FINAL REPORT TO CONGRESS

FISCAL YEAR 2024

National Defense Authorization Act

Section 811: Modernizing the Department of Defense Requirements Process

JULY 14, 2025

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VICE CHAIRMAN OF THE JOINT CHIEFS OF STAFF

WASHINGTON, DC 20318-9999

14 July 2025

Dear Members of Congress,

(U) I am pleased to submit the Department of Defense's FY24 NDAA Section 811 Report to Congress, outlining our urgent plan to modernize the joint requirements process. The pace of technological change is accelerating exponentially, and our adversaries are learning organizations, constantly adapting. To sharpen our competitive edge and ensure our warfighters can fight and win now and in the future, we must outpace them. To achieve this, the requirements process must be faster, more flexible, and prioritize delivering capabilities at the speed of relevance. This report describes revolutionary and evolutionary steps to do just that.

(U) These recommendations outline a comprehensive approach to joint requirements reform to deliver capability to the warfighter at speed and scale. It is not about minor tweaks; it is a fundamental reorientation of the Joint Requirements Oversight Council and overhaul of the joint requirements process. It encapsulates the collective efforts and insights of a diverse array of stakeholders, including the Joint Staff, military Services, Combatant Commands, the Office of the Secretary of Defense, the Intelligence Community, academia, industry, and think tanks. Our goal is to drive Joint Force design, development, and integration regionally, temporally, and holistically. While cutting red tape, we will maintain appropriate levels of due diligence and align authorities to responsibilities while ensuring accountability.

(U) These proposed reforms represent the most significant changes to the joint requirements process in over twenty years. The aim is clear: ensure our warfighters have the capabilities they need to fight and win in any environment. We are not interested in a fair fight; we want to overmatch our adversaries and change their calculus. To realize this vision, we will require legislative support to amend Title 10 authorities, as well as the allocation of resources and manpower.

(U) Throughout this transformation, we remain steadfast in our commitment to the well-being of our Soldiers, Sailors, Airmen, Marines, and Guardians. Their readiness and resilience are paramount, and it is our solemn duty to ensure they are equipped with the best tools and technologies to defend our nation.

(U) I extend my deepest gratitude for your continued support and partnership. Together, we will forge a path toward a more rapid, agile, and effective joint requirements process, ensuring that our Joint Force remains the most formidable military in the world.

C. W. GRADY
Admiral, U.S. Navy
Chair, Joint Requirements Oversight Council

Enclosure:
As stated

EXECUTIVE SUMMARY

Section 811 of the Fiscal Year 2024 National Defense Authorization Act (NDAA) tasked the Secretary of Defense, acting through the Vice Chairman of the Joint Chiefs of Staff, with "Modernizing the Department of Defense Requirements Process." Congress directed the U.S. Department of Defense (DoD) to develop "a streamlined requirements development process" to "improve alignment between modern warfare concepts, technologies . . . and reduce the time to deliver needed capabilities to the warfighter." The NDAA language specified 12 reform elements to be addressed in the final report to Congress.

DoD's Section 811 Tiger Team—with participation from the Joint Staff, the military Services, the unified Combatant Commands (CCMDs), the Office of the Secretary of Defense, the Intelligence Community, think tanks, academia, and industry—found a clear consensus that the Joint Capabilities Integration Development System (JCIDS) must be modernized to keep pace with advancing technology and evolving threats. Stakeholders agree that JCIDS's complexity and limited Joint Requirements Oversight Council (JROC) authorities have led to a variety of strategic and tactical challenges. These limitations include process complexity that creates unnecessary delays, knowledge management and coordination issues, tensions between Service-specific priorities and Joint requirements, misalignment with resourcing and acquisition processes, and an inability to capitalize on commercial innovation.

Significant change is required. However, reformers must recognize that JCIDS was established for a reason—to ensure Joint capability development and integration—and that two decades of lessons learned should not be discarded wholesale lest DoD risk repeating past mistakes. A modernized Joint requirements process must acknowledge fundamental tensions that exist within the requirements and acquisition systems, including the tension between optimizing the current force for near-term readiness and optimizing the future force for long-term strategic advantage. Other trade-offs must be navigated, including ensuring robust collaboration and due diligence for large capability development versus accelerating the rapid fielding of commercial solutions. Ultimately, the Joint requirements process must preserve the Chairman of the Joint Chiefs of Staff's ability to drive Joint Force design and development, globally integrate across and between the Services and CCMDs, and provide the best military advice on behalf of the Joint warfighter.

As such, DoD recommends revolutionary requirements reform, including significant revisions to the JROC's authorities and responsibilities. The proposed "reoriented JROC" would focus on strategic-level guidance and assessments, including Joint Force Design and Capability Portfolio Management, as well as Joint capability integration of Service capabilities with cross-Service dependencies. The JROC must also enhance its efforts to prioritize and address CCMD gaps and urgent operational needs. At the same time, the JROC should delegate validation of Service requirements to the Services, while maintaining awareness and reserving the right to "manage by exception" as issues arise. In this way, the JROC will promote strategic alignment, integration, and interoperability without delaying capability development through extensive bureaucratic processes.

William Knudsen, a driving force behind America's World War II–era Arsenal of Democracy, noted, "Progress is only made when fear is overcome by curiosity." If implemented, the recommendations outlined in this report would constitute the most significant reform to the joint requirements process in the past 20 years. The need for reform and progress is clear. Now, what is required is not only curiosity, but also courage. This report outlines the path forward.

CONTENTS

FIGURES AND TABLES

Figures

Tables

SUMMARY

"We must deliver agile, reliable, and combat-credible capabilities at speed and scale to the joint force so that warfighters can deter aggression and win if called to fight… Still, there is more to do, until constant innovation and 'rapid speed to the fleet' are no longer the province of special initiatives but just the way we do business."

– Admiral Christopher W. Grady, Vice Chairman of the Joint Chiefs of Staff[1]

Progress by peer adversaries in matching the United States' military capabilities and the rapid pace of technological change have led to a turning point for how the U.S. military identifies, budgets, acquires, and fields capabilities to the warfighter. There is a growing perception that the Joint Force is not trained, organized, and equipped to meet the emerging threats faced by the United States. At this critical juncture, reform is needed across the U.S. Department of Defense's (DoD's) requirements, acquisition, and budgeting systems to field advanced military capabilities at a rapid pace to match our peer adversaries. In particular, significant interest exists in modernizing the DoD requirements process.

For the 20 years of the Global War on Terrorism, the Joint Force was focused on and optimized for counterinsurgency in the Middle East at the expense of preparing for near-peer competition. America's adversaries are perceived as having evolved rapid, decisive decision making and resourcing processes that allow them to develop and deploy advanced capabilities at the speed of operational relevance. Comparable DoD processes are rooted in inefficient industrial era management processes that are too slow to facilitate a timely response to the fast-paced nature of the evolving global threat environment.

As Secretary of Defense (SECDEF) Peter Hegseth noted in his January 2025 "Message to the Force," DoD must seek to match U.S. military capabilities to these threats by "reforming our acquisition process . . . and rapidly fielding emerging technologies."[2] As a result, DoD decision making and capability development practices must evolve to adapt to a quickly changing security environment.

Section 811 Reform Efforts

Section 811 of the Fiscal Year 2024 National Defense Authorization Act (NDAA) tasked the SECDEF, acting through the Vice Chairman of the Joint Chiefs of Staff (VCJCS), with "Modernizing the Department of Defense [DoD] Requirements Process."[3] This task directed DoD to develop "a streamlined requirements development process" in order to "improve alignment between modern warfare concepts, technologies,

[1] Admiral Christopher W. Grady, Vice Chairman of the Joint Chiefs of Staff, "Sharpening Our Competitive Edge: Honing Our Warfighting Capabilities Through the Joint Warfighting Concept," *Joint Force Quarterly*, Vol. 111, 4th Quarter 2023.

