concept as sound.[110] Instead of anticipating the rapidly changing character of the warfighting, JCIDS performed its default ritual: rubber-stamping outdated requirements that any meaningful strategic analysis would have rejected. Under duress to budget pressure and responding to battlefield lessons from Ukraine, the Army made the hard decision to scrap an aircraft designed for a bygone era of manned reconnaissance. Meanwhile, the Joint Staff and JCIDS offered no effective support or foresight, confirming the DoD's vaunted requirements process as a ceremonial farce that blesses programs out of habit rather than ensuring their relevance in tomorrow's fight.

Broken Promise: Implementing Strategy

The DoD created JCIDS with a bold promise: to align capability development with national defense strategies, ensuring that every validated requirement would directly support its highest-level goals. In principle, this means that when the US military sets a strategic priority—whether shifting focus to a near-peer competitor, enabling new joint operational concepts, or adopting emerging technologies—JCIDS should translate that strate-

gy into actionable requirements. Instead, it has devolved into a standalone ritual producing validated requirements documents that often fail to meaningfully guide or reflect top-level strategic direction.

Several structural flaws prevent JCIDS from effectively implementing strategy. First, there is no meaningful mechanism within JCIDS to compare priorities or orchestrate trade-offs across the portfolio of validated requirements. The process treats each requirement independently with no robust tools to rationalize how individual capabilities fit into the broader force. As a result, validated requirements tend to accumulate, often detached from emergent strategic imperatives and without a holistic sense of how they interact to achieve strategic outcomes.[111]

Additionally, once JCIDS has validated a requirement, no formal mechanism ensures that follow-on resource allocation or acquisition decisions consistently align with changing strategic guidance. The process is effectively fire-and-forget. Post-validation, requirements drift in the budget and acquisition systems with only a tenuous link to current strategic priorities. The lack of enforceable deadlines, clear accountability, and authoritative data on performance aggravates the problem. Without discipline, even long-standing strategic imperatives—such as improving joint command and control networks or contested logistics—drown in a sea of less critical but equally "validated" requirements.[112]

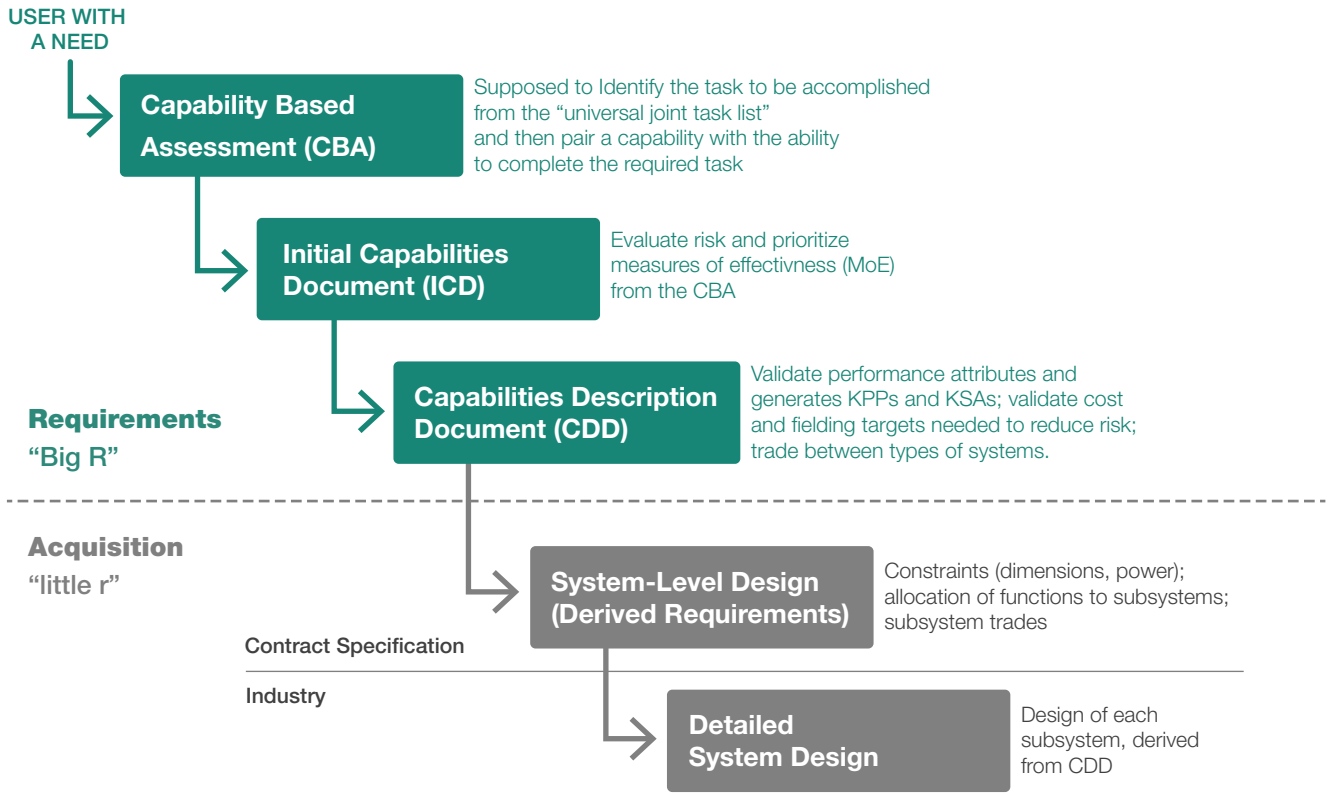
The persistent absence of strategic coherence is evident in the recurring problem of *capability stack-up*. Requirements that the process validates at different times, under varied assumptions, and with minimal pruning accumulate into unwieldy inventories. This accumulation leads to growing complexity and fragmentation while failing to yield a force structure under the guidance of real-time strategic insight. The Joint Staff has tried to address this problem through CPMRs and by adding top-down perspectives from documents like the Joint Warfighting Concept. However, it remains challenging to ensure that validated requirements meaningfully implement strategy. There is no effective *shaping* function that realigns old requirements as new strategic insights emerge. In the words of one analysis, "JCIDS has not yet been effective in identifying and prioritizing warfighting needs from a joint, departmentwide perspective."[113] How many decades of reform would this basic function need?

In contrast, best practices from industry and other militaries emphasize early, continuous engagement with strategic goals, flexible portfolio adjustments, and iterative feedback loops that rapidly incorporate updated intelligence and technology assessments.[114] In real strategy, senior leaders need information and levers to enforce resource and time constraints that reflect current priorities, rather than perpetually validating every proposed requirement with equal weight.

Active Harm: Mandating Specific Solutions

In theory, JCIDS touts a precise, top-down cascade of perfectly aligned requirements—a grand narrative that one might call the *immaculate conception* of capability development. According to this official fantasy, the process begins when a user clearly identifies a need that seamlessly maps to a task in the Universal Joint Task List (UJTL).[115] From there, the Capabilities Based Assessment (CBA) supposedly pinpoints the exact capability shortfalls and operational gaps. This analysis then blossoms into an ICD, in which elegant measures of effectiveness and carefully delineated risks guide decision-making. Next, the CDD refines these insights further, distilling them into KPPs and KSAs that stand as unassailable engineering targets. Finally, with these pristine documents in hand, acquisition professionals supposedly derive *little r* requirements—translating strategic vision directly into system design requirements that yield a contract with industry. Then engineers create subsystem technical specs that drive development. Each stage, in this storybook version, yields a perfect handoff: no confusion, no second-guessing, and no friction. It is, on paper, a beautiful ballet of rational planning (see figure 6).

Figure 6. The Imagined Progress of Capability Development Through JCIDS



Note: JCIDS imagines a perfect cascade from capability gaps to detailed system design.

Source: Authors, inspired by DAU JCIDS 101 Brief, August 2024.

To understand just how deeply disconnected this process can be, consider that the UJTL—a keystone reference in JCIDS planning—spans over 1,600 pages of tasks, subtasks, and measures. This colossal compendium assigns meticulously crafted metrics to each activity, driving the requirement to pick numbers early and embed them in official documents. Under the guise of objectivity, the DoD selects arbitrary targets, such as "90 percent successful missions in 24 hours" or "500 lb of supplies per day," without any rigorous operational experimentation. Instead of aligning requirements with actual operator feedback or technological feasibility, the system prides itself on numerical precision divorced from strategic context. The result is an entire bureaucracy chasing neat performance measures plucked from a thousand-page manual, further entrenching the illusion that complexity and detail equate to correctness.

The allure of this narrative lies in its simplicity and its promise of order. It tells DoD leaders and policymakers that if they just follow the steps, dot the i's, and cross the t's, they'll conjure a system that meets every requirement with mathematical precision. Every detail, from a KPP threshold to a subsystem dimension, it says, flows naturally and inevitably from a single, well-understood operational need. In this framework, the requirements enterprise resembles an impeccable assembly line rather than

a complex and contested battlefield of ideas. Nothing is left to chance—a neatly sequenced chain of documents confidently marches from strategic intent to operational reality.

Of course, this idealized vision is precisely what makes JCIDS so attractive to bureaucracies: it promises a controlled environment that tames complexity through meticulous planning and linear rationality. In this Eden of requirements generation, no extraneous influences—commercial tech surprises, industry innovation, adversary adaptations, new operational concepts—can derail the perfect logic of the process. The system claims that by setting rigid targets early, it can guide capability development along a stable, predictable trajectory, ensuring interoperability, jointness, and strategic alignment all at once.

Our analysis criticizes top-down micromanagement, but equally damaging is the front-end analysis gridlock that demands perfect clarity before any prototyping or experimentation. Allowing program managers and industry to propose solutions—while holding them to broad, mission-based, or problem-based guidelines—would avoid the same slow spiral that plagues JCIDS.

Enforcing Rigid Prediction over Adaptation: Example Scenario

Reality eventually intrudes on the system. Beneath the glossy surface of the immaculate conception hides a system rife with absurdity. In practice, JCIDS does not deliver a linear, rational translation of needs into tailored capabilities. Instead, it prematurely concretizes assumptions, constrains innovation, and forces complex real-world problems into an oversimplified, top-down blueprint. The inevitable result is a convoluted, costly, and sometimes even comical mismatch between what operators actually need and what the system prescribes.

Consider a hypothetical scenario: The joint force identifies a pressing need to resupply widely dispersed units in a contested environment. This legitimate operational challenge—rapid distribution in a hostile domain—ought to inspire experimentation with drones, agile ground vehicles, overhead surveillance, or any number of solutions. Instead, the immaculate conception approach demands immediate alignment with the Universal Joint Task List. It funnels the issue into a narrow, preexisting task category (ST 4.11.1 Conduct Logistics Processes, SN 4.12.9 Provide Distribution Support, OP 4.5.1 Facilitate Required Movements) and requires preselected measures like "Ton miles of supplies and equipment transported per day."

The Capabilities Based Assessment treats this newly framed task as a problem in need of a singular, clearly defined materiel solution that the task category implies, even as it claims to use a broad brush covering all possible solutions. Next, the ICD not only prioritizes a specific performance metric (like daily tonnage delivered) but also introduces arbitrary measures of effectiveness. For example, it may demand that "95 percent of units receive a minimum of 500 lb of critical supplies within 24 hours of request in all weather conditions and contested electromagnetic environments." This kind of figure emerges less from operational analysis and more from a bureaucratic need to pick a number early.[116] By the time a bureaucrat has drafted the capabilities development document, the DoD has already chosen KPPs for attributes such as speed, range, and payload. It has essentially prescribed a specific design for a system that may not even need to exist in the form imagined. Industry knows that their draft analysis and briefings can be highly influential during analysis of alternatives to pre-form a solution in their favor.

This top-down purity locks the US military into rigid system specifications before anyone has tested a prototype, examined alternatives, or responded to evolving threats. Suddenly, the program office must produce a high-tech aircraft—complete with specified stealth features and elaborate electronic warfare suites—to meet the predetermined KPPs. Innovation and adaptation suffocate. The acquisition team can't pivot to an inexpensive network of unmanned drones or consider leveraging commercial off-the-shelf solutions because the CDD fixates on particular technical attributes. Everyone is left clutch-

ing a gilded blueprint divorced from operational reality. Instead of exploring multiple avenues to solve the original problem, the process crushes curiosity under the weight of predetermined performance figures.

As these neat theoretical cascades slam into technical realities—engineering constraints, shifting threats, budget shortfalls—the situation turns truly absurd. Discover one small discrepancy in engine performance or fuel consumption, and suddenly a carefully calculated combat radius falls short of its pristine KPP threshold. The team must revisit the entire tower of requirements. Instead of strategically reassessing what the warfighters actually need, the process fixates on restoring lost decimal points of performance. Engineers scramble to add more fuel capacity, tweak flight profiles, or shave off weight—anything to hit the scripted number. Hours of senior leader time, including that of the VCJCS, evaporate in the pursuit of percentage points and nautical miles that have no inherent strategic significance.

This is not just theory. The F-35 Joint Strike Fighter offers a glaring real-world example. One slight reduction in engine efficiency—an adjustment in bleed air usage—caused a measured combat radius to dip from 590 to 584 nautical miles (nm).[117] Instead of becoming a trivial technical footnote, this tiny shortfall threatened to breach a KPP. By making combat radius a rigid KPP in the CDD, the system mandated top-level scrutiny of even a marginal deviation. With a long and intense staffing process, JROC had to reconvene, staff officers redrafted documents, and recommendations crept back up the chain, while work on the program slowed.