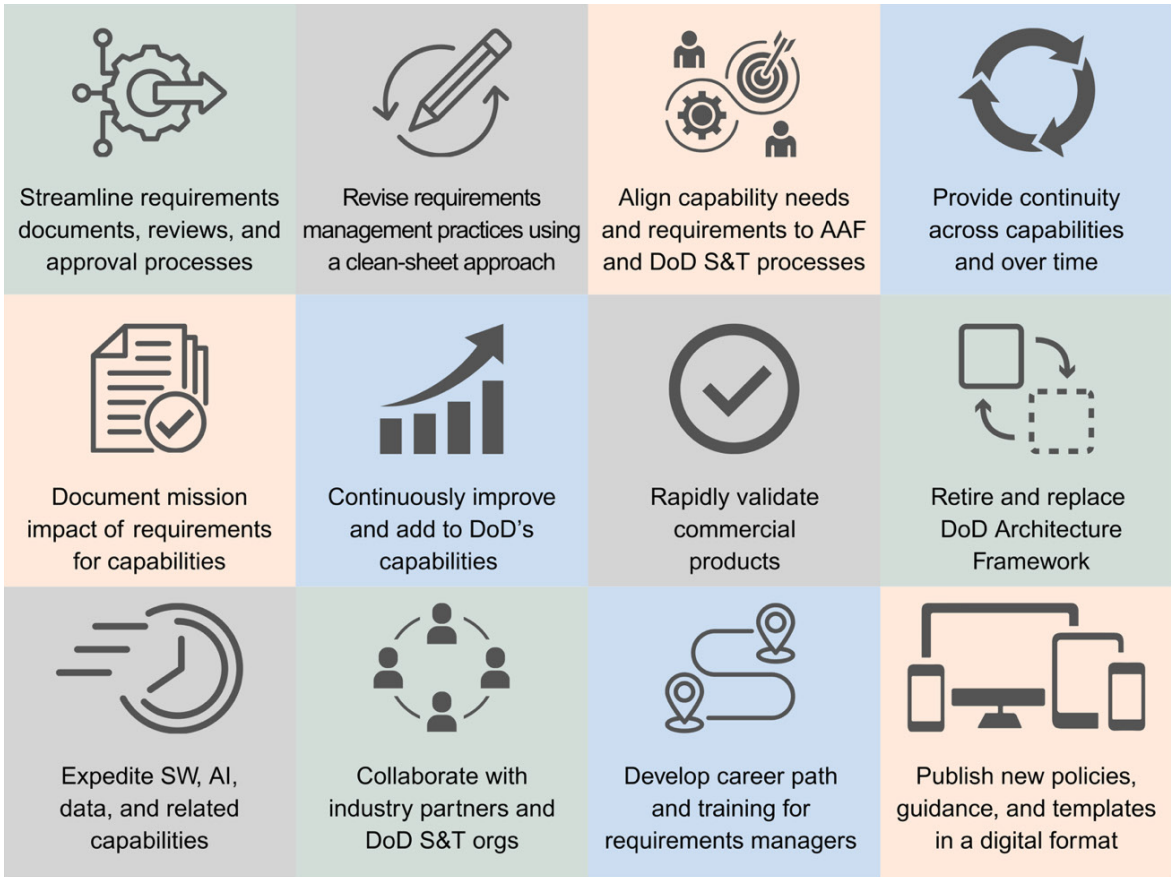
[2] DoD, "Secretary Hegseth's Message to the Force," press release, January 25, 2025.

[3] Public Law 118-31, National Defense Authorization Act for Fiscal Year 2024, December 22, 2023, Section 811. The full text of Section 811 is reproduced in Appendix H of this report.

and system development and reduce the time to deliver needed capabilities to the warfighter." The Section 811 legislative language outlined 12 reform elements to be addressed (see Figure S.1), ranging from evolutionary updates to the Joint Capabilities Integration and Development System (JCIDS) to revolutionary redesign of the Joint requirements governance and processes.

Figure S.1

Congressionally Mandated Elements in Section 811 of the Fiscal Year 2024 NDAA



SOURCE: Pub. L. 118-31, 2023, § 811.
NOTE: AAF = Adaptive Acquisition Framework; AI = artificial intelligence; S&T = science and technology; SW = software.

To help frame the Section 811 Tiger Team's requirements modernization efforts, the Chairman of the JROC identified several associated first principles of requirements reform. These first principles must underpin any future modification or replacement of the joint requirements process:

1. Deliver capability to the warfighters at speed. Cut red tape.
2. Preserve the independent warfighter voice.
3. Ensure alignment from strategy to budget with analytic due diligence.
4. Drive Joint Force design, development, and integration in four dimensions:
    a. Integrate globally across the CCMDs.
    b. Balance near-term and future (beyond Future Years Defense Program) needs.
    c. Support the breadth of existing innovative technologies and major defense acquisition programs (MDAPs).

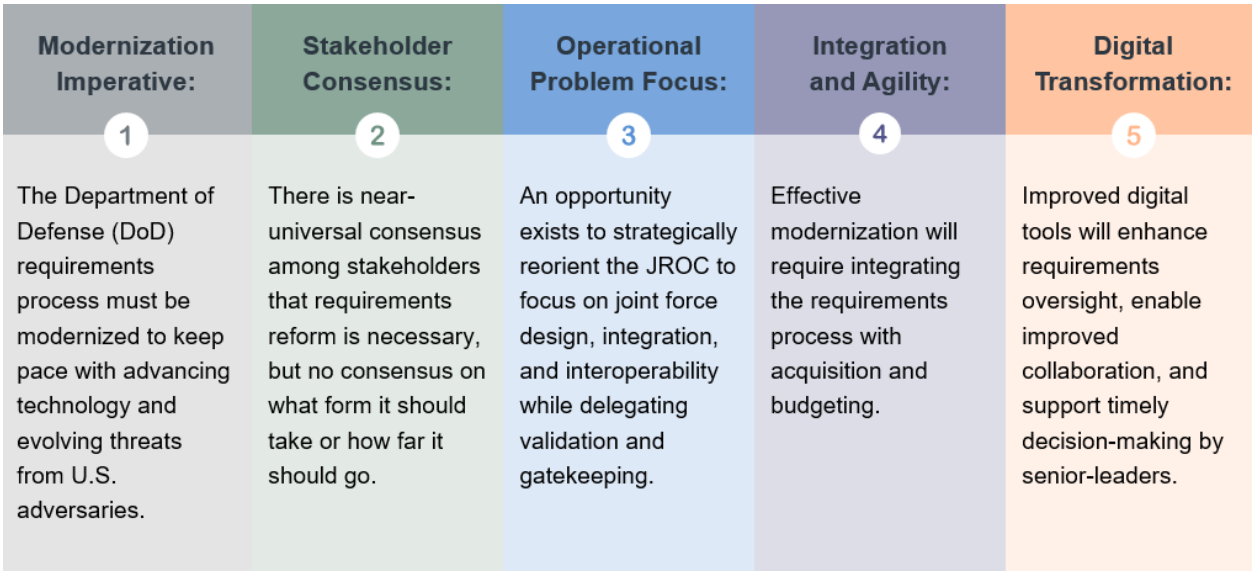
   d. Address all elements of Doctrine, Organization, Training, materiel, Leadership and education, Personnel, Facilities, and/or Policy (DOTmLPF-P).

5. Align authorities to responsibilities and ensure accountability.

Since March 2024, DoD has been taking steps toward responding to the task. The Joint Staff J8 established a tiger team with representatives from across the requirements and acquisition communities, including the Office of the Secretary of Defense (OSD), military services, combatant commands (CCMDs), and Joint Staff directorates. This team, called the "811 Tiger Team," has met for more than a year, with analytic support from RAND. Lastly, the Joint Staff J8 team has engaged with congressional professional staff members and Joint Staff leadership on a regular basis to ensure that the 811 Tiger Team's efforts are aligned with the intent of DoD leadership and Congress. This report, developed by the 811 Tiger Team, is a product of these efforts—and presents the following five major findings regarding defense requirements modernization (see Figure S.2).

Figure S.2

Modernizing the DoD Requirements Process: Overall Findings



The Need for Requirements Modernization

Discussions with stakeholders—representing the Joint Staff, OSD, the military Services, the CCMDs, the Intelligence Community, think tanks, academia, and industry—showed a consensus that the JCIDS requirements process must be modernized to keep pace with advancing technology and evolving threats from U.S. adversaries. While JCIDS was born out of principles that remain important today, the implementation has led to a variety of strategic and process challenges.

Strategic Challenges

The current JCIDS process faces several strategic challenges that result in suboptimal outcomes for the Joint Force:

- Responsiveness: Established requirements fail to keep pace with technology or threat changes, given the process's complexity, rigidity, and lack of timeliness.
- Integration: There is no prioritization of requirements across temporal, operational, or programmatic dimensions, resulting in tensions between Joint, CCMD, and Service gaps and priorities.
- Alignment: JCIDS, PPBE, and acquisition processes do not align and, given the JROC's inability to direct budgetary or acquisition decisions, results in the failure to close high priority joint gaps.

Process and Execution Challenges

Numerous process challenges contribute to delays in meeting requirements:

- Efficiency: Lack of speed due to document production, certification of performance attributes, staffing timelines and comment adjudication, and senior-leader scheduling delays.
- Changing Requirements: Insufficiently defined and changing requirements lead to cost increases, schedule delays, and process difficulties.
- Over-Prescription: Overly prescriptive requirements make it difficult to quickly leverage innovation and seize alternative opportunities offered by the industrial base.

Poor execution of the current JCIDS process compounds strategic and process challenges:

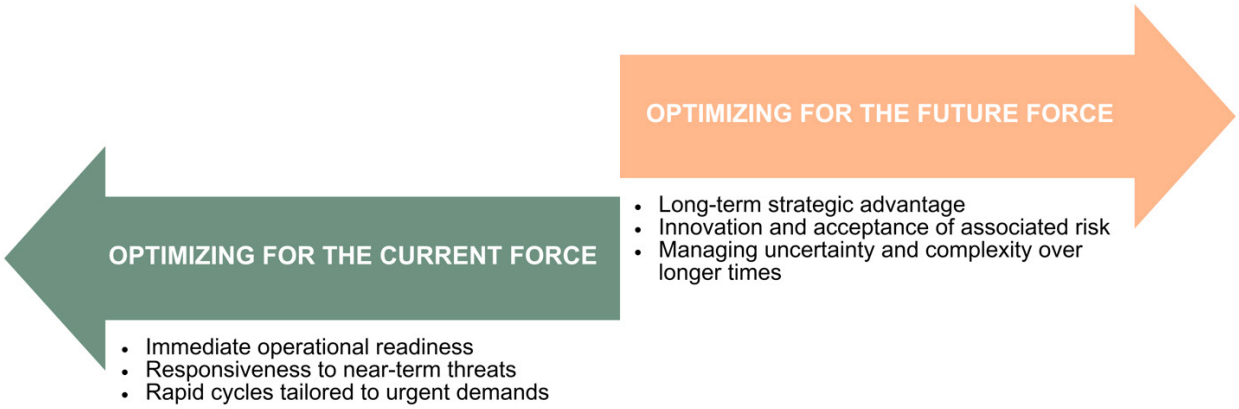
- Complexity: The complexity of JCIDS leads to misunderstandings among those using the process, linking to the process, or observing outcomes.
- Staffing: Too many stakeholders are involved in document reviews and approvals, which may result in recommendations being watered down to achieve consensus.
- Metrics: JCIDS lacks clear outcomes and process metrics, making execution less effective and efficient.
- Documentation: The JCIDS manual is too complicated and requires on-the-job training to understand.
- Manpower: Functional Capabilities Boards have insufficient personnel and are typically overtasked.

Trade-Offs

The core challenge within the requirements process—and, therefore, the essential consideration for reform—is the inherent tension between **optimizing capabilities for the current force** and **planning effectively for the future force** (see Figure S.3). This tension forms the backbone of the requirements debate, manifesting in two distinct optimization pathways.

Figure S.3

The Core Requirements Process Trade-Off



DoD Recommends Revolutionary JROC Reform

The 811 Tiger Team and RAND identified a range of possible reform options, from revolutionary JROC reforms that fundamentally reorient joint requirements oversight to evolutionary JCIDS reforms that incrementally improve current processes. Figure S.4 presents the full list of prioritized reform recommendations compiled through 811 Tiger Team analysis. Each of these recommendations covers different aspects of Congress's Section 811 reform elements and are not mutually exclusive, meaning that some or all parts of each could be pulled together for implementation.

Drawing on the 811 Tiger Team's efforts over the past 18 months and leveraging the insights of hundreds of stakeholders representing countless years of requirements experience, DoD recommends revolutionary JROC reform. Revolutionary JROC reform will involve reorienting the JROC to focus on driving Joint Force design, validating top-down and portfolio-based requirements, ensuring joint capability integration, and prioritizing CCMD gaps. The reoriented JROC will ensure a globally integrated and interoperable Joint Force by preserving the JROC's responsibility to shape top-down requirements and prioritize bottom-up gaps. Specifically, the JROC will conduct the following work:

- Joint Force Design:
  - Developing and driving future Joint Force Design and Joint Warfighting Concepts
  - Evaluating Service force design decisions for Joint impact, especially Joint integration, interoperability, and capacity
- Capability Portfolio Management (CPM):
  - Assessing capability gaps and solutions for the Joint Force by executing Capability Portfolio Management
  - Publishing Capstone Requirements for Joint portfolios
  - Addressing non-materiel solutions through DOTmLPF-P Change Requests (DCRs)
- Joint Capability Integration:
  - Maintaining awareness of MDAP-level programs with cross-Service dependencies in order to
    - Manage operational risks from second- and third-order consequences and interdependencies of Service-level decisions

    - Promote integration and interoperability while avoiding unintended duplication
    - Recommend changes or alternatives for the requirements of struggling programs with Joint equity
- CCMD Requirements:
    - Prioritizing CCMD gaps through Capability Gap Assessments and Integrated Priority Lists
    - Triaging urgent and emergent requirements through Joint Urgent Operational Needs and Joint Emergent Operational Needs
    - Evaluating and recommending changes related to force sufficiency issues, such as capacity

The reoriented JROC proposed here will be a more strategically focused body, driving Joint Force design and integrating Service force designs while generating top-down/portfolio-based requirements from the Joint Warfighting Concept and CPMRs. The reoriented JROC will expand its assessment of Joint capabilities, especially MDAP-level programs and programs with cross-Service dependencies. However, the method by which the JROC will maintain oversight and insight will be defined not by gatekeeping and validation but rather by continuous review and management by exception; that is, the JROC will not delay Service validation or acquisition milestones but will reserve the right to intervene to recommend changes, alternatives, or cancellations to struggling programs. Lastly, the reoriented JROC will continue to prioritize CCMD gaps and validate urgent and emergent requirements, but it will expand these efforts to include highlighting and making recommendations related to resourcing and capacity issues.