Nearly a year of bureaucratic wrangling ensued, all over 6 nm—about a 1 percent difference in range. The narrative that JCIDS ensures strategic alignment crumbles when it apparently obsesses over a few miles of range at the expense of responsiveness, adaptability, and time. Instead of acknowledging that maybe a 584 nm radius is close enough or rethinking the entire approach, the process doubles down on its initial, arbitrary decree. Indeed, the very notion of a singular, objectively "correct" set of requirements, knowable in advance and enforceable through a rigid process, is a dangerous fiction linked to the flawed assumptions of central planning and the suppression of dissenting viewpoints that are essential to innovation.[118]

This fixation on decimal places exemplifies how the immaculate conception deludes the DoD into believing it can predict and control everything up front. Rather than empowering program managers to make intelligent trade-offs or encouraging iterative learning with warfighters, the system worships its own forecasts. It preaches the gospel that every KPP is sacrosanct and every specification precise. When reality intrudes, as it always does, the process demands costly acrobatics to preserve the illusion of perfection. Even if the DoD tweaks JCIDS's rules, it remains shackled to old KPPs entrenched in old JROCs, carrying historical baggage that ensures it repeats the same cycles of over-constraint and wasted effort.

No matter how elegantly the requirements are written, they remain static guesses in a world that demands adaptive, iterative, and strategic problem-solving.

Active Harm: Undermining Adaptation, Accountability, and Strategy

The immaculate conception and its absurd practical offshoots don't just produce amusing anecdotes or slight inefficiencies; they actively harm the DoD's ability to adapt, prioritize, and prevail in a contested world. The entire premise—an unwavering belief that pristine documents, exact KPP thresholds, and locked-down system specifications will yield strategic advantage—turns out to be the root cause of the very dysfunctions we highlighted earlier.

The first harm is a fundamental loss of agility. By insisting on deriving every capability linearly from a perfect, top-down requirement, the process forecloses meaningful experimen-

tation and learning. Instead of embracing feedback from operational testing, commercial technology shifts, or adversary behavior, the DoD clings to a brittle baseline. Rigid adherence to preordained parameters leaves no room for mid-course corrections, hamstringing both program managers and warfighters. Time and again, precious months and billions of dollars vanish in attempts to reconcile stubborn realities with the original script.

Then comes the weaponization of bureaucracy. In a world where the slightest deviation—like 6 nm of range—sparks a top-level review, any stakeholder with a parochial interest or a doctrinal preference can wield requirements as a bludgeon. They don't have to engage in open debate about strategic utility; they can simply point to a violated requirement and force a costly detour back through the JCIDS labyrinth. The result is a system that rewards risk aversion, punishes ingenuity, and encourages endless consensus-seeking over trivial details rather than focusing on lethal, cost-effective capabilities.

Next, consider how this immaculate conception demands rigid prediction over ongoing adaptation. The DoD's operating environment is evolving at dizzying speed, but JCIDS pretends it can fix the future in ink. Once KPPs are set, changing them is as arduous as the original approval, ensuring the system resists rebalancing investments or discarding obsolete concepts. The towering edifice of preplanned requirements not only stifles technological evolution but also ignores shifting strategies, new alliance structures, and emerging threats.

Finally, this approach confuses system specifications with actual capability needs, permanently distorting the incentive structure. If a requirement states 590 nm, no one gains credit for conceding that 584 nm might be perfectly adequate. Instead of encouraging dynamic optimization, the system doubles down on minute technical deltas. The pursuit of these arbitrary thresholds becomes an end in itself, disengaged from the larger strategic forest the DoD is supposed to navigate. Incremental refinements to meet pedantic requirements paper over the truth that the DoD needs more flexible pathways, more direct feedback from operators, and more resources flowing to what works rather than to what analysts once predicted would work.

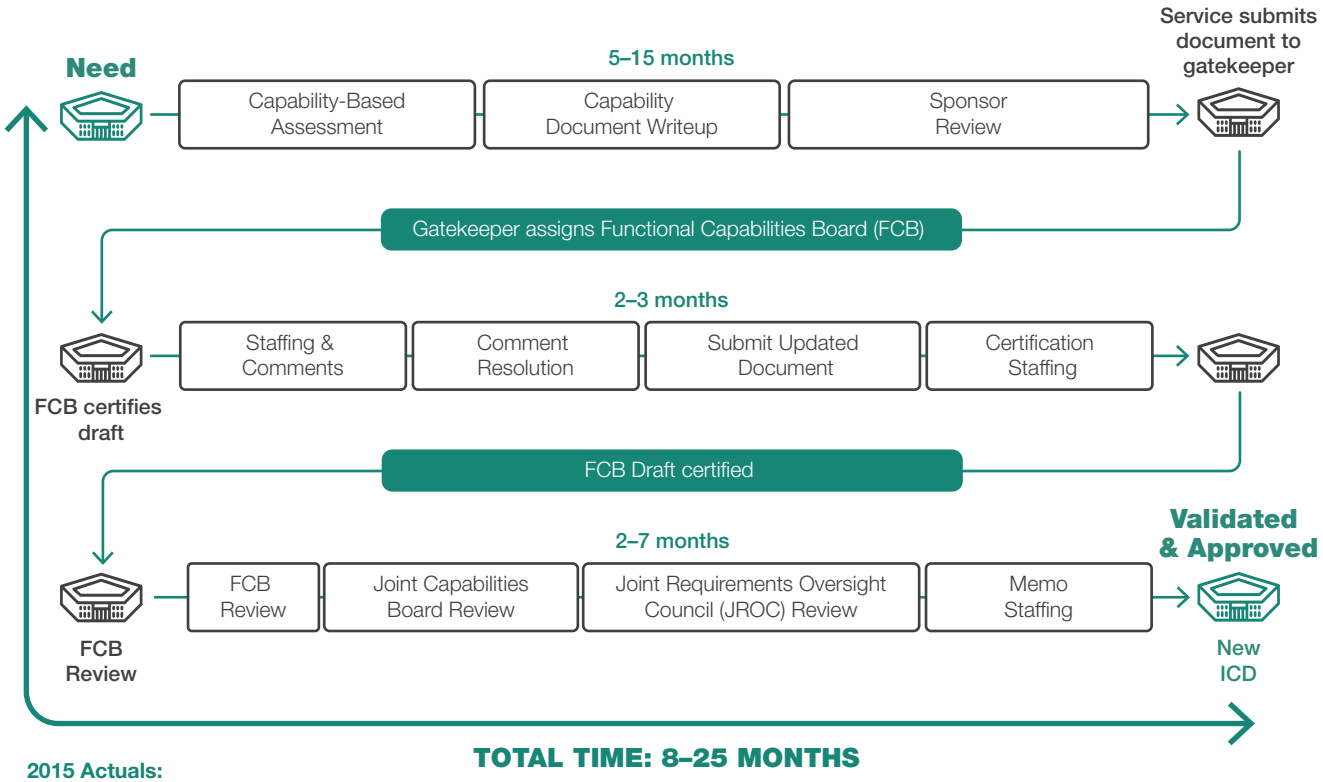
Defenders of JCIDS often suggest it is not truly at fault, pointing fingers instead at other acquisition phases or sponsor documents, or indulging in the fantasy that another revision to the JCIDS Manual will solve the issue. They highlight that JCIDS can occasionally incorporate non-materiel fixes or that it is less broken and more flexible than critics claim. Yet these defenses fail to engage with the core pathology: the process's inherent drive to lock in arbitrary, rigid parameters at the earliest stages and treat them as sacrosanct commitments. While making modest adjustments, such as improving stakeholder engagement or streamlining document reviews, may slightly ease the pain, it does nothing to address the deeper flaw of imposing universal tasks and numeric goals too soon. The predictable outcome is a system that continues to stifle innovation, misdirect focus, and degrade responsiveness—exactly what a capability-driven enterprise striving to outpace adaptive adversaries can't afford.

In short, the immaculate conception not only fails to deliver on its promises but inverts the DoD's priorities. Instead of serving warfighters and strategic imperatives, it serves a cumbersome ritual of approvals, minor adjustments, and bureaucratic showmanship.

Active Harm: Impeding Progress

The ultimate measure of a requirements system should be how quickly and effectively it delivers relevant capabilities to the warfighter. By this fundamental yardstick, JCIDS fails spectacularly. Instead of accelerating adaptation, it puts a lead foot on the brake pedal, stretching the road from identified need to validated requirement into a drawn-out bureaucratic pilgrimage. Rather than harnessing innovation at the speed of technology, JCIDS institutionalizes delay.

Figure 7. ICD Validation Timelines



Note: Prior actuals and ranges for ICD (requirement) validation timelines.

Source: Greenwalt and Patt, *Competing in Time*, 43.

We have previously examined JCIDS approval timelines in a broader analysis of defense capability fielding times.[119] We noted that even as early as 2015, the Army's data revealed median JCIDS approval durations exceeding 500 days—nearly a year and a half—just to validate a requirement (see figure 7). Unfortunately, the intervening years and various reform attempts did not produce a measurable improvement.

To make things worse, the AIRC[120] compiled empirical evidence in 2024 showing that these timelines are growing. Their analysis of multiple requirements documents showed that proceeding from ICD to CDD validation often consumed more than 800 days—nearly two and half years—of precious calendar time. In one illustrative set of Navy programs, the average timeline for achieving CDD validation was 336 days, exceeding the official JCIDS target of 103 days by more than 200 percent. ICD approval times reached an average of 516 days, dwarfing the official 67-day goal. These numbers don't even capture the full scale of delay because they measure only the steps after the sponsor has already spent months

or years shaping the requirement before it enters the JCIDS pipeline.

Such glacial pacing represents a catastrophic mismatch between the DoD's need for nimble adaptation and the reality of its paper-bound processes. While a CDD meanders through a two-year gauntlet, America's adversaries field new capabilities or iterate through multiple technology cycles. Commercial sectors integrate new versions of complex systems in mere months. Meanwhile, the US military remains stuck revisiting formatting details and re-verifying requirements that might already be outdated. Opportunities to incorporate lessons from rapidly evolving battlefields or emerging technologies simply evaporate while the Pentagon waits for signatures and reapprovals.

Worse yet, these enduring slowdowns compound over time. The extended review cycles mean that warfighters must operate with legacy systems longer than necessary, missing windows to field better solutions before a threat evolves. Budgets shift, priorities change, and key personnel rotate out, further complicating the process. By the time the system validates a requirement, conditions may have changed so much that the supposed solution no longer fits the strategic environment.

The DoD's goal of interoperable, multi-domain capabilities demands robust experimentation, beyond simple one-off system tests. Rather than a monstrous requirements document, the department needs a nimble joint framework ensuring cross-domain synergy—achieved through iterative trials and feedback, rather than more layers of signoff.

Active Harm: Weaponizing Bureaucracy

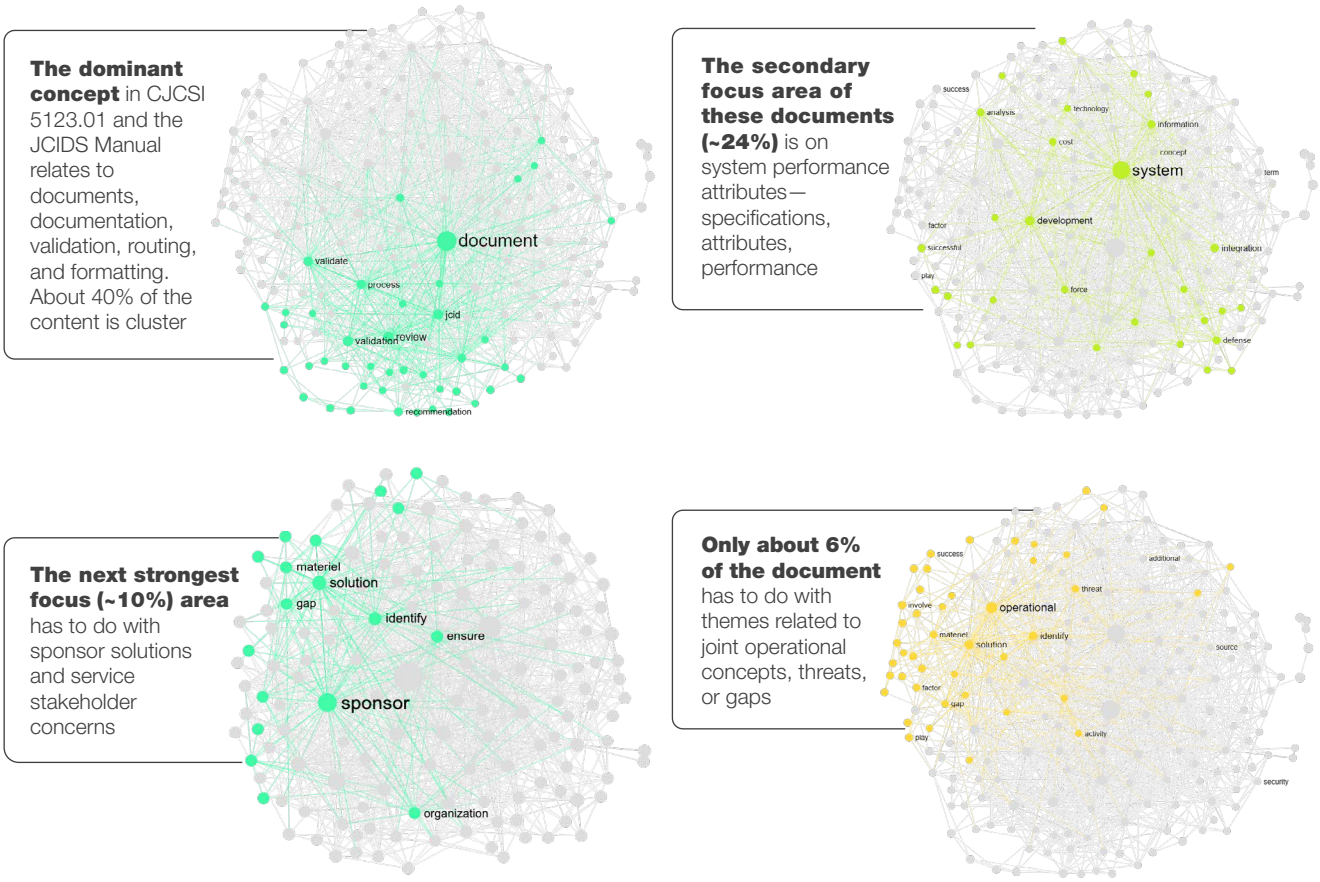
Far from a neutral safeguard of strategic alignment, the JCIDS process and its surrounding machinery can be a potent bureaucratic weapon. Instead of serving as a transparent and efficient conduit for capability needs, JCIDS becomes a tool that stakeholders—within the Joint Staff, the services, or other offices—can exploit to block, delay, or reshape proposals they find inconvenient or threatening. Its very complexity, the byzantine document formats, and the endless layers of approval all provide the perfect cover for obstructing innovation and protecting parochial interests.