To implement these recommendations, changes will be required to the Title 10 authorities of the JROC (10 U.S.C. § 181), especially related to the JROC's authorities to review Service force design and programmatic decisions with Joint impact. Accordingly, DoD recommends the following changes to statutory language in 10 U.S.C. § 181:

- 10 U.S.C. § 181(a): Add new paragraph (1) providing JROC authority to design the Joint Force that accounts for capability and capacity demands, evaluating service force design initiatives and force structure changes to recommend acceptance, mitigation, or alternative design
- 10 U.S.C. § 181(b)(2): Replace "*validate*" requirements with "*review*" requirements
- 10 U.S.C. § 181(b)(3): Replace "*reviewing and validating*" of Service capabilities with "*analyzing and recommending*"
- 10 U.S.C. § 181(b)(4): Replace "establishing and *approving* Joint performance requirements" with "establishing and *validating* Joint performance requirements"
- 10 U.S.C. § 181(b)(6): Strike *"new"* from "identifying *new* joint military capabilities" and add "*innovative commercial solutions"* to methods of identifying Joint military capabilities
- 10 U.S.C. § 181(b)(7): Strike *"Identifying alternatives to"* and replace with "*maintaining awareness"* of acquisition programs, and add new subparagraph (1) *"proposing alternatives or changes to acquisition programs that have made trade-offs among cost, schedule, technical feasibility, and procurement quantity objectives impacting approved joint military capability requirements"* and new subparagraph (2) "*evaluating impact to joint military capability requirements for the purposes of sections 4375(b) and 2220 of this title*."

JROC Reform Will Incorporate Evolutionary Changes and Sunset Service Requirements Validation

While revolutionary JROC reform represents the "north star" for DoD's Joint requirements reform recommendations, most of the recommendations identified by the 811 Tiger Team remain valid and should be implemented in conjunction with these reform efforts. Indeed, reorienting the JROC requires a clean-sheet rewrite of the Joint requirements process that also incorporates the best practices identified in the 40+ evolutionary JROC and JCIDS recommendations.

Additionally, in concert with the reorientation outlined in this report, the JROC will cease validation of Service requirements documents (i.e., Service Capabilities Based Assessments, Initial Capabilities Documents, and Capability Development Documents). The JROC will retire all instructions, manuals, and internal structures whose core mission is executing or enforcing Service requirements approval and validation associated with JCIDS. Additionally, the JROC will limit or cease new JCIDS requirements document gatekeeping or staffing activities, except where specifically mandated by law.

Instead, the Services will manage requirements through Service requirements oversight boards and will be responsible for ensuring that Key Performance Parameters are met. The JROC will maintain insight through review of validated Service requirements documents and reserves the right to "manage by exception." If Service requirements decisions or programmatic changes present potential issues for Joint interoperability or integration, the JROC will review and recommend changes as required.

Figure S.4

Prioritization of Joint Requirements Reform Options

Highest Priority	
Reoriented JROC	Reorient the JROC to focus on Joint Force Design, Top-Down/Portfolio-Based Requirements, Joint Capability Integration, and Combatant Command Gaps

High Priority	
Delegation	Invert Consensus-Based Decision Making and Delegate JROC Decisions to the Lowest Possible Level
	Establish Joint Equity and Joint Interest JSDs, Revoke Others
Membership	Ad Hoc CCMD JROC Membership
Oversight	Refocus JROC on MDAP-Level Programs
	Improve JROC Insight into MDAP-Level MTAs
Manpower	Increase and Standardize FCB Manpower
Staffing	Expedite Comment Adjudication
	Enforce Document Staffing Timelines and Cutoffs
	Implement Proactive Joint Requirements Stewardship
Documentation	Simplify the Joint Requirements Manual
	Reduce and Simplify Joint Requirements Documents
	Leverage Service/CCMD Documentation in the Joint Requirements Process
	Establish Capstone Requirements
Prioritization	Expedite the Release of Joint Requirements to Industry
Metrics	Develop Process and Outcome Metrics
Digital Modernization	Retire and Replace KM/DS
Commercial Technology	Rapidly Validate Commercial Solutions Ability to Meet Capability Gaps or Opportunities

Medium Priority	
Delegation	Reduce the Number of JROC Comebacks
	Delegate Performance Attribute Validation, But Provide Support
Members	Add DIU as a JROC Advisor
	Increase JROC Scheduling Options and Expedite JROCM Signing
	Formalize Allied and Partner Integration and Flexibly Expand the I-JROC
Training	Promote Requirements Managers Workforce, Not a Career Path
	Update DAU Training
Staffing	Reduce the Number of JCIDS Documents Staffed
Documentation	Redefine Threshold Values
	Align FCBs with Joint Functions
Prioritization	Conduct Annual Prioritization of the Top 10 JROC-Validated Gaps and Requirements
	Establish Joint Requirements Reviews to Revoke or Update Legacy Requirements Documents
Metrics	Implement Continuous Process Improvement
Digital Modernization	Publish the Joint Requirements Manual Online
Commercial Technology	Incorporate Emerging Technology Insights into Threat Briefs

Other Recommendations*	
Funding	Re-Establish a Fund for JEON/JUONs
	Establish a Joint Acceleration Reserve
Documentation	Modernize Analysis of Alternatives
Digital Modernization	Retire and Replace the DoD Architecture Framework
Commercial Technology	Commercial Analysis of Alternatives

Other Considerations**	
Authority	Designate and Empower the VCJCS as the DoD Future Joint Warfighter Advocate
Manpower	Increase Joint Staff Tour Length
Documentation	Adopt a Strategies-to-Tasks Approach to Joint Requirements
Digital Modernization	Adopt a Digital-Based Approach to Requirements

NOTES: * *Other Recommendations* includes recommendations developed by the 811 Tiger Team that either (1) lie outside the scope of the JROC authorities and Joint requirements process or (2) require additional resources, manpower, or authorities to implement. Nonetheless, these recommendations are supported by DoD and would represent an improvement to the Joint requirements, resourcing, and acquisition processes.
** *Other Considerations* includes ideas developed by the 811 Tiger Team that, while not immediately executable, deserve consideration for implementation in coordination with the overarching recommendations of this report.

Chapter 1
INTRODUCTION

Key Points

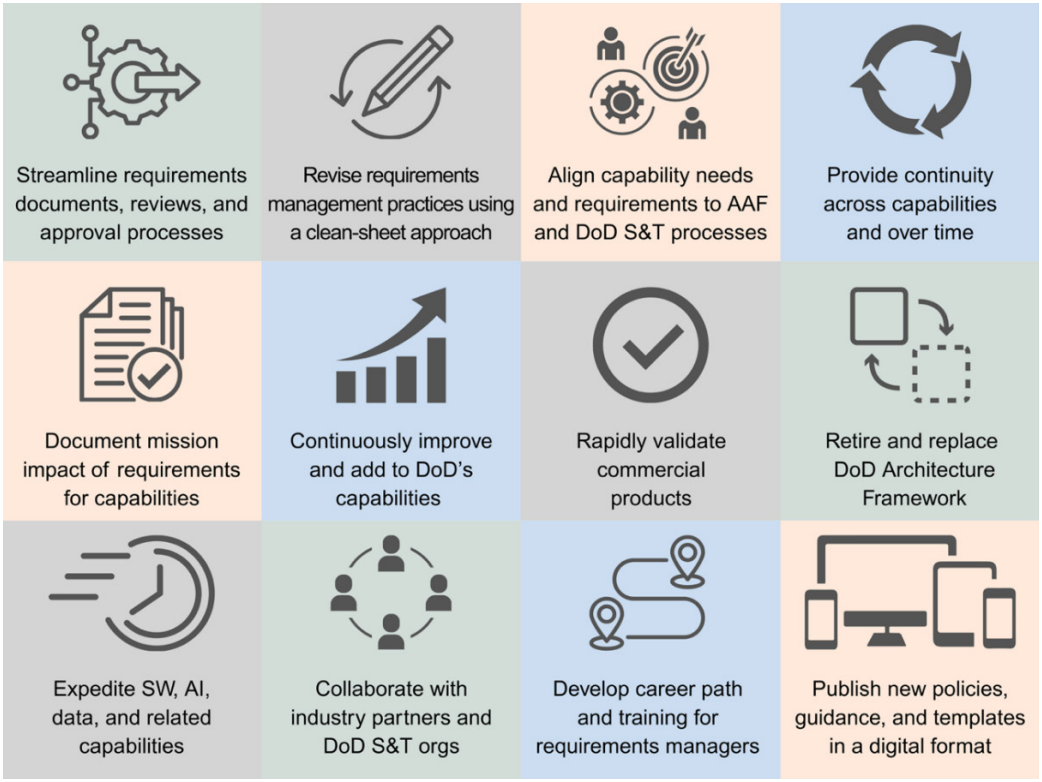
- The fiscal year 2024 National Defense Authorization Act tasked the U.S. Department of Defense with developing a streamlined and modernized requirements development process.
- To frame the Section 811 Tiger Team's efforts, the Chairman of the Joint Requirements Oversight Council identified a set of *first principles for requirements reform*.
- To analyze requirements modernization, DoD used a comprehensive approach that included leveraging the 811 Tiger Team, support from RAND, and regular engagements with Joint Staff leadership and congressional staff.