A quantitative analysis of JCIDS-related documents underscores the depth of this bureaucratic fixation. Using clustering techniques and text embeddings to analyze CJCSI 5123.01 and the JCIDS Manual (more than 400 pages in total), we found that nearly 40 percent of the content clusters tightly around the production, formatting, validation, and routing of documents (see figure 8). Another substantial portion (24 percent) focuses on specifying system-level performance attributes, metrics, and parameters, essentially predetermining solutions before decision-makers have fully explored operational concepts. Barely 6 percent of these documents touch on joint operational concepts, actual threats, or ways to address genuine capability gaps. The measurable imbalance starkly confirms that JCIDS places far more emphasis on paper-driven compliance and predetermined system solutions than on the dynamic warfighting realities that should guide capability development.

By emphasizing formatting details over strategic thinking, JCIDS arms any participant in the process with a convenient veto point. Didn't like a new concept for a swarm of drones? Point out a missed reference in the architecture framework or quibble over a KPP threshold. Concerned that a disruptive technology might divert funding from your favored legacy system? Submit a critical comment that triggers another 100-day adjudication cycle. The process's labyrinthine structure means a single comment by a civilian contractor or O-5 staff officer can stall progress indefinitely,[121] as the entire system grinds to a halt while the sponsor redrafts, re-coordinates, and resubmits.

The Knowledge Management / Decision Support (KM/DS) system, which should provide transparent access to all approved

Figure 8. Cluster Analysis of JCIDS Priorities



Note: Analysis reveals JCIDS's core support of documentation, not capabilities.

Source: Authors.

requirements and track progress, only exacerbates the problem. With the Joint Staff carefully gatekeeping who can access KM/DS, even appropriately cleared personnel can't see the full landscape of existing requirements. This secrecy and information hoarding empower insiders to control narratives, limit options, and render challenges invisible. "There is no requirement for that" becomes an unassailable barrier when no one else can confirm what requirements exist. Meanwhile, validated requirements accumulate endlessly with no culling mechanism, turning the entire enterprise into a Christmas tree overloaded with ornaments—each one "approved," yet only adding weight without direction.

Beyond these conceptual flaws, actual reports reveal KM/DS is barely functional as a modern data system. According to an external audit, the Joint Staff couldn't even reliably count the programs that had completed JCIDS due to corrupted KM/DS data.[122] Basic actions—such as distinguishing with-

drawn documents from validated ones—were impossible. Worse, KM/DS would overwrite final approval dates each time a user accessed the record, making it impossible to track progress or timeliness accurately. Instead of enabling dynamic data-driven oversight, KM/DS traps information in a glitchy, decades-old paradigm, denying the DoD any meaningful situational awareness of the very processes it created to guide its modernization.

In practice, this creates a mutual nonaggression pact among various stakeholders. Everyone knows that turning the crank on another's program can later invite retaliation against their own. Instead of focusing on delivering capabilities to warfighters, participants negotiate behind-the-scenes deals to preserve their factions' interests. Our interviews have revealed stories of officers in joint duty positions later punished by their home service after making decisions in the interest of the DoD. Real warfighting needs—innovative concepts, cross-service cooperation, critical emerging tech—become secondary to navigating a zero-sum game of bureaucratic survival.

Active Harm: Centralizing Control, Diffusing Responsibility

In theory, centralized oversight ensures alignment with strategic objectives. In practice, JCIDS centralizes control at the apex of a rigid hierarchy while scattering real accountability to the winds. By consolidating approval authority in a small cadre of high-level boards and the Joint Staff, the system demands that even minor, technical decisions climb up a vertical ladder. Yet as this dense bureaucracy grows, it becomes ever harder to pinpoint who exactly is responsible for outcomes.

This imposed opacity ensures that while the Joint Staff and JROC nominally direct the process, no one is ever truly accountable. Because KM/DS can't provide reliable metrics or even confirm validation dates,[123] each participant can claim they merely followed orders. The data rot in KM/DS compounds the blame game: endless compliance checks, no real-time visibility, and no single authority to pin down. In the end, everyone nods at the system's "correctness," yet no one can ensure swift delivery of a capability or even verify whether it passed through the gates legitimately.

Moreover, this configuration disempowers the actual implementers—program managers, engineers, industry innovators, and operators—who must translate these paper mandates into real capabilities. They inherit documentation and KPPs carved in stone, which stifle their ability to adapt as threats evolve. Rather than giving these professionals the authority to shape and respond to operational realities, the system imposes static, top-level pronouncements. But when (inevitably) those pronouncements fail to deliver timely, relevant capability, bureaucrats pass the blame upward, sideways, and around again, and it never settles anywhere.

In sum, JCIDS enforces a model of hoarding control at the top while burying the true levers of adaptation—visibility of requirements, freedom to innovate, accountability for results—in the maze.

Active Harm: Substituting Process for Analysis and Insight

A compelling example showing that JCIDS prioritizes procedural box-checking over genuine analytical rigor again appears in the FARA program. The 2017 reforms and updated manuals that supposedly brought "mature" analytic processes into the fold, focused the JROC only on joint matters, and reduced attention to excess detail in KPPs. However, the Joint Staff still managed to designate FARA's requirements as JROC interest and push them through the validation pipeline in 2021 without anyone blinking at their fundamental infeasibility.

To be clear, the Army program manager inherited FARA requirements that contravened the bounds of physics.[124] The validated requirement was for speed, range, endurance, payload, and rotor-disk diameter specifications that simply can't coexist in the same aircraft (e.g., as disc loading goes up, over-

all lift efficiency goes down). Engineers protested that meeting all these top-down performance targets simultaneously was impossible. Yet the system charged ahead. The "analysis" that is supposedly baked into the requirements validation process and that should have exposed these contradictions gave way to ritualistic document refinement and signature gathering. Arguably, the Army Requirements Oversight Council—the Army's own requirements vetting process, which is currently being reformed,[125] should have caught this error, not the Joint Staff. However, this merely raises the question of exactly what value the JCIDS review is supposed to add.

This wasn't a legacy artifact from a bygone era—it happened after the congressional reforms. It was occurring under the supervision of so-called Joint Staff analysts whom the DoD had, in theory, equipped and motivated to ensure technical plausibility in validation. Instead of enforcing engineering discipline, JCIDS rewarded alignment with its procedural expectations. The checklists were completed, the right system view diagrams included, conformant fonts selected, the right offices staffed. The system appeared more concerned with meticulously formatting the CDD than with ensuring the aircraft it envisioned could ever truly fly.

4. A BETTER PATH FORWARD

No more tinkering, no more incremental fixes, and no more polite requests to "improve" or "streamline" a fundamentally destructive machine. JCIDS has failed too completely, too systematically, to be rescued by another committee's review or a fresh coat of bureaucratic paint. The DoD needs to burn it down to its smoldering foundations and let it vanish into history, not quietly retired but deliberately, decisively erased. In this new era of strategic competition—when speed, agility, and bold conceptual leaps are the lifeblood of national security—the US military can't afford even the illusion of potential JCIDS reform. No new KPP, no revised membership, no inspired PowerPoint deck or new formatting appendix can salvage it. JCIDS is beyond redemption, and the only responsible course is to put it out of its misery, carve it from the DoD's body, bury it, and salt the ground so that nothing resembling it ever grows back. Now is the time for courage, not to fix JCIDS but to kill it.

The Joint Operational Acceleration Pathway

Instead of further entrenching a system that reduces the pursuit of joint warfighting advantage to bureaucratic document staffing ritual, we propose the Joint Operational Acceleration Pathway (JOAP) as a more direct, budget-driven approach to fielding capabilities at speed. Its underlying theory is simple: if a Service sees a *future topline benefit* for delivering something truly cross-service—solving a pressing joint problem—they are far more likely to do it. Under JOAP, activity doesn't start with thick requirements documents, but real-world experimentation and prototyping campaigns. This inversion—prioritizing user feed-

Photo: US Marines pose for a group photo with an RQ-20B Pointer Upgraded Mission Ability small unmanned aircraft system during a training exercise at Pohakuloa Training Area in Hawaii on February 1, 2025. (US Marine Corps photo)

back and rapid testing over front-loaded specification—would keep the DoD constantly aligned with real operational demands. These are backed by an explicit commitment to reassign out-year budget shares (via the Joint Acceleration Reserve, or JAR) to whichever service steps up to adopt and scale a proven cross-service concept.

Crucially, JOAP would be decentralized and collaborative. We assume that each service retains its unique acquisition and sustainment expertise and that no joint program office attempts to handle all joint equities. Meanwhile, a dedicated execution hub would run iterative try-and-see efforts in realistic operating environments with actual uniformed operators, bringing together commercial prototypes, emerging tech from labs, well-integrated existing service systems, and CCMD user feedback.[126] If a concept proves out, it gets the JAR budget tail in that service's program lines—no short-notice cuts, no new mandates. This framework incentivizes services to pick up joint or cross-domain solutions and invest in them for the long haul. Over time, JOAP fosters a gradual realignment of roles and missions—shaped by operational results, not top-down directives—while staying nimble enough to adapt as threats and technologies evolve.

Operational Imperatives: From Problems to Prototypes

At the core of JOAP are *operational imperatives*—concise statements of critical warfighting challenges identified by combatant commands and backed by DoD leadership.[127] Instead of enumerating rigid technical requirements years before anyone knows if they might work, operational imperatives define the operational problem in plain terms (e.g., "enable resilient air operations in a contested island environment," or "deliver fires from sanctuary against a key target class and integrating maritime, air, and space assets"). This problem-centric focus would free innovators and operators to experiment with diverse solutions rather than adhere to an inflexible blueprint.[128]

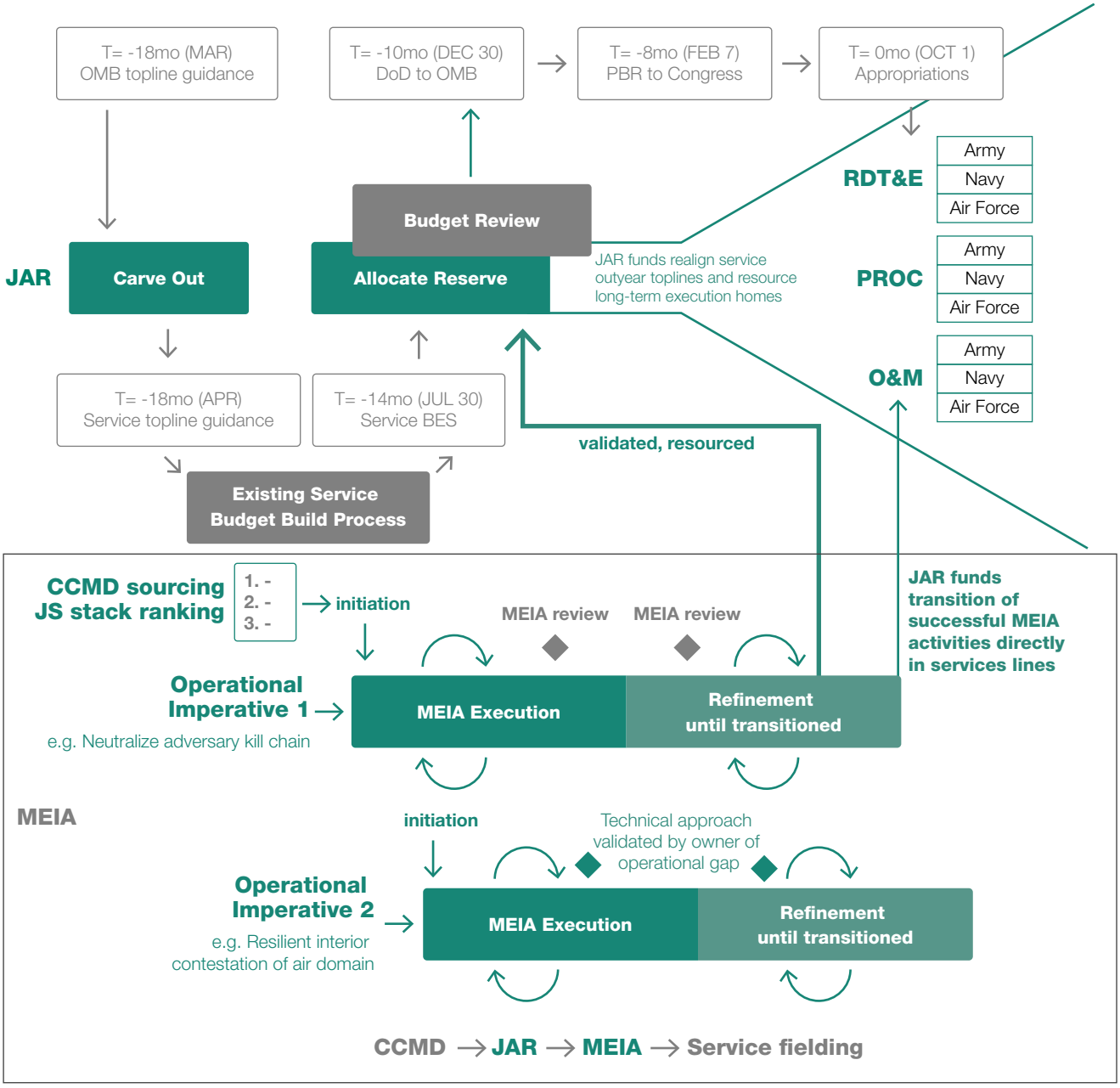
In this process, the Mission Engineering and Integration Activity (MEIA) orchestrates short-cycle experimentation campaigns to address each imperative. It brings together existing service capabilities, new prototypes, and commercial tech for rapid integration and testing. If a particular concept or combination shows real operational promise, the sponsoring service can secure a future budget share through the JAR mechanism. This way the DoD continuously adapts around empirical feedback rather than a one-shot "requirement" that's outdated before the ink dries. The guiding philosophy is that decentralized action—with each service retaining domain expertise—plus *targeted budget alignment* for validated cross-service solutions produce genuinely joint capabilities faster than any top-down document process ever could.

Importantly, the Joint Staff plays the role of collecting these imperatives from the CCMDs, refining them to account for both near-term operational pressures and longer-term strategic demands, and then stack-ranking them in priority order. Instead of guesswork or abstract planning, it solidifies the link between where the fight is happening and how the department invests, ensuring that validated warfighter needs define the budget, not the other way around. This forced prioritization ensures that this process does not devolve into just a laundry list of desired attributes. Instead, it delivers a focused set of high-impact problem statements that truly matter to the joint force. By thoughtfully selecting and prioritizing the most urgent or strategically consequential challenges—and making them the basis for real experimentation and budget reassignments—JOAP can keep contributors on task and aligned with the larger joint warfighting needs.

The Joint Acceleration Reserve: Resource Allocation for Proven Solutions

The Joint Acceleration Reserve is designed as an out-year holdback of service budgets' topline targets, rather than a conventional fund line that appears in annual appropriations. During the normal budget build, a modest slice of the overall Office of Management and Budget–issued topline is withheld, forming

Figure 9. The JAR Mechanism Ensures Transition of Joint Equities



Note: The JAR creates incentives for services to take on the provision of services to the joint force, and gradually evolves roles and missions. Coupling MEIA with JAR is needed to source mature integration solutions and operational concepts responsive to CCMD needs.

Source: Authors.

a pooled reserve that can be allocated a few months later to cross-service or multi-domain solutions. Because these JAR resources are never part of in-year obligations, they do not fall under the usual scrutiny of a separate bridge fund or bring additional complexity to current obligations. Instead, they reappear as permanent budget lines in a service's out-year program once a joint concept has proven operational value and a clear sustainment path. Such mechanisms have been used by the department at several points in the past.[129]

Historically, the DoD has lacked any systematic resourcing approach that can immediately transition a capability rather than see it languish in the so-called valley of death. Since the creation of PPBS, the DoD has trapped itself in a multi-year budget cycle and rigid appropriations categories that lock in plans and spending years ahead, leaving little room to capitalize on breakthroughs as they emerge.[130] Additionally, the department has long struggled with funding key joint equities that aren't a priority in any given service budget.

In our proposed process, the Joint Staff—collaborating with the CAPE office—would oversee the JAR's allocation, drawing on evidence from both the MEIA experiments and other joint activities (see figure 9). Whenever MEIA's iterative campaigns validate a prototype or integrated concept that meets a critical operational imperative, the JAR ensures the future budget share shifts directly to the adopting service. This prevents new cross-service programs from becoming last-minute bill-payers in the budget cycle and ensures that successful ideas can transition without forcing existing programs to be abruptly cut. By scheduling these funding realignments within the normal budget cycle, the JAR avoids the pitfalls of abrupt reprogramming actions, making it less contentious for both Congress and the services. In many ways, the JAR acts as stable funding for CCMD and joint priorities.[131] At the same time, JAR does not require combatant commands to handle acquisition or sustainment themselves; it simply channels resources to wherever operationally driven concepts can be best acquired and maintained over time.

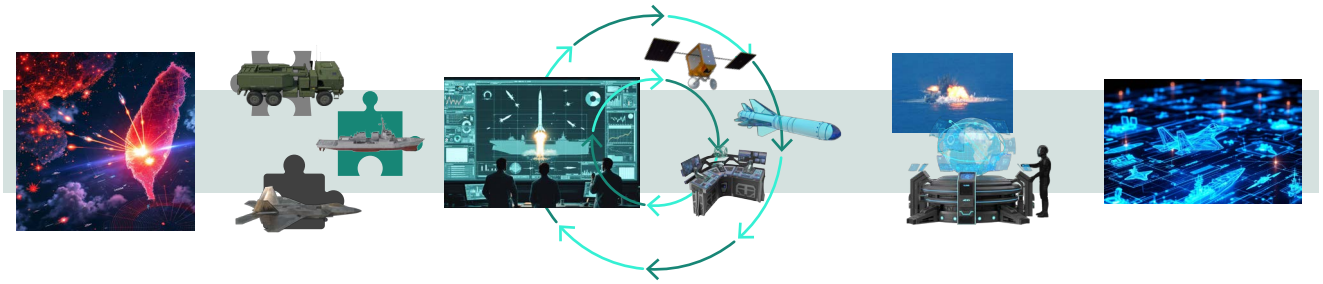
This process would be a modern replacement for the Chairman's Program Recommendation and would have a much more direct impact on resource allocation rather than shaping the Defense Planning Guidance memo. After a campaign of iterative experimentation by MEIA refines service roles and proves the feasibility and utility of a new capability, the JAR provides immediate, multi-year funding to scale and institutionalize that capability through one or more service program offices. The JAR thus acts as a strategic accelerator—when something works, the DoD can act right away. By laying the groundwork, MEIA has already resolved the details of what it needs to accomplish.

By functioning as a flexible, perpetual incentive mechanism, the JAR inherently ties joint priorities to tangible budget benefits. It effectively parallels the idea of funding for CCMDs, but without burdening them with formal program management or complex appropriation considerations. Instead, once a proposed solution is validated as an enduring joint equity, the JAR replenishes the relevant service's budget lines to implement, scale, and sustain it. Over time, this approach spurs a gradual but decisive realignment of roles and missions—guided by demonstrated results, rather than by top-down fiat—ensuring that truly joint solutions receive the steady funding they need to outpace emerging threats. If the US believes that its future advantage comes from joint warfighting, then it needs a mechanism that encourages collaboration and decentralized action, as well as funds for these joint capabilities.

The Mission Engineering and Integration Activity

The execution arm of JOAP is MEIA, a lightweight and tightly scoped project-execution organization that focuses on execution rather than oversight. Reporting to a principal staff assistant, MEIA doesn't generate traditional requirements or rely on committees to bless lengthy capability documents. Instead, it orchestrates a systematic, iterative cycle of concept exploration, prototyping, mission-based analysis, and rigorous field

Figure 10. Proposed Iterative MEIA Workflow



CCMD operation problems and joint opportunities

Existing service capability roles and responsibilities

Ideation and rigorous mission-based analysis

(Mosaic) **Capability** integration and/or technology insertion

Joint experimentation and evidence collection

- **Integrated** joint warfighting outcomes
- Tech-enabled operational-concepts
- New systems-of-systems
- Aligned service roles & responsibilities
- Transition outcomes

Note: MEIA uses experimentation to discover promising technical solutions to operational imperatives.

Source: Authors.

demonstrations. It has the capacity to explore new, integrated systems-of-systems solutions to a handful of the highest priority operational imperatives, ensuring that MEIA does not become a top-heavy bureaucracy. By working closely with CCMDs and leveraging emerging technology from industry and government research and development sources, MEIA transforms operational imperatives into integrated, operationally relevant capabilities at pace (see figure 10).

MEIA's authorities and funding streams differ markedly from legacy approaches. Its budget line, primarily using advanced late-stage defense-wide research, development, test, and evaluation (RDT&E) funds, gives it the flexibility to initiate and modify projects as operational insights and testing results dictate. To enhance the ability to act in the year of budget execution, MEIA would need to access flexible prototyping funding lines similar to those proposed or currently in law, such as the Defense Modernization Fund, Rapid Defense Experimentation Reserve (RDER), or Accelerate the Procurement and Fielding of Innovative Technologies (APFIT). Once MEIA validates a promising solution in partnership with test organizations, the Joint Staff and CAPE would coordinate to trigger a JAR allocation for out-year funding, ensuring stable resources flow to the service(s) adopting that capability.

MEIA would coordinate closely with the services, leveraging existing contracting and acquisition authorities and issuing acquisition decision memoranda (ADMs) to guide rapid capability insertion, while also collaborating with CAPE and Comptroller to maintain a clear path from prototype funding to permanent service appropriations. This process ensures that proven capabilities swiftly transition into service-managed programs or field deployments, preventing long delays in the budget cycle and reassuring the services that if they assume sustainment responsibilities, new JAR-aligned funding would follow accordingly. MEIA's value lies in its ability to accelerate learning, integrate

novel solutions from commercial and nontraditional defense firms, and deliver iterative improvements that the field can adopt rapidly.

This is a radical break from the old model: rather than adding another layer of oversight, MEIA would streamline action. It would blend operational insights (collected from warfighters and other stakeholders in principled experimentation), conceptual thinking (including contributions from a potential Joint Futures entity), and industrial ingenuity to assemble, test, and refine systems-of-systems that solve real joint challenges. This integrated approach reflects modern software-defined methodologies: the DoD wouldn't start with rigid specifications but with functional goals. With these operational imperatives in place, the department would use iterative cycles of experimentation to discover what works. In parallel, the JAR mechanism would stand ready to lock in future budget share for any proven cross-service capability. It could likely meet any challenges by integrating existing service and intelligence community capabilities in new ways. In other instances, injecting new technology and incorporating commercial capabilities and companies can provide substantial advantages. The feedback loops from testing and capability refinement would ensure that solutions stay relevant as technology and threats evolve. MEIA's core strength is that it brings operators, technologists, and acquisition experts together in a continuous feedback loop, so programmatic decisions rely on tangible evidence rather than static requirements.

In this vision, emerging analytical capabilities such as those housed in the Office of the Under Secretary of Defense for Research and Engineering (Mission Capabilities) and the Joint Staff's Joint Innovation and Experimentation Division (J81), which conducts rigorous operational-level modeling and simulations, would feed directly into MEIA's iterative process. Their analyses help refine operational imperatives, reducing guesswork and ensuring that the concepts MEIA explores align with actual warfighter challenges. At the same time, the Joint Futures entity anticipated as part of the Joint Staff's efforts to envision and shape tomorrow's force can offer strategic-level foresight.[132] This combination of real-time analytic support and forward-looking strategic direction ensures that JOAP remains both responsive to near-term operational problems and aligned with long-term modernization goals.

End-to-End Process Flow: Example Scenario

Imagine that Indo-Pacific Command (INDOPACOM) has identified a high-priority operational imperative: countering adversary attempts to blockade critical maritime chokepoints without relying on surface ships vulnerable to adversary rocket forces. Today, the conventional approach would start with a service-driven set of requirements for a next-generation maritime patrol aircraft or a specialized anti-ship weapon. That process could take years before the DoD fields anything new, by which time the threat may have changed. Under JOAP, the process unfolds differently:

1. **Define the operational imperative.** The INDOPACOM commander states that maintaining continuous and survivable maritime awareness and strike options in a contested littoral environment is critical to deterring aggression. Instead of producing a thick requirements document detailing platform attributes, MEIA analysts work with the Joint Staff, INDOPACOM J3, J8, and J7, and perhaps a Joint Futures organization, to refine the problem into a concise operational imperative: achieve persistent maritime domain awareness and integrate multiple strike assets—from any of the Navy and Air Force or Marine Corps—to hold enemy vessels at risk.

2. **Iterate prototyping and integration through MEIA.** MEIA gets to work immediately. Leveraging 6.3–6.5 funds in its own budget line, it conducts rapid market research, identifies a matured Defense Advanced Research Projects Agency (DARPA) payload and emerging uncrewed surface vessels from a nontraditional defense start-up identified by the Defense Innovation Unit (DIU), and pairs them with existing

service weapons and communication networks. Within months, MEIA runs a series of field trials and operational demonstrations. Multiple demonstration spirals refine targeting algorithms, test different communication protocols, and integrate electromagnetic warfare capabilities for resilience. The iteration also explores operations, sustainment, and command-and-control considerations for the novel operational concept.