Section 811 of Public Law 118-31, the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2024, tasked the Secretary of Defense (SECDEF), acting through the Vice Chairman of the Joint Chiefs of Staff (VCJCS), with "Modernizing the Department of Defense Requirements Process."[4] This task directed the Department of Defense (DoD) to develop "a streamlined requirements development process" in order to "improve alignment between modern warfare concepts, technologies, and system development and reduce the time to deliver needed capabilities to the warfighter" through 12 specific reform elements. Figure 1.1 shows a graphical depiction of those requirements; the full text is reproduced in Appendix H.

[4] Public Law 118-31, National Defense Authorization Act for Fiscal Year 2024, December 22, 2023, § 811.

Figure 1.1

Section 811 of the FY 2024 NDAA Congressionally Mandated Elements



SOURCE: Public Law 118-31, National Defense Authorization Act for Fiscal Year 2024, December 22, 2023, Section 811.
NOTE: AAF = Adaptive Acquisition Framework; AI = artificial intelligence; DoD = Department of Defense; S&T = Science and Technology; SW = software.

The interest and attention of DoD officials, military practitioners, congressional and interagency stakeholders, industry experts, and think tank and academic analysts—hereafter referred to as *stakeholders*—in modernizing and reforming JCIDS has been shaped and informed by a growing perception that the Joint Force is not trained, organized, and equipped to meet the emerging threats faced by the United States. Broadly speaking, the Joint Force over the past 20 years has been optimized to counter extremism in the Middle East at the expense of preparing for near-peer competition. America's adversaries are perceived as having evolved rapid, decisive decision making and resourcing processes that allow them to develop and deploy advanced capabilities at the speed of operational relevance. Comparable DoD processes are rooted in inefficient industrial era management processes that are too slow to facilitate a timely response to the fast-paced nature of the evolving global threat environment.

This chapter aims to frame the requirements modernization discussion by providing a brief history of requirements modernization, a summary of current JROC/JCIDS processes, and an overview of the 811 Tiger Team's research approach, starting with the Joint Staff's first principles for requirements reform.

First Principles for Requirements Reform

In order to frame the Section 811 Tiger Team's efforts, the JROC Chairman identified a set of *first principles for requirements reform*. These first principles of requirements reform must animate any future modification or replacement of the JROC structure and JCIDS process:

1. **Deliver capability to the warfighters at speed. Cut red tape.** Accelerate the delivery of capabilities that meet the operational needs of the warfighters and remove bureaucratic barriers.
2. **Preserve the independent warfighter voice.** Provide warfighters an independent and direct role to ensure that capabilities meet their needs.
3. **Ensure alignment from strategy to budget with analytic due diligence.** Establish a clear, unbroken link from strategic guidance (National Security Strategy, NDS, NMS) to concepts (JWC) to capabilities to budgeting. Apply data-based analytics for requirements, acquisition, and budgeting decision making.
4. **Drive Joint Force design, development, and integration in four dimensions:**
    a. **Integrate globally across the CCMDs.** Enable CJCS's global integration role by addressing warfighter needs across regions and across Allies and Partners.
    b. **Balance near-term and future (beyond Future Years Defense Program) needs.** Balance the urgency of immediate needs with longer-term strategic investments.
    c. **Support the breadth of existing innovative technologies and major defense acquisition programs (MDAPs).** Support the entire spectrum of capabilities, from commercial innovation to complex, large-scale defense programs, through flexible and tailored approaches.
    d. **Address all elements of DOTmLPF-P.** Deliver holistic solutions to warfighters considering all elements of DOTMLPF-P.
5. **Align authorities to responsibilities and ensure accountability.** Ensure that capability developers have the authority to execute and are held accountable for outcomes.

Additionally, in April 2025, the Deputy Secretary published the following guiding principles for the DoD workforce optimization. Although these principles were originally focused on workforce reorganization, their intent can be extrapolated to process modernization:

- Mission-First Alignment: [Processes] should directly enable lethality, readiness, or strategic deterrence. If not, [they] should be reclassified, outsourced, or removed.
- Consolidated Functions: We will consider consolidating duplicate functions, overlapping offices, and parallel authorities, and we will right-size manpower to accomplish the mission.
- Flattened Hierarchies: We should eliminate excessive layers of supervision and middle management, empowering decision makers at every level.
- Speed Over Process: [Processes] should support rapid deployment of capabilities, not delay them. We should eliminate unduly burdensome reviews and legacy coordination rituals that are misaligned with that vision.
- Fiscal Discipline: Every dollar not tied to warfighter outcomes should be considered for reallocation, consistent with applicable law.
- No Vestiges of the Past: [Processes] that cannot be directly tied to today's operational priorities should be consolidated or eliminated, without deference to legacy structures, historical jurisdictions, or institutional memory.

- Digital-First Operations: We should modernize or eliminate manual workflows, paper-based processes, and outdated IT platforms and leverage automation and artificial intelligence to power . . . mission impact.[5]

These first principles and guidance from DoD leadership were critical for framing the 811 Tiger Team's efforts, including development and recommendations of requirements reform options. Likewise, the 811 Tiger Team conducted in-depth analysis of the history and current state of the Joint requirements process as part of its research approach.

History of DoD's Requirements System: A Struggle Between Centralization and Decentralization

The following section provides an abbreviated history of DoD requirements reform, with a complete history in Appendix B.

Post–World War II: A Decentralized Beginning

DoD was created through the National Security Act of 1947.[6] This seminal piece of legislation combined the Department of War with the Department of the Navy under a single SECDEF. The act simultaneously created the Department of the Air Force, splitting the U.S. Army Air Forces into the U.S. Army and the U.S. Air Force as separate and equal elements of the U.S. Armed Forces in recognition of emergence of airpower affecting military operations. The act also created the position of SECDEF and vested the position with the authority and responsibility to direct the military departments to adjust funding and programs. However, in practice, the military departments formed a federation that resulted in significant duplication across the Joint Force.

During the 1950s and 1960s several Joint boards and commissions were formed—in some instances through statute, and in other instances by the Office of the Secretary of Defense (OSD) and the military Services—to centralize planning and coordinate on select capabilities with cross-Service equities. Upon confirmation in 1961, Secretary Robert McNamara undertook a significant reform effort by centralizing defense planning and acquisition decisions and empowering a new office called Systems Analysis—the precursor to both Program Analysis and Evaluation (PA&E) and its current iteration, Cost Assessment and Program Evaluation (CAPE).[7]

The distinction between *requirements* and *acquisition* as separate concepts began in the late 1970s. Prior to these efforts, articulation of requirements in terms of system capabilities or associated mission sets was intertwined with acquisition decisions. Starting in 1977, DoD began issuing Department-level requirements documents that articulated a mission need requiring validation by the SECDEF.

[5] Deputy Secretary of Defense, "Workforce Acceleration & Recapitalization Initiative Organizational Review," memorandum for senior Pentagon leadership, commanders of the combatant commands, and defense agency and Department of Defense field activity directors, April 7, 2025, p. 1.

[6] Public Law 80-253, National Security Act of 1947, July 26, 1947. This act originally designated the modern DoD as the *National Military Establishment*; the nomenclature of *Department of Defense* was introduced in Public Law 81-216, National Security Act Amendments of 1949, August 10, 1949, which also established the position of the Chairman of the Joint Chiefs of Staff (CJCS) to serve as the presiding officer of the Joint Chiefs of Staff.