3. **Assess experimentation results and allocate from the JAR.** After several demonstration cycles, MEIA presents evidence that the new operational concept works, enabling joint forces to rapidly mass and distribute fires, complicating adversary decision-making and reinforcing deterrence. Because the capability has been operationally proven, the JAR can now provide funding. The DoD draws from this joint holdback of resources—withheld at the start of the budget build—to create the relevant service budget lines for expedited procurement of the unmanned surface vehicle (USV) sensors, data links, and software updates that made the demonstration a success. The president's budget request sets the total amount of JAR funding before it hits Congress, addressing concerns about excessive flexibility.

4. **Produce and institutionalize.** With stable, multi-year funding from the JAR, the Navy begins large-scale production and sustainment of the new USV-based architecture. The services do not have to raid other priority programs at the last minute to fund this capability. Meanwhile, the combatant commander can count on having these integrated maritime capabilities operational in the near term, rather than years down the road. The proven concept now feeds back into the DoD's ongoing strategy and resource allocation cycles, informing the next set of operational imperatives and guiding future JOAP efforts.

This example underscores the integrated power of JOAP: it is a flexible pathway that starts with pressing operational problems, leverages MEIA's iterative integration approach, and culminates in timely funding decisions through the JAR. Together, these elements equip the DoD to thrive in a world defined by accelerating technology, agile adversaries, and the imperative to make better decisions faster. Ultimately, budgets decide which programs thrive, so framing operational gaps need to be paired with robust resourcing processes. Under this proposal, mission imperatives, flexible prototyping, and the budget cycle all align; by empowering the Joint Staff to shape mission solutions instead of micromanaging ICDs, each dollar goes toward proven operational advantage.

Keeping the Five Broken Promises

JCIDS promised a system that would keep the US military future-facing, joint, interoperable, responsive to CCMD needs, and capable of implementing strategy effectively. In reality, it delivered a maze of processes that locked in outdated predictions, stifled new entrants, delayed adaptation, and frustrated warfighters at every turn. By contrast, the JOAP, enabled by the MEIA and the JAR, fulfills these core promises as follows:

1. **Future-facing.** With rapid iteration, mission-based experimentation, and prototyping, JOAP thrives in uncertainty. It continuously adapts as threats emerge and technologies mature. Instead of wasting years to field a capability that might be obsolete upon arrival, JOAP moves from concept through experimentation, evolving the force to meet contemporary strategic challenges rather than sorting them into predetermined buckets.

2. **Joint.** JOAP doesn't force jointness through bureaucratic mandates. Instead, joint and CCMD-inspired operational imperatives transcend service boundaries to achieve this goal. MEIA integrates capabilities across air, land, maritime, space, and cyberspace domains from the outset, forging joint solutions that emerge naturally from shared operational problems and continuous testing.

3. **Interoperable.** The old model reduced interoperability to compliance checklists and static KPPs and systems view-

point (SV) diagrams. JOAP ensures that action demonstrates interoperability—proving it through iterative integration and realistic exercises. By letting solutions evolve and prove their value before large-scale investment, JOAP naturally cultivates systems that work together seamlessly. It embraces the principle that large-scale, complex systems evolve from small, proven building blocks.

4. **Responsive to CCMD needs.** Instead of relegating CCMDs to mere inputs in the final stages of a drawn-out requirements process, JOAP places them at the center from day one. CCMD assessments and challenges directly inspire operational imperatives defined by the Joint Staff, ensuring that the capabilities under development address real, pressing challenges in theater. This yields a system responsive to warfighters' urgent needs, not abstract future constructs.

5. **Strategically successful.** By using the JAR to infuse resources into proven solutions, JOAP aligns resource allocation with demonstrated operational value rather than PowerPoint presentations. Threats and opportunity inform imperatives; imperatives guide iterative experimentation; and validated outcomes secure stable, out-year funding—turning intentions into reality. This closed loop ensures the DoD can dynamically shape its posture and capabilities as the strategic environment evolves while giving the services a tangible topline incentive to adopt cross-service solutions.

By tying proven outcomes directly to funding, JOAP naturally overcomes the valley of death—accelerating the transition from promising integrated system-of-system prototypes (backed by a joint user community) to stable acquisition or sustainment activities in the services. This greatly reduces the risk that vital capabilities stall after initial success. Just as importantly, the JAR approach incentivizes genuine collaboration among the services, as participants see real benefits in codeveloping and adopting joint solutions rather than merely reacting to top-down directives or budget cuts.

Eliminating JCIDS does not, by itself, resolve every challenge in how the services conceive and articulate requirements. Nor does our proposed Joint Operational Acceleration Pathway obviate all other reforms necessary to cultivate a culture of faster iteration, better coordination, and more flexible funding at the service level. Instead, removing a costly, duplicative joint-layer bureaucracy opens the door to genuinely agile experimentation, resource allocation, and cross-domain integration. Each service will keep refining how it sets its own requirements in a faster-paced world—but free of an extra, top-heavy process that has proven slow and tangential to warfighter success.

Evolving Roles, Missions, and Organizational Culture

This new approach naturally drives evolutionary changes in service roles and missions. The JAR provides persistent incentives for services to take on joint equities. Instead of imposing reorganization from the top, JOAP allows demonstrated success and battlefield relevance to guide how responsibilities shift among the services, defense agencies, and industry partners. As iterative experimentation reveals which solutions truly excel, it becomes logical to let the organizations that deliver them assume stewardship. Over time, data-driven results erode parochial interests and encourage collaborative, joint efforts that enhance readiness and effectiveness.

This cultural shift moves away from monolithic, top-down planning in which document compliance and predicted performance are the measures of success. The JOAP model defines success as timely fielded capabilities that perform robustly under realistic conditions. As proven solutions earn stable out-year funding from the JAR, the services and operators gain confidence that their best ideas will quickly reach the field, strengthening trust and collaboration across the DoD. Such a system promotes an ethos of continuous improvement, learning, and adjustment—exactly what the US military requires in a contested era.

Conclusion: Embracing a Better Future

DoD leaders conceived of joint requirements during a period of uncontested dominance and technological stasis, right at the fall of the Soviet Union. That era has passed. Accelerating technology cycles, agile adversaries, and uncertain strategic environments drive the demands of contemporary competition, calling for a decisively different approach. The Joint Operational Acceleration Pathway, powered by MEIA and the JAR, offers exactly that—a dynamic, feedback-rich mechanism to identify and solve operational problems, deliver validated capabilities promptly, and align resources with demonstrated outcomes.

This is not a minor tweak or a cosmetic improvement. It is a wholesale reorientation away from slow, requirement-centric planning and toward agile, mission-driven innovation. By coupling iterative prototyping, operational imperatives, and flexible funding, JOAP ensures that the DoD fields capabilities as fast as they can prove their worth. The result is a defense enterprise aligned with strategic intent, responsive to CCMDs, and continuously adapting to maintain the US military's competitive edge.

APPENDIX A: FROM DEFENSE CONCEPT PAPERS TO JCIDS: A HISTORY OF DEPARTMENT-WIDE REQUIREMENTS

Below is a brief overview of the history of the joint requirements process and relevant definitions. For more context, see chapter 2. This appendix summarizes major milestones in DoD instructions, policy documents, and organizational changes that shaped the evolution of requirements generation from the late twentieth century to the modern JCIDS era.[133]

I. Evolution of DoD-Level Requirements Documents (Pre-JCIDS)

1. **1971 and DoD 5000: Defense Concept Papers (DCPs)**
   - Entirely service-controlled.
   - Mandated under older DoD 5000.1.
   - Derived from earlier development concept papers (McNamara), intended to define issues, problems, program objectives, program plans, performance parameters, risk areas, system alternatives, test and evaluation data, acquisition strategy, and thresholds.[134]
   - Approved by the secretary of defense.
2. **1977–81: Mission Element Need Statements (MENS)**
   - MENS were based on mission area analyses (MAAs) for MDAPs (milestone 0).
   - Approved by the secretary of defense; mandated under older DoD 5000.1.
3. **1982–86: Justification for Major System New Start (JMSNS)**
   - Very similar to MENS, but restricted to around 3 pages.
   - Approved de facto by insertion into the budget (program objective memoranda approval by the secretary of defense).
4. **1987–2002: Mission Need Statements (MNSs)**
   - Based on MAAs.
   - Initially only for MDAPs (1987–96); expanded to all programs (1996–2002).
   - Aligned with milestone 0 (1987–2001), then milestone A (2001–02).
   - Phased out with the advent of JCIDS.
5. **Post-2003/JCIDS Era: Initial Capabilities Documents (ICDs)**
   - JCIDS analysis forms the basis (2003–04).
   - Applies to all programs unless waived, typically requiring JROC approval.
   - Joint concept document (JCD) introduced around 2005, used through around 2009 (based on CBA analysis); later discontinued.

II. JCIDS Process Documents

From its inception in 1997 as the Requirements Generation System, the JCIDS process has been characterized by a persistent focus on refining its internal machinery, with a particular emphasis on documentation, featuring about 30 revisions to key guiding documents. The initial framework, outlined in MOP-77 and later CJCSI 3170.01, introduced the foundational mission need statement (MNS), operational requirements document (ORD), and capstone requirements document (CRD), setting the stage for a document-driven approach to capability development. Subsequent revisions in 1999, 2001, and 2003 saw the introduction of new terminology like joint potential designators (JPDs) and key performance parameters (KPPs), along with the creation of FCBs and the joint capabilities document (JCD), all geared toward enhancing the review, validation, and coordination of these documents. Throughout this period, claims of "better linkage to the acquisition process" and "improved prioritization" were frequent, yet the revealed emphasis remained squarely on perfecting the prescribed document formats and the elaborate multilayered staffing processes, rather than measuring tangible improvements in warfighting capabilities.

The narrative of refining or reforming JCIDS continued as subsequent revisions, notably in 2007, 2009, 2012, 2015, 2018, and 2021, introduced further adjustments, reflecting a recurring

cycle of identifying perceived shortcomings and implementing new procedures. These changes brought about the capability development tracking and management (CDTM) tool, the capability-mission lattice (CML), and capability gap assessments (CGAs), each promising to streamline the process or improve coordination or jointness. Notably, the 2018 revision replaced the longstanding ORD with the IS-ORD, and finally eliminated the CRD altogether, further highlighting the ongoing churn in documentation. Despite the introduction of concepts like capability portfolio management and data-driven decision-making, the core of JCIDS remained firmly rooted in document generation, review, and validation. The focus was consistently on refining the internal bureaucratic mechanisms, with numerous changes to acronyms and minor process modifications, rather than on demonstrating measurable improvements in delivering timely and effective capabilities to the warfighter. Even with some inclusion of urgent and emergent needs processes, the throughline of the JCIDS evolution remained one of a document-centric system in constant pursuit of its own idealized form.

III. CJCSI 3170.01 Series (Requirements Generation System Transitions to JCIDS)

1. Precursor

- CJCS Memorandum of Policy 77 (MOP-77)
  - September 17, 1992 (42 pages).
  - Launched for the 1991 inception of the requirements generation system (RGS) process for validating requirements documents.

2. Transition to CJCSI 3170.01 Instructions

- CJCSI 3170.01
  - June 13, 1997 (45 pages).
  - Document-centric from the beginning, this instruction established policies and procedures for the RGS, outlining how to develop, review, and approve MNSs, operational requirements documents (ORDs), and capstone requirements documents (CRDs). It delegated oversight of this system to the vice chairman of the Joint Chiefs of Staff and emphasized guidelines for program reviews, particularly for MDAPs.
- CJCSI 3170.01A
  - August 1999 (45 pages plus 38 pages of appendices).
- CJCSI 3170.01B
  - April 15, 2001 (50 pages plus 40 pages of appendices).
- CJCSI 3170.01C (now titled JCIDS)
  - June 24, 2003 (50 pages).
  - This version represents a major shift from the RGS to JCIDS. It moved from a process focused on specific needs to one emphasizing joint concepts, integrated architectures and identifying capability gaps through analytical processes. It introduced ICDs, moved away from use of MNSs, and expanded interoperability considerations.
- CJCSI 3170.01D
  - March 2004.
  - This revision incorporated lessons learned from early problems with the implementation of JCIDS.
- CJCSI 3170.01E
  - May 11, 2005 (62 pages).
  - This revision continued to incorporate fixes from JCIDS implementation issues. It focused on improving the linkage between capability needs, system interoperability, and program affordability. The changes included emphasis on information technology, data sharing, and a new requirement for a net-ready key performance parameter (NR-KPP).
- CJCSI 3170.01F
  - May 1, 2007 (59 pages).
  - This revision reflected lessons learned and changes from the prior 2005 version and implementation of JCIDS, streamlining processes. Key changes in-

cluded implementing congressionally mandated key performance parameters (KPPs) for force protection and survivability; including the use of joint capability areas (JCAs); and defining a more rapid process for updating KPPs.

- CJCSI 3170.01G
  - March 1, 2009 (30 pages).
  - This version streamlined the instruction to establish high-level policy and processes, removing detailed process steps to a separate manual. This revision established a joint potential designator (JPD) for JCB interest, provided updated guidance on Capability Based Assessments (CBAs), and deleted the JCD as an option resulting from a CBA.
- CJCSI 3170.01H
  - January 10, 2012 (34 pages).
  - This revision emphasized management of capability requirement portfolios, incorporated elements of JCD process review recommendations, and aligned with other CJCS publications. This version also codified variations of the JCIDS process for various organizations and created a new section for processes and tools within JCIDS.
- CJCSI 3170.01I
  - January 23, 2015 (42 pages); canceled by CJCSI 5123.01H on August 31, 2018.
  - After this point, the 3170.01 content was folded under the CJCSI 5123.01 series.
  - This revision focused on improving capability requirement portfolio management and traceability.
  - This version introduced the CML as a construct for integrating multiple factors, clarified US Special Operations Command processes, and provided guidance on the implementation of new KPPs and KSAs; it also formalized the process for reviewing validated capability documents.
- C. CJCSI 3137.01 Series
  - Established in 2004 for functional capabilities boards (FCBs).
  - Last issued version in 2009 (CJCSI 3137.01D, May 26, 2009), then merged into CJCSI 5123.01F in 2012. The CJCSI 3137.01 series established the framework for FCBs within the JROC structure, defining their roles, responsibilities, and processes for identifying and prioritizing joint military capabilities.
  - These boards, composed of experts from across the DoD, were created to provide focused analysis and recommendations on specific areas of warfighting to the JROC, ensuring a more structured approach to capability development.

IV. JROC Charter Series (MCM Transitions to CJCSI 5123.01)

1. Initial Charter

- MCM 76-92 (JROC Charter)
  - May 19, 1992 (7 pages).
  - This initial charter established the Joint Requirements Oversight Council (JROC), outlining its basic structure and purpose as an advisory body, but was separate from the RGS.

2. Transition to CJCSI 5123.01

- CJCSI 5123.01
  - May 2, 1997 (14 pages).
  - This document formally implemented the JROC program and empowered the JROC as an advisory council to the CJCS.
  - It delineated the JROC's composition and responsibilities, as well as its role in the requirements and acquisition process and provided a foundation for the subsequent JROC directives.
- CJCSI 5123.01A

- March 8, 2001 (24 pages).
- This revision incorporated process revisions stemming from the CJCS-directed evolution of the JROC, seeking to strengthen the JROC's strategic focus by enhancing its influence of complex requirements integration and by formalizing the integration of joint concept development and experimentation efforts into the JROC process. It also established the J-6's role in certifying interoperability and explicitly tasked JROC with review of joint doctrine, training, and materiel decisions. It also increased the distribution list to include service JROC points of contact and service war colleges.

- CJCSI 5123.01B
  - April 15, 2004.
  - This revision of the JROC Charter was closely tied to the establishment of JCIDSIt established the document as a cornerstone of the JROC structure, linking it to the new JCIDS methodology and other JROC oversight instructions (such as the FCB process, which is described in CJCSI 3137.01).
- CJCSI 5123.01C
  - November 9, 2006.
- CJCSI 5123.01D
  - August 1, 2007 (20 pages).
  - This added responsibilities to the JROC to address or avert Nunn-McCurdy breaches and added the Office of the Director of National Intelligence to the list of organizations with a standing invitation to the JROC.
- CJCSI 5123.01E
  - April 17, 2010 (62 pages).
  - This included an emphasis on cost and tradeoffs and assigned JROC advisors, specifying roles for the under secretary of defense (acquisition, technology, and logistics), the under secretary of defense (comptroller), and the director of cost assessment and performance evaluation.
- CJCSI 5123.01F
  - January 10, 2012 (34 pages).
  - This revision merged content from CJCSI 3137.01D (FCB guidance) into this directive to consolidate guidance. This sought to improve the flow of JROC processes by identifying a single authoritative source for JCIDS documentation and introduced a section to focus on information technology.
- CJCSI 5123.01G
  - February 12, 2015.
  - This revision focused on aligning with changes in CJCSI 3170.01, consolidated several related documents, updated the format, and emphasized the link between joint requirements and acquisition.
- CJCSI 5123.01H
  - August 31, 2018 (114 pages).
  - This revision absorbed content from CJCSI 3170.01 series into enclosure D. It also incorporated changes to the CJCS's function as well as the roles and responsibilities of the JROC, its subordinate boards, and other supporting organizations resulting from the FY 2017 and 2018 NDAAs.
- CJCSI 5123.01I
  - October 30, 2021 (118 pages).
  - This version continues to refine the processes and adds new guidance including the new "Guidance for Development of Alliances and Partnerships" (GDAP) as a CJCS advising and reporting requirement. Also, the software acquisition pathway is incorporated into the requirements and processes, along with guidance for implementing it, and includes updates to the JROC's oversight and reporting structure.
  - The next version, CJCSI 5123.01J, is currently in the drafting process.

V. JCIDS Manual

1. CJCSM 3170.01: JCIDS

- Original: June 24, 2003 (88 pages)
  - This original manual outlines the guidelines and procedures for the Joint Capabilities Integration and Development System (JCIDS) with regard to the development and staffing of JCIDS documents. It includes a structured, four-step methodology for defining capability gaps and identifying approaches to fill them, centered on a common joint warfighting construct. The manual outlines processes for developing various JCIDS documents like ICDs, CDDs, and capability production documents (CPDs), and is supported by a glossary.
- Revision A: March 12, 2004 (96 pages)
  - Revision A provides more detailed guidance on the JCIDS process, including more explicit descriptions of the functional area analysis (FAA), functional needs analysis (FNA), and functional solution analysis (FSA) steps. The document also clarifies the format for submitting documents and introduces the concept of the JPD in the staffing process. This update includes a minor update in the document structure.
- Revision B: May 11, 2005 (118 pages)
  - This revision introduces the concept of KSAs in addition to KPPs and elaborates on the handling of integrated architectures. It emphasizes that the JCIDS process should always consider an integrated DOTMLPF approach and collaboration across sponsors, with a strong emphasis placed on joint warfighting capability assessment (JWCA) teams. A list of effective pages, a record of changes and a greatly expanded glossary is included.
- Revision C: May 1, 2007 (149 pages)
  - This revision further clarifies the handling of joint intelligence, munitions, and NSS interoperability requirements within the JCIDS process, including explicit instruction on the handling of joint DCRs. It added the concept of using integrated architectures in the process. Additionally, a more detailed staffing process for JROC Interest and joint impact documents, prior to FCB review was included, along with a streamlined approach for non-KPP changes.

2. JCIDS Manual (un-numbered, revised over time)

- February 2009 (156 pages), revised July 2009
  - This revision reflects changes to JCIDS policy and processes, including the elimination of the Joint Capabilities Document and incorporation of its functions into the ICD. It focuses on a capabilities-based assessment (CBA) process, emphasizes integrated DOTMLPF approaches, and clarifies the scope of analyses. It streamlined the process to support capabilities-based assessment (CBA) and provides explicit guidance for JROC review of KPP changes and integrated DOTMLPF changes.
- January 2012 (220 pages)
  - This version provides a more comprehensive overview of the JCIDS process, including sections on document generation, and deliberate and urgent/emergent staffing processes. It emphasizes the use of the CDTM tool, introduces the concept of information system (IS) documentation, and provides more specific guidance for all components. Appendices offer detailed instructions on specific KPPs and associated methodologies.
- August 2018 (341 pages)
  - This manual incorporates significant updates and changes, including additional information on the application of the joint capabilities areas (JCAs), information technology (IT) and national security systems (NSS) considerations. It codifies changes to support more streamlined processes and emphasizes joint

interoperability, and provides new guidance on intelligence supportability and weapons safety requirements as well as addressing the use of modular open systems approach. It incorporates new sections of the manual to address joint military capabilities and capability gaps and introduces the concept of joint planning requirements (JPRs).

- Oct 2021 (399 pages)
  - Introduced significant changes including an added mandatory exportability attribute and created the software-initial capabilities document (SW-ICD) process for software-only acquisitions. It also clarified language related to capability requirements, capability portfolios, and JPRs. The updated manual further streamlined processes, delegated authorities and provided additional guidance for intelligence supportability and weapons safety requirements. Finally, it formalized the assessment of operational utility (AOU) process for urgent and emergent capability requirements.
- Another revision is in coordination.

VI. History of the Joint Staff

1. 1947: National Security Act and the Creation of the Joint Staff

- The National Security Act of 1947 established a formal national military establishment and provided the Joint Chiefs of Staff (JCS) with statutory standing and their own supporting Joint Staff. This act transitioned the JCS from an ad hoc group to a structured advisory body to the president, secretary of defense, and National Security Council. This act established the Air Force but did not provide for a chief of staff of the entire military. Rather, it maintained all the services as peers.

2. 1949: National Security Act Amendments and the CJCS

- The National Security Act amendments of 1949 created the position of chairman of the Joint Chiefs of Staff (CJCS), a move designed to improve the efficiency and timeliness of military advice. This was a pivotal moment in the evolution of the Joint Staff, although the initial restrictions on the chairman's powers and limited authority over the Joint Staff somewhat hampered the initial intent of these changes.

3. 1953: Reorganization Plan No. 6

- President Dwight Eisenhower sought to enhance civilian control and streamline military operations by implementing Reorganization Plan No. 6 of 1953. This initiative restructured the command channels, emphasized a civilian chain of command, and placed the Joint Staff more directly under the secretary of defense. It also recognized the need to make military advice more coherent and consolidated, and expanded the position of the CJCS.

4. 1958: The Defense Reorganization Act and Early Planning for Jointness

- The 1958 Reorganization Act sought to improve coordination and efficiency, focusing on joint training, doctrine, and systems. The reorganization formalized the practice of assigning duties to one of the joint chiefs as executive agents and streamlined decision making. This act began the trend to recognize the need for "jointness," which would be later codified in further legislation.

5. 1986: The Goldwater-Nichols Act and the Modern Joint Staff

- The passage of the Goldwater-Nichols Department of Defense Reorganization Act of 1986 was a turning point in the JCS and Joint Staff's development. It codified the CJCS as the principal military advisor to the president, secretary of defense, and National Security Council, and gave the CJCS more direct control of the Joint Staff. It also created the role of vice chairman, adding to the power and responsibility of the leadership. This act finally codified a more streamlined approach to military planning.

6. **1991: Creation of the Requirements Generation System**
    - The early 1990s saw the beginnings of the joint requirements process. JROC was established as the primary advisory body for the chairman regarding these documents but did not have a statutory connection to the Joint Staff. The CJCS was given oversight of the process, but most of the work was still done in the service staffs.
7. **1992: The Vice Chairman Gains Voting Authority**
    - An amendment to Title 10 of the US Code formalized the vice chairman's status as a full member of the JCS with the ability to vote on matters before the JCS as a whole, and not just when serving in place of the chairman.
8. **2003: The Introduction of JCIDS**
9. **2012: Congress Shrinks the JCS**
    - Congress mandated a 15 percent reduction of staffing across the Joint Staff and combatant commands. The Joint Staff focused heavily on incorporating the Joint Concept Document. It developed modular and flexible forces and capabilities aimed at interoperability and information technology systems.
10. **2022: A Focus on Global Integration, Alliances, and Partnerships**
    - The Joint Staff furthered its mandate as a global integrator, emphasizing the need to work alongside allies and partners around the globe.

APPENDIX B: KEY TERMS

This appendix defines key terms used throughout the report. We have combined official definitions from Joint Staff documents with plain language explanations to make these concepts clear to everyone.

Requirement/requirement

Big "R" requirements is an informal, shorthand label[135] referring to top-level capability needs the DoD anticipates it will need—often years in advance. These higher-level pronouncements are typically validated by the JROC or another senior authority (depending on the category) and are meant to inform or guide major acquisition, force structure, or doctrinal decisions.

Little "r" requirements refers to the more specific, technical, and system-level performance details that flow down to program managers and engineers. Ideally, these "little r" specifications (for example, detailed performance parameters or system attributes) would be derived from the validated, higher-level "Big R" capability requirements. In practice, however, "Big R" requirements often become disconnected from actual funding or fielding decisions, while "little r" requirements can get locked in prematurely—before rigorous experimentation or operational user feedback has occurred.

Performance Requirement: Defined as "a performance attribute of a particular system considered critical or essential to the development of an effective military capability." In other words, it describes the system-level performance parameters (e.g., speed, range, payload capacity, survivability metrics) that a program or platform must achieve. Service chiefs are responsible for these performance requirements for their service (unless they have been designated as joint performance requirements by the JROC).[136] Performance attributes commonly include: KPPs, KSAs, APAs. Joint performance requirements are a subset of performance requirements that the JROC designates as essential for joint interoperability or fulfilling a capability gap shared by more than one service.

Capability Requirement (CR): A statement of operational need or desired mission effect—described in terms of tasks, conditions, and standards—that must be met to accomplish assigned missions or roles." When a CR is not satisfied by existing systems or nonmateriel solutions, it creates a capability gap."[137] Capability requirements reflect what must be done (the operational outcome), under what conditions, and to what standard (sometimes referred to as task/condition/standard). They are distinct from the more granular system performance requirements used by acquisition programs. Capability requirements and associated capability gaps can lead to the development of ICDs in the JCIDS process.

Operational Imperative: A concise statement of a critical operational challenge or gap, identified by a combatant commander or other senior leader, that requires an urgent solution. This term is central to the reforms proposed in this report.

Other Requirements: Beyond high-level capability and performance requirements, the DoD often addresses other essential needs. Sometimes, the fix does not involve buying a new system at all—it can be a change in doctrine, organization, training, leadership, personnel, facilities, or policy that closes a capability gap faster or cheaper than hardware. When hardware is necessary, certain specialized performance demands—like survivability, force protection, or cyber resiliency—can be singled out as key parameters so they aren't overlooked. Likewise, interoperability (net-ready) requirements ensure new systems share data seamlessly with allies and other services. Programs also factor in affordability and schedule constraints. Finally, *sustainment* requirements guide reliability, maintenance, and logistics, keeping the system usable once it is fielded. All these other categories are intended to help the DoD ensure they are not only getting the right capabilities but that they can afford them, protect them, maintain them, and quickly update them as threats evolve.