[7] Alain Enthoven and K. V. Smith, *How Much Is Enough: Shaping the Defense Program 1961–1969*, RAND Corporation, 2005.

Recognizing a need to inform other military Services of requirements, the Joint Staff formed the Joint Requirements Management Board (JRMB) in the early 1980s.

Goldwater-Nichols Reforms: Increasing Centralization

Issues with Joint integration began to emerge during the Vietnam War and attracted public interest following the operational failure of Operation Eagle Claw—the attempt to rescue American hostages in Iran in 1980—along with significant operational challenges experienced by U.S. forces during Operation Urgent Fury in Grenada. Operation Eagle Claw included special operations personnel from all U.S. military Service branches and the Central Intelligence Agency. Although the operation was designed to be Joint in nature and required close coordination among each of the operational elements, training for the complex operation was conducted on an individual basis by each military Service, with the participating Service units meeting for the first time as the operation begun.[8]

After-action reviews identified numerous additional contributing factors, including a lack of Joint doctrine and procedures, a Joint task force commander with no cross-Service experience, and a lack of command-and-control procedures, exacerbated by incompatible communications equipment held by each Service branch.[9] These operational challenges resulted in significant congressional attention from both the House and Senate Armed Services Committees and ultimately led to the Goldwater-Nichols Department of Defense Reorganization Act of 1986 (Public Law 99-433). The Goldwater-Nichols Act contributed to substantial DoD reorganization and reform. In keeping with these reforms, the JRMB evolved into the Joint Requirements Oversight Council (JROC). The functions of this oversight body were derived from the statutory authorities and responsibilities of the Chairman of the Joint Chiefs of Staff (CJCS), namely the Chairman's function of "assessing Joint military capabilities and identifying, approving, and prioritizing gaps in such capabilities to meet national defense strategies."[10] The JROC was later statutorily mandated (see Title 10, *United States Code* [U.S.C.] § 181) through the FY 1997 NDAA.[11]

Post–Cold War Era: Process Standardization and Centralization Continues

Prior to 1991, the only DoD-level requirements document was the Mission Need Statement (MNS), which articulated the *mission need* to which a specified capability would respond. These documents were reviewed and validated by the SECDEF during the developing DoD-level process of review and approval for acquisition programs. All other requirements documents were military department specific. In 1991, following the collapse of the Soviet Union, the Joint Staff and OSD moved to standardize the Department-wide process for requirements generation and validation. A new mandatory Operational Requirements Document (ORD) was introduced, which required articulation of the *performance attributes*, as shaped by the associated *threat environment*, related to a specified capability. In accordance with these changes, the Joint Staff issued CJCS Memo of Policy (MOP) 77 in 1992, which specified policies and procedures for

[8] James R. Locher III, "Has It Worked? The Goldwater-Nichols Reorganization Act," *Naval War College Review*, Vol. 54, No. 4, 2001, p. 100.

[9] Mark Bowden, "The Desert One Debacle," *Atlantic Monthly*, May 2006.

[10] 10 U.S.C. § 153 (a)(5)(F).

[11] 10 U.S.C. § 181; Public Law 104-201, National Defense Authorization Act for Fiscal Year 1997, September 23, 1996, § 908.

a Requirements Generation System (RGS)—the precursor to the JCIDS process. The validation authority for both the MNS and the ORD was transitioned to the JROC, and over the course of the 1990s, responsibility for the requirements process transitioned away from OSD until the Joint Staff had sole authority and control for review and validation of Service-sponsored requirements with Joint equities.

In 2003, the RGS was superseded by the JCIDS process. The design of this new process was driven largely by Secretary Rumsfeld's *Defense Capabilities Study*, also known as the *Aldridge Report*, which outlined options for streamlining the process to generate truly Joint requirements instead of post-hoc validation and integration of Service inputs. JCIDS transformed the RGS into a top-down, Joint approach that had its basis in the MNS, Joint concepts, and Joint integration from inception. JCIDS was envisioned as a collaborative process to achieve deliberate Joint capabilities from the outset. Collectively, DoD justified this evolution to a capabilities-based approach "on the need for a Joint concepts-centric capabilities identification process that will allow the Joint forces to meet the full range of military challenges of the future."[12]

A fuller history of the conception, development, and modification of the U.S. requirements generation process—together with a more extensive discussion of the evolution of JCIDS since 2003—is provided in Appendix B of this report.

Recent Changes: A Return to Decentralization?

Given the widely acknowledged challenges related to JCIDS execution, timeliness, and flexibility, Congress and OSD have focused on providing broad exemptions or establishing workarounds that serve to establish alternative requirements generation processes. These exemptions and/or workarounds have served to devolve requirements generation and validation to the military Services and to individual DoD components.

These JCIDS exemptions have created exceptions for both specific categories of systems and specific organizations. Regarding the system-based exceptions, the *middle tier of acquisition* (MTA)—which facilitates the rapid prototyping and rapid fielding of capabilities with a sufficient level of maturity—is statutorily exempt from the JCIDS process and the acquisition processes outlined in DoD Directive 5000.01.[13] Requirements development for MTA programs must be conducted using streamlined processes established by each DoD component.[14]

[12] Joint Defense Capabilities Study Team, *Improving DoD Strategic Planning, Resourcing and Execution to Satisfy Joint Capabilities: Final Report,* January 2004.

[13] Public Law 114-92, National Defense Authorization Act for Fiscal Year 2016, November 25, 2015, § 804, codified in 10 U.S.C. § 2302, which was later renumbered to 10 U.S.C. § 3602; see also DoD Instruction (DoDI) 5000.80, *Operation of the Middle Tier of Acquisition*, U.S. Department of Defense, December 30, 2019, p. 4.

[14] A 2023 U.S. Government Accountability Office (GAO) report found that DoD components with MTA authority have not yet fully developed and implemented all aspects of these processes as directed in DoDI 5000.80. See GAO, *Middle-Tier Defense Acquisitions: Rapid Prototyping and Fielding Requires Changes to Oversight and Development Approaches*, GAO-23-105008, February 2023a, pp. 21–22.

Similarly, the Adaptive Acquisition Framework (AAF) software acquisition pathway is exempt from JCIDS, as established first by DoD policy and then statutorily exempted by the FY 2025 NDAA.[15] DoD policy for the software acquisition pathway establishes that requirements development for software acquisition programs must be conducted using streamlined processes established by each DoD component, with sponsors directed to complete a *Capability Need Statement* (CNS) that articulates related mission deficiencies or enhancements to existing operational capabilities in sufficient detail to "define various software solutions as they related to the overall threat environment."[16]

In other instances, specific DoD organizations have been granted blanket JCIDS exemptions.[17] The FY 2007 NDAA granted an exemption from JCIDS to Air Force Space Command's Operationally Responsive Space program, the precursor to the Space Rapid Capabilities Office (Space RCO).[18] Starting in 2017, the validation of non-Joint Performance Requirement KPPs was delegated to the Services. The FY 2024 NDAA created the Naval Air Warfare Rapid Capabilities Office and granted the new entity an exemption from JCIDS.[19]

This history of how the DoD requirements process has evolved since its inception in 1947 informs how the JROC and JCIDS are organized and managed. Since the Goldwater-Nichols–era reforms, major acquisition and requirements reform has been predominantly defined by devolution of previously centralized authority to other organizations. The following section provides an overview of the current JROC organization and how the JROC chooses to utilize its authority through the JCIDS process and highlights some mandatory attributes JCIDS imposes on capabilities development.

Current JROC Mission, Structure, and Mandates

JROC Mission and Responsibilities

The JROC derives its primary mission and responsibilities from 10 U.S.C. § 181(b). The ways in which the JROC assists the CJCS are listed in Figure 1.2.