Other Terms

Analysis of Alternatives (AoA): A formal study to compare different ways of meeting a validated requirement. It looks at cost,

schedule, and performance of various options. In theory, it helps pick the best solution, but in practice, it often serves to justify a preselected solution.

Capabilities Based Assessment (CBA): A study that is the foundation of the JCIDS process. The CBA is supposed to identify gaps in military capabilities and figure out ways to fill them. It is meant to be a broad, strategic look at what the military needs. In reality, it often gets bogged down in details and used to justify preexisting service wants.

Capability Development Document (CDD): The key requirements document that goes to acquisition program managers as the basis for entering the engineering development phase. It supposedly lays out specific performance requirements for a new system to solve a particular capability gap. This is where they list all the KPPs and KSAs—the detailed technical specs. In an ideal world, the CDD would provide clear guidance on what the system needs to do. In practice, it often locks programs into rigid, outdated requirements before development even begins.

Capability Gap: The difference between what the military can do today and what it needs to be able to do to accomplish its assigned missions. "The inability to meet or exceed a capability requirement, resulting in an associated operational risk until closed or mitigated. The gap may be the result of no fielded capability, lack of proficiency or sufficiency in a fielded capability solution, or the need to replace a fielded capability solution to prevent a future gap."[138] Identifying capability gaps is supposed to be the starting point for the requirements process, but often it serves more as a justification for programs the services already want.

Capability Portfolio Management Review (CPMR): A review led by FCBs, to look across a "portfolio" of related capabilities (like all air-to-air missiles or all command and control systems) and assess whether the current mix is the right one. It is supposed to help the JROC make smarter, more-informed decisions, and is an element of the top-down model of JCIDS. A periodic assessment, led by functional capability boards (FCBs) that provides "key findings and recommendations related to priority capability gaps, redundancies, tradeoffs, opportunities, and impacts of recent budgetary decisions."[139]

Chairman's Program Recommendation (CPR): The CJCS's annual advice to the secretary of defense for matching the DoD's budget proposals to strategic priorities. It is supposed to inform budget decisions, but it competes with many other budgetary inputs.

Combatant Commander (CCDR): A four-star general or admiral in charge of a unified or specified combatant command, responsible for military operations in a specific geographic area or functional domain. They are supposed to be the ultimate "customer" for new capabilities. "A commander of one of the unified or specified combatant commands established by the President."[140]

Defense Acquisition System (DAS): The overall management process the DoD uses to develop and buy new weapons and systems. It is separate from JCIDS, but the requirements that come from JCIDS are supposed to guide it. "The management process by which the DoD provides effective, affordable, and timely systems to the users"[141]

DOTmLPF-P: Doctrine, Organization, Training, materiel, Leadership and Education, Personnel, Facilities, and Policy, a framework used to consider nonmateriel solutions to capability gaps—basically, everything other than buying a new system.

DOTmLPF-P Change Recommendation (DCR): A document used to propose changes in one of the DOTmLPF-P areas to address a capability gap without developing a new materiel system.

Functional Capabilities Board (FCB): A group of senior officers that supports the JROC by reviewing requirements and

making recommendations within specific functional areas (like force application or battlespace awareness). There are currently eight FCBs.

Initial Capabilities Document (ICD): The first formal document in the JCIDS process, which summarizes the results of a capabilities based assessment. The ICD should state the high-level requirements or gaps but often ends up prescribing preferred solutions or being ignored altogether.

Integrated Priority List (IPL): A list that each combatant commander submits annually to identify their most urgent, unfulfilled capability needs. IPLs are supposed to inform the requirements process but often get lost in the shuffle.

Joint: Involving two or more military services. In theory, JCIDS is all about "jointness," but in practice, service-specific interests often dominate.

Joint Emergent Operational Need (JEON): A process, similar to the JUON, for addressing urgent needs arising from anticipated operations. Like JUONs, they can bypass some of the usual JCIDS steps but still often get bogged down.

Joint Capabilities Integration and Development System (JCIDS): The formalized system the DoD uses to identify, assess, validate, and prioritize joint military requirements. It is the joint requirements process we focus on in this report. DoD leaders created it to provide a more rational and objective way to determine what the military needs, but it has instead become a bureaucratic nightmare.

Joint Requirements Oversight Council (JROC): The group of senior officers, chaired by the VCJCS, that oversees the JCIDS process. It is made up of the vice chiefs of the services (or their designated deputies) and is supposed to make the final call on validating requirements, but in practice, it rarely overturns recommendations from lower levels.

Joint Emergent Operational Need (JEON): Urgent operational needs that are identified by a CCMD, CJCS, or VCJCS as inherently joint and impacting an anticipated contingency operation.[142]

Joint Urgent Operational Need (JUON): A process designed to get capabilities to the field quickly in response to urgent, unexpected warfighter needs. It is supposed to be a fast track, but it still involves a lot of paperwork and approvals.[143]

Key Performance Parameter (KPP): A critical performance attribute of a system. KPPs are considered so important that if a program can't meet them, it might be canceled. They're supposed to be measurable and testable, but they often end up being overly specific and inflexible. "Failure of a system to meet a validated KPP threshold value triggers a review by the validation authority and evaluation of operational risk and/or military utility of the associated system(s)."[144]

Key System Attribute (KSA): A standard similar to a KPP but considered less critical. It provides some flexibility in the acquisition process but can still be a source of contention and delay.

Knowledge Management/Decision Support (KM/DS): The Joint Staff's official system for managing JCIDS documents and data. It is primarily an administrative tool that is supposed to make the process more efficient but is often criticized for being difficult to use and poorly maintained.

Materiel: All the stuff (weapons, equipment, supplies) necessary to outfit and support military forces, as opposed to personnel or facilities. Within the DOTmLPF-P context, it is often referred to as "little m" to indicate that Joint DCRs generally do not advocate for new materiel development but rather for different uses of existing materiel.

Milestone Decision Authority (MDA): The person in charge of making major decisions about an acquisition program, like whether it can proceed to the next phase of development.

Planning, Programming, Budgeting, and Execution (PPBE): The DoD's process for allocating resources, in which it makes the real decisions about priorities. In practice, it operates independently of JCIDS.[145]

Requirements Definition Package (RDP): Used for information systems only, this is a detailed breakdown of the capability requirements identified in an IS-ICD or IS-CDD. It is supposed to give more specifics to guide software development.

System of Systems (SoS): A collection of different systems that work together to provide a capability that none of them could provide alone. The systems in an SoS are independent and useful on their own, but they are integrated to provide a unique capability. An example of this would be a kill chain with separate sensors and shooters, like the Navy's

System Survivability (SS) KPP: This KPP addresses how well a system can avoid or withstand hostile environments (both natural and man-made) without losing its ability to accomplish its mission. All CDDs must address it.[146]

Technology Readiness Level (TRL): A scale for assessing the maturity of a technology, from basic research (TRL 1) to operational deployment (TRL 9).

APPENDIX C: ABBREVIATIONS

ADM: acquisition decision memorandum

AFROC: Air Force Requirements Oversight Council

AIRC: Acquisition Innovation Research Center

AoA: analysis of alternatives

APFIT: Accelerate the Procurement and Fielding of Innovative Technologies

AROC: Army Requirements Oversight Council

C2: command and control

CAPE: Office of Cost Assessment and Program Evaluation

CBA: capabilities based assessment

CCDR: combatant commander

CCMD: combatant command

CDD: capability development document

CDTM: capability development tracking and management

CJADC2: combined joint all domain command and control

CJCS: chairman of the Joint Chiefs of Staff

CJCSI: chairman of the joint Chiefs of Staff instruction

CJCSM: chairman of the Joint Chiefs of Staff manual

CML: capability-mission lattice

CPD: capability production document

CPMR: capability portfolio management review

CPR: chairman's program cecommendation

CRD: capstone requirements document

CREW: Counter-Remote-Controlled Improvised Explosive Device Electronic Warfare

DAB: Defense Acquisition Board

DARPA: Defense Advanced Research Projects Agency

DAU: Defense Acquisition University

DAWG: Deputy's Advisory Working Group

DCP: development concept paper

DCR: DOTmLPF-P change recommendation

DevSecOps: development, security, and operations

DIU: Defense Innovation Unit

DMAG: Deputy's Management Action Group

DMR: defense management review

DoD: Department of Defense

DoDAF: Department of Defense architecture framework

DoDD: Department of Defense directive

DoDI: Department of Defense instruction

DOTmLPF-P: doctrine, organization, training, materiel, leader-

ship and education, personnel, facilities, and policy

DPG: defense planning guidance

DSARC: Defense Systems Acquisition Review Council

DSD: deputy secretary of defense

FAA: functional area analysis

FARA: Future Attack and Reconnaissance Aircraft

FCB: functional capability board

FMR: financial management regulation

FNA: functional needs analysis

FSA: functional solution analysis

GAO: Government Accountability Office

ICD: initial capabilities document

IED: improvised explosive device

IFDL: Intra-Flight Data Link

INDOPACOM: Indo-Pacific Command

IPL: integrated priority list

IS-CDD: information systems-capability development document

IS-ICD: information systems-initial capabilities document

JAR: Joint Acceleration Reserve

JCD: joint concept document

JCDPR: Joint Capabilities Development Process Review

JCIDS: Joint Capabilities Integration and Development System

JCS: Joint Chiefs of Staff

JEON: joint emergent operational need

JIEDDO: Joint Improvised Explosive Device Defeat Organization

JMSNS: justification for major system new start

JOAP: joint operational acceleration pathway

JRMB: Joint Requirements and Management Board

JROC: Joint Requirements Oversight Council

JROCM: JROC memorandum

JSF: Joint Strike Fighter

JUON: joint urgent operational need

KM/DS: knowledge management/decision support

KPP: key performance parameter

KSA: key system attribute

MAA: mission area analysis

MADL: Multifunction Advanced Data Link

MDA: milestone decision authority

MEIA: Mission Engineering and Integration Activity

MENS: mission element need statements

MNS: mission need statement

MRAP: mine-resistant ambush protected

MROC: Marine Requirements Oversight Council

MTA: middle tier of acquisition

NDAA: National Defense Authorization Act

NPG: network participation group

NR-KPP: net-ready key performance parameter

NSDD: national security decision directive

NSS: national security systems

OMB: Office of Management and Budget

ORD: operational requirements document

OSD: Office of the Secretary of Defense

POM: program objective memorandum

PPBE: planning, programming, budgeting, and execution

PPBS: planning, programming, and budgeting system

R&D: research and development

R3B: Resources and Requirements Review Board

RDER: Rapid Defense Experimentation Reserve

RDT&E: research, development, test, and evaluation

RGS: Requirements Generation System

SV: systems viewpoint

SW-ICD: software-initial capabilities document

TRL: technology readiness level

UAV: unmanned aerial vehicle

UJTL: Universal Joint Task List

USD(A): under secretary of defense for acquisition

USD(A&S): under secretary of defense for acquisition and sustainment

USMTF: US Message Text Format

VCJCS: vice chairman of the Joint Chiefs of Staff

ENDNOTES

1 The recommended amendment strikes paragraphs (b)(1) through (b)(4), which define the JROC's role in assessing, validating, or approving joint capability and performance requirements, and removes references in (b)(5) and (b)(6) to reviewing performance requirements. Subsection (c) is refocused so that the JROC is an advisory body rather than a requirements authority, and subsection (e)—which ties JROC validation to service performance requirements—is deleted. Additional cross-reference edits ensure the JROC no longer has any statutory function in requirements validation. If preferred, Congress could repeal section 181 entirely and allow the Department of Defense to retain the council as a purely policy-defined advisory forum.

2 This directive would withdraw DoD instruction (DoDI) 5000.02 guidance on JCIDS, modify the JROC's role to purely advisory, and direct changes to CJCSI 5123.01 to remove JCIDS authorities. Existing undersecretary of defense for acquisition and sustainment, or USD (A&S), authorities would handle civilian oversight of military requirements for major acquisition programs.

3 Together, these processes are supposed to form a decision-making framework that integrates warfighter needs, financial management, and material acquisitions into effective and timely solutions. Each component operates at different paces and with unique focuses, yet they are interdependent, requiring coordination to achieve strategic alignment and optimize resource allocation. DAU, *A Guide to DoD Program Management Business Processes*, Version 2 (Defense Systems Management College, 2024), 16–17.

4 The FY 2017 NDAA explicitly reduced JROC's validation authority to joint requirements, making Service Chiefs responsible for service-specific requirements (Public Law 114-328, Section 925). This legislative change aligns with what current DoD policy reflects: while Milestone B in the Major Capability Acquisition pathway requires "validated capability requirements" (DoDI 5000.85p, p. 15), this does not mandate JROC validation or program-specific requirements documents. Rather, capability requirements can be satisfied through existing validated needs or broader capability assessments. The current DoD acquisition framework emphasizes flexibility and tailoring across multiple pathways, with funding and accountability serving as the key enablers for program execution. See Operation of the adaptive acquisition framework (DoD Instruction 5000.02), Major capability acquisition (DoD Instruction 5000.85), The defense acquisition system (DoD Directive 5000.01).

5 For further information about the policies and procedures governing the requirements and acquisition processes discussed, please refer to the following key documents:

For Department of Defense acquisition, see "Operation of the Adaptive Acquisition Framework," which outlines the various acquisition pathways available within the DoD.

For Army requirements, see "Warfighting Capabilities Determination," AR 71–9, June 29, 2021, https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN31331-AR_71-9-000-WEB-1.pdf, which implements JCIDS within the Army and details the Army Capabilities Integration and Development System (ACIDS) processes.

For Navy requirements, see "Department of the Navy Implementation of the Defense Acquisition System and the Adaptive Acquisition Framework," SECNAVINST 5000.2G, April 8, 2022, https://www.secnav.navy.mil/doni/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-00%20General%20Admin%20and%20Management%20Support/5000.2G.pdf, which provides the overall acquisition structure for the Navy, including implementation of JCIDS within the service.

For Air Force requirements, see "Operational Capability Requirements Development," AFI 10-601, April 27, 2021, https://static.e-publishing.af.mil/production/1/af_a5/publication/afi10-601/afi10-601.pdf, which establishes guidelines for the Air Force process of documenting and validating operational capability requirements; and *AF/A5R Requirements Development Guidebook*, Vol. 1 (Air Force Directorate of Operational Capability Requirements, 2020), https://afacpo.com/AQDocs/A5R_Requirements_Development_Guidebook_Vol1.pdf, which explains the framework for oversight and implementation of the Air Force process for validation of operational capability requirements.

6 Joint Chiefs of Staff, *Manual for the Operation of the Joint Capabilities Integration and Development System* (US DoD, 2021), https://www.dau.edu/cop/iam/documents/dod-jcids-manual-oct-21.

7 The FY 2017 NDAA significantly reformed JCIDS by expanding the authority of the vice chairman of the Joint Chiefs of Staff (VCJCS) as the chair of the JROC. These reforms empowered the VCJCS to identify joint military capability gaps, validate priorities, and set joint performance requirements while maintaining collaborative decision-making within the JROC. Importantly, the VCJCS gained the ability to proactively identify potential capabilities based on advances in technology and operational concepts. However, the role does not allow unilateral creation of requirements. It emphasizes guiding the development, validation, and prioritization of requirements within the established JCIDS framework, ensuring alignment with the National Defense Strategy and interoperability across the joint force. See 10 U.S.C. § 181(b)(6) and § 181(b)(4)(A-B), as amended by in the FY 2017 NDAA, section 925.

8 Congress's 2016 reforms to the JCIDS, codified in section 925 of the FY 2017 NDAA, sought to address systemic flaws, including the absence of prioritization mechanisms. These reforms empowered the VCJCS to "identify, approve, and prioritize gaps in joint military capabilities" and align them with the National Defense Strategy, § 181(b)(1). Furthermore, it tasked the VCJCS with ensuring that recommendations for program cost and fielding timelines reflected "the level of priority assigned to the associated capability gap" in § 181(b)(3)(A). Despite these intentions, JCIDS remains structurally incapable of ranking requirements relative to one another or revoking approval for outdated capabilities, perpetuating a system that deems everything equally important.

9 Steve Trimble, "Physics-Busting Requirements Challenge US Army FARA Program," Aviation Week Network, August 3, 2021, https://aviationweek.com/defense/aircraft-propulsion/physics-busting-requirements-challenge-us-army-fara-program.

10 Mo Mansouri, Michael McGrath, Donald Schlomer, Dinesh Verma, and Philip S. Anton, *Report on Joint Capabilities Integration and Development System (JCIDS)* (Acquisition Innovation Research Center, 2022), https://www.dau.edu/cop/rqmt/documents/report-airc-jcids-process-improvement-15-sep-2022, 3.

11 Kateryna Bondar, *How Ukraine Rebuilt Its Military Acquisition System Around Commercial Technology* (Center for Strategic and International Studies, January 13, 2025), https://www.csis.org/analysis/how-ukraine-rebuilt-its-military-acquisition-system-around-commercial-technology. Bondar's report documents how Ukraine streamlined the fielding of unmanned and electronic warfare technologies—shifting from multiyear timelines to mere weeks or even days—thus illustrating the rapid drone and counter-drone adaptations evident in the conflict.

12 Mansouri et al., *Report on JCIDS*, 8.

13 Dan Patt and William Greenwalt, *Competing in Time: Ensuring Capability Advantage and Mission Success Through Adaptable Resource Allocation* (Hudson Institute, 2021), https://www.hudson.org/national-security-defense/competing-in-time-ensuring-capability-advantage-and-mission-success-through-adaptable-resource-allocation.

14 David Packard, DoD Directive 5000.1, US DoD, 1971, 1.

15 Laurence E. Lynn Jr. and Richard I. Smith, "Can the Secretary of Defense Make a Difference?," *International Security* 7, no. 1 (Summer 1982): 45–69. https://doi.org/10.2307/2538688. See quote "the management approaches of McNamara and Laird were notably different. McNamara sought to use control over the force structure and associated budget allocations together with careful analysis of military requirements to influence military capabilities. In contrast, Laird preferred to exert his influence through establishing budget ceilings, issuing general policy guidance, and intervening selectively in shaping weapons proposals, leaving the analysis of military requirements to the services."

16 The idea of standards and specifications evolved with manufacturing capabilities. During the Revolutionary War, there was no standardized procurement system for boots. Soldiers had to obtain their own footwear from whatever was available. This requirement led to subpar quality and numerous injuries, particularly during harsh conditions like the winter at Valley Forge in 1777 78. The first formal boot procurement began during the War of 1812, when the War Department issued specific orders for ankle-high boots. These early specifications focused on basic standardization, though the suppliers made the boots on straight lasts with no distinction between left and right feet. By the civil war, there were standards for materials and construction. And by World War I, there were specific weatherproofing requirements. See "History of Combat Boots in Military," Garmont Tactical, accessed January 15, 2025, https://garmonttactical.com/post/history-of-combat-boots-in-military.html; and "The US Combat Boot," Eastman Leather Clothing Blog, accessed January 15, 2025, https://blog.eastmanleather.com/view-post/the-us-combat-boot.

17 The 1908 Wright Flyer contract reveals multiple tensions in early military procurement. While it specified basic operational parameters (two-person capacity, 125-mile range, field assembly in one hour), its most detailed requirements centered on speed validation, including an elaborate payment scale from 36–44 mph. The contract's inspection and acceptance criteria (articles II and III) focused heavily on technical compliance rather than operational utility. Notably, the contract did include some forward-looking elements—requiring the ability to operate from unprepared fields and including safety provisions—but with far less emphasis than speed specifications. See articles I–III, with particular attention to the speed-based payment schedule in article IV, in James Allen, "Signal Corps Specification No. 486," US Army, December 23, 1907, available at Wright Brothers Aeroplane Company, accessed January 15, 2025, https://www.wright-brothers.org/History_Wing/Wright_Story/Showing_the_World/Back_in_Air/Signal_Corps_Spec.htm.

18 Irving Brinton Holley Jr., *Ideas and Weapons: Exploitation of the Aerial Weapon by the United States During World War I* (Yale University Press, 1953; reprint, Air Force History and Museums Program, 1997), https://media.defense.gov/2016/Nov/07/2001664470/-1/-1/0/IDEAS_&_WEAPONS.PDF.

19 Paul H. Larson, Kevin I. Burge, and Keith L. Barr, *The First Wings of War: Air Force Reserve in World War I* (HQ Air Force Reserve Command, 2015), https://media.defense.gov/2015/Sep/11/2001329832/-1/-1/0/20150820%20(U)%20AFRC_HO%20WWI%20First%20Wings%20of%20War%20Study.pdf.

20 As Eric Lofgren recounts, Major J.M. Lutton's observations in the Marine Corps Gazette highlight how the bureaucratic demand for official documentation often forced project officers to fill requirements with guesswork rather than proven data—an early cautionary tale about the pitfalls of rigid, paperwork-driven processes. For full context, see Eric Lofgren, "Why Document Requirements?" Acquisition Talk (blog), March 19, 2019, https://acquisitiontalk.com/2019/03/why-document-requirements/.

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74 Consider, for example, the most current version of Joint Staff instructions. CJCSI 5123.01I, enclosure D, paragraph 3.d.(1)(a), reads, "All proposed requirements documents must be provided to the Joint Staff gatekeeper for assignment of a JSD prior to staffing and validation, even in cases where independent validation authority is expected. Programs that are subject to JCIDS Manual guidance must coordinate with the Joint Staff to assess for joint equity." Note that this master instruction still highlights the continued reliance on a centralized, document-based stamping process, even for programs with independent validation authority and even in the portfolio era.

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123 Sawyer, *Weapon System Requirements*, 12.

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125 Ashley Roque, "Clearing the Books: Army Kickstarts Initiative to Strip Away Legacy Requirements," *Breaking Defense*, October 14, 2024, https://breakingdefense.com/2024/10/clearing-the-books-army-kickstarts-initiative-to-strip-away-legacy-requirements.

126 For more about how these practices empowered the DoD to innovate rapidly in the past, see Patt and Greenwalt, *Competing in Time*.

127 See similar approaches described in detail in a service (not joint) context: Bryan Clark and Dan Patt, *Unalone and Un-*

afraid: Integrating Uncrewed and Other Emerging Technologies into US Military Forces (Hudson Institute, 2023), https://www.hudson.org/defense-strategy/unalone-unafraid-plan-integrating-uncrewed-other-emerging-technologies-us-military-bryan-clark-dan-patt.

128 This is a problem- or mission-centered view of needs with contemporary arguments for defense reform. Shyam Sankar, for example, contends that "in a fight, no one cares about the requirements document. The only requirement is winning," emphasizing the need to prioritize mission success and adaptability over rigid adherence to procedural frameworks. See Shyam Sankar, "The Defense Reformation," Palantir, October 31, 2024, https://www.18theses.com/.

129 See James S. Thomason, Paul H. Richanbach, Sharon M. Fiore, and Deborah P. Christie, *The Quadrennial Defense Review Process: Lessons Learned from the 1997 Review and Options for the Future* (Institute for Defense Analyses, 1998), D-2–D-3, https://www.comw.org/qdr/thomason.pdf; Dustin Walker, "The Pentagon Is in Desperate Need of an Intervention from the Top," *War on the Rocks*, January 27, 2022, https://warontherocks.com/2022/01/the-pentagon-is-in-desperate-need-of-an-intervention-from-the-top; or Valerie Insinna, "As Lawmakers Tackle Defense Reform, Experts Suggest Changes of Their Own," *Defense Daily*, March 14, 2016, https://www.defensedaily.com/as-lawmakers-tackle-defense-reform-experts-suggest-changes-of-their-own/budget.

130 Patt and Greenwalt, *Competing in Time*.

131 The concept of dedicated, stable funding mechanisms to support CCMD priorities directly addresses the need for greater CCMD influence in resource allocation. As others have argued, "CCMDs need budget to introduce strategic competition," suggesting that empowering CCMDs with financial resources is crucial for driving innovation and ensuring responsiveness to their operational demands. The JAR, in this context, can be seen as an implementation of this principle, providing a dedicated budgetary tool to support CCMD-identified joint priorities, but without needing to grow staff sizes at CCMDs. See Shyam Sankar, "The Defense Reformation."

132 Jon Harper, "General Milley Anticipates New 'Joint Futures' Organization Will Come to Fruition," *DefenseScoop*, June 30, 2023, https://defensescoop.com/2023/06/30/gen-milley-anticipates-new-joint-futures-organization-will-come-to-fruition.

133 This appendix draws upon official DoD instructions and memoranda (as listed in the text), materials from the Defense Acquisition University—including charts labeled "Requirements/Capability Determination Policy Documents, 1992 to 2021" without listed authors—and Christopher D. Holmes, *Organizational Development of the Joint Chiefs of Staff, 1942–2022 (Revised and Updated)* (Joint History Office, Office of the Chairman of the Joint Chiefs of Staff, October 2022).

134 Eric Lofgren, "Origins of the Milestone Acquisition Process," Acquisition Talk (blog), September 21, 2022, https://acquisitiontalk.com/2022/09/origins-of-the-milestone-acquisition-process/. See also Bernard P. Manderville, "Development Concept Paper—System X" (Defense Systems Management College, May 1974), https://apps.dtic.mil/sti/pdfs/ADA039675.pdf.

135 Neither "Big R" nor "little r" appears in Title 10 U.S.C. §181 or official JCIDS instructions. They are informal distinctions found in commentary and studies. Title 10, §181 uses the term "performance requirement" and "joint performance requirement (JPR)", but does not use "Big R" or "little r."

136 Title 10 U.S.C. §181(h)(2).

137 *Manual for the Operation of the JCIDS*.

138 Andrew P. Poppas, "Charter of the Joint Requirements Oversight Council and Implementation of the Joint Capabilities Integration and Development System," CJCSI 5123.011, Joint Chiefs of Staff, October 30, 2021, https://www.jcs.mil/Portals/36/Documents/Library/Instructions/CJCSI%205123.01I.pdf.

139 "JROC Strategic Focus and Guidance on FCB Capability Portfolio Management," Joint Chiefs of Staff, July 17, 2020.

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141 "The Defense Acquisition System," DoD Directive 5000.1, 2003.

142 Poppas, "Charter of the JROC" (CJCSI 5123.01I), GL-10.

143 Poppas, "Charter of the JROC" (CJCSI 5123.01I), GL-11.

144 *Manual for the Operation of the JCIDS*, B-G-2.

145 Under Secretary of Defense (Comptroller), "Accounting Policy," *Financial Management Regulation* 4 (DoD, 2024), https://comptroller.defense.gov/Portals/45/documents/fmr/Volume_04.pdf.

146 *Manual for the Operation of the JCIDS*, B-G-C-1.

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Hudson Institute
1201 Pennsylvania Avenue, NW, Fourth Floor, Washington, DC 20004
+1.202.974.2400 www.hudson.org