[15] Public Law 118-159, Servicemember Quality of Life Improvement and National Defense Authorization Act for Fiscal Year 2025, December 23, 2024, § 805, codified in 10 U.S.C. § 3603; see also DoDI 5000.87, *Operation of the Software Acquisition Pathway*, October 2, 2020, p. 10. A 2021 revision to the JCIDS Manual introduced a new Software Initial Capabilities Document to be submitted to the Joint Staff for review and determination of Joint equities associated with software development–focused acquisition programs, with validation through an expedited JROC review.

[16] DoDI 5000.87, 2020, pp. 16, 20, 28.

[17] In the FY 2023 NDAA (Section 1601 of Public Law 117-263, James M. Inhofe National Defense Authorization Act for Fiscal Year 2023, December 23, 2022), Congress directed the SECDEF to conduct a review evaluating whether the Space Development Agency (SDA) should also be exempt from JCIDS processes.

[18] Public Law 109-364, John Warner National Defense Authorization Act for Fiscal Year 2007, October 17, 2006, § 913, codified in 10 U.S.C. § 2273a.

[19] Public Law 118-31 § 215, codified in 10 U.S.C. § 2196.

Figure 1.2

JROC Title 10 Authorities

JROC Mission

(10 U.S.C. § 181(b))

In addition to other matters assigned to it by the President or Secretary of Defense, the Joint Requirements Oversight Council shall assist the Chairman of the Joint Chiefs of Staff in-

1. Assessing joint military capabilities, and identifying, approving, and prioritizing gaps in such capabilities, to meet applicable requirements in the national defense strategy under section 113(g) of this title;
2. Increasing awareness of global trends, threats, and adversary capabilities to address gaps in joint military capabilities and validate joint requirements developed by the military departments;
3. Reviewing and validating whether a capability proposed by an armed force, Defense Agency, or other entity of the Department of Defense fulfils a gap in joint military capabilities;
4. Establishing and approving joint performance requirements that—
    a. ensure interoperability, where appropriate, between and among joint military capabilities; and
    b. are necessary, as designated by the Chairman of the Joint Chiefs of Staff, to fulfill capability gaps of more than one armed force, Defense Agency, or other entity of the Department;
5. Reviewing performance requirements for any existing or proposed capability that the Chairman of the Joint Chiefs of Staff determines should be reviewed by the Council;
6. Identifying new joint military capabilities based on advances in technology and concepts of operation; and
7. Identifying alternatives to any acquisition program that meets approved joint military capability requirements for the purposes of sections 4251(b), 4252(a)(4), and 4375(b) of this title.

JROC Membership

Membership in the JROC is also defined in 10 U.S.C. § 181. Title 10 defines the VCJCS as the Chair of the JROC, establishes 4-star representatives from the military Services as statutory members, defines the statutory advisors (see Figure 1.3). The JROC Secretariat retains the authority to invite additional members, as it often does based on subject matter.

Figure 1.3

JROC Membership

JROC Membership

Chair: VCJCS. Advises the CJCS.

JROC Members:

- Vice Chief of Staff, Army
- Vice Chief of Naval Operations
- Vice Chief of Staff, Air Force
- Assistant Commandant of the Marine Corps
- Vice Chief of Space Operations

JROC Advisors*:

- USD (Policy)
- USD (Intelligence and Security)
- USD (Acquisition and Sustainment)
- USD (Research and Engineering)
- USD (Comptroller)
- ASD (Special Operations and Low Intensity Conflict)
- Director, Cost Assessment & Program Evaluation (CAPE)
- Director, Operational Test & Evaluation (DOT&E)
- Combatant Commands (CCMDs)
- Vice Chief of the National Guard Bureau (NGB)

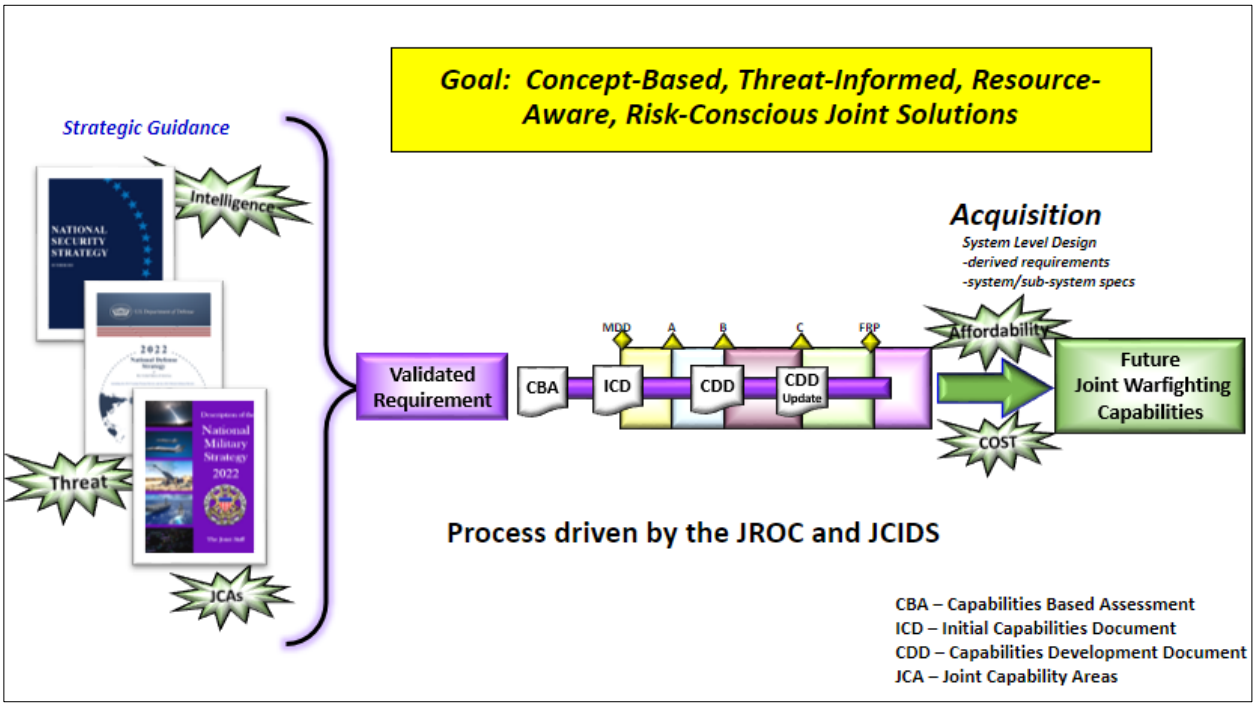
NOTE: USD = Under Secretary of Defense, ASD = Assistant Secretary of Defense.

Per CJCSI 5123.01I, JCIDS is the primary means for the JROC to fulfill its statutory responsibility to the CJCS and assists the CJCS in identifying, assessing, and prioritizing Joint military capability requirements across the Department. JCIDS also provides detailed guidance and procedures to facilitate requirements generation, validation, and management in order to promote timely and cost-effective development of capability solutions to the warfighter.[20] Capability requirements are responsive to, and dependent on, operational context and threat and can be updated and/or modified during the acquisition process. Capability requirements are the basis for Capability Development Documents (CDDs), DOTmLPF-P Change Requests (DCRs), specifications, contracts, and acquisitions (see Figure 1.4).

[20] CJCSI 5123.01I, 2021.

Figure 1.4

Requirements Process from Concepts to Capabilities



JROC functions are conducted by multiple levels of review boards and supported by several other organizations (see Figure 1.5). The JROC is the highest-level (i.e., 4-star) board and "owns" the JCIDS process. Duties associated with this responsibility include but are not limited to assessing Joint military capabilities, prioritizing current and future warfighting gaps, and validating Joint requirements developed by the military departments. The JROC also conducts risk assessments, approves Joint performance requirements, and identifies new Joint military capabilities based on advances in technology and concepts of operations.

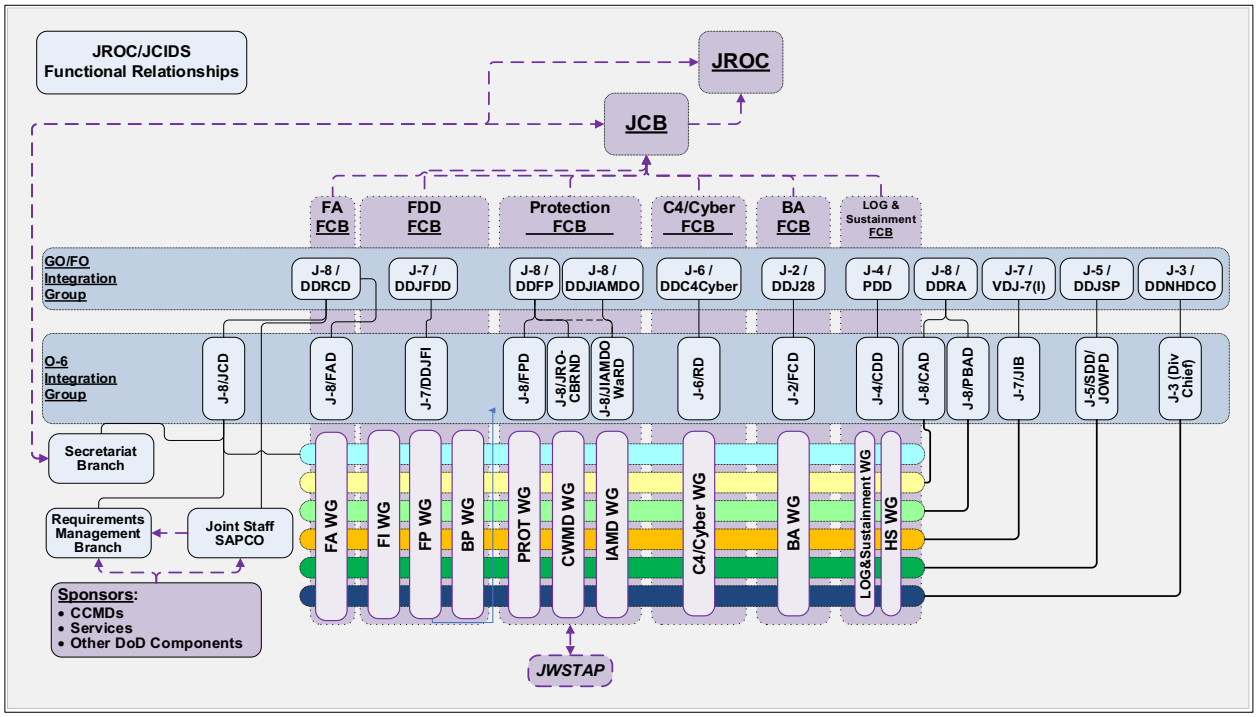
The Joint Capabilities Board (JCB) is one level below (i.e., 3-star) the JROC and advises the JROC on issues within and across capability portfolios. Duties associated with this responsibility include "reviewing and endorsing JCIDS documents and adjudicating lower-level issues prior to validation by the JROC," "validating JCIDS documents," "nominating topics for JROC consideration," and "advising on issues requiring JROC review."[21]

The Functional Capabilities Boards (FCBs) are one level below (i.e., 1-2 star) the JCB, advise the JCB and JROC on issues within their capability portfolios, and perform other activities at the direction of the JCB or JROC. FCBs have working groups, established at the direction of the FCB Chair and led by an O-6. At all levels of the JROC boards, representatives from the Joint Staff, Services, CCMDs, and OSD can influence JROC/JCIDS decisions.

[21] CJCSI 5123.01I, 2021, p. B-5.

Figure 1.5

JROC Subordinate Boards and Related Organizations per CJCSI 5123.011



FCBs conduct numerous JCIDS assessments on behalf of the JROC, including the following selected examples:[22]

- Review Service requirements documents, including Initial Capabilities Documents (ICDs), CDDs, and DCRs
- Manage and prioritize requirements across the CCMDs and within capability portfolios
- Produce Capability Portfolio Management Reviews (CPMRs)
- Inform other assessments and activities within the Joint Staff and across DoD
- Provide re-examination of validated requirements, and the balance between performance levels and operational risk, to mitigate challenges in acquisition programs.

Parallel Requirements Models

JCIDS is the process established to review, validate, and prioritize Joint requirements; however, there are many requirements processes outside JCIDS. The military Services have requirements processes and approval boards that run parallel to and, in many cases, are derived from JCIDS (e.g., the Army Capabilities Integration and Development [ACIDS] process and the Army Requirements Oversight Council [AROC]). Additionally, some CCMDs have their own parallel requirements models. These include, but are not limited to, the Special Operations Forces Capabilities Integration and Development System

[22] CJCSI 5123.01I, 2021, p. B-1.

(SOFCIDS) and the Cyber Capabilities Integration and Development System (CCIDS). The Intelligence Community (IC) also has its own requirement system: the Intelligence Community Capabilities Requirements (ICCR) process.

These parallel requirements models are worth discussing because, although they often apply to only a subset of Service or CCMD requirements or capabilities, they may present lessons learned or best practices that joint requirements reform efforts can incorporate. Appendix C has additional details on these requirements processes, including diagrams, discussion on process steps, and lessons learned. Additionally, further study will be required to ensure that, whatever reforms to the Joint requirements process are implemented, synergies are maximized with Service and CCMD requirements processes to ensure seamless and simultaneous execution.

Documentation of Requirements for Major Capability Acquisitions

Under the AAF, movement of a major capability acquisition program through the phases of the Defense Acquisition System (DAS) is controlled by various decision points known as *milestones*.[23] The first decision point required for the entry of a major capability acquisition program into the DAS is known as the *Materiel Development Decision* (MDD). Through an MDD, a milestone decision authority (MDA) determines if a materiel solution is needed to address a particular capability gap; an MDD is based in part on requirements as documented in an *Initial Capabilities Document* (ICD), with variants for information systems and software known as IS-ICDs and SW-ICDs.[24] An ICD, as mandated by the JCIDS process, presents capability requirements and associated capability gaps, together with recommended materiel and/or nonmateriel approaches for resolving the identified capability gaps, for review and validation by the appropriate validation authority.[25]

An ICD is intended to establish "traceability to the operational context, threats, and other relevant factors that determine the Joint military capability requirements."[26] It must specify capability requirements, assess associated gaps in conjunction with comparing the proposed capability requirement to current capability solutions available to the Joint Force, and recommended options to resolve identified capability gaps.

Once an ICD has been validated by the JROC, it is used as a factor for the MDD, which will also include an approval of an *Analysis of Alternatives* (AoA) study by the MDA. An AoA is completed during the Materiel Solutions Analysis phase through the assessment of potential solutions to determine which option is best suited to meet requirements outlined in the ICD. An AoA compares effectiveness, cost, schedule, concepts of operations, risk, and other variables associated with each potential solution. The

[23] DoDD 5000.01, *The Defense Acquisition System*, U.S. Department of Defense, September 9, 2020, change 1, July 28, 2022, and DoDI 5000.02, *Operation of the Defense Acquisition Framework*, U.S. Department of Defense, January 23, 2020, change 1, June 8, 2022.

[24] DoDI 5000.85, *Major Capability Acquisition*, U.S. Department of Defense, August 6, 2020, change 1, November 4, 2021, p. 11. See also DoDI 5000.02, 2022.

[25] Military Services may validate Service-specific capability requirements and Service-specific Urgent Operational Needs (UONs); Joint capability requirements must be validated by the JROC through JCIDS. See CJCSI 5123.01I, 2021, and Joint Chiefs of Staff, 2021.

[26] Joint Chiefs of Staff, 2021, p. B-A-1.

Materiel Solutions Analysis phase ends when a specific solution is identified, and the MDA assesses that the associated program meets the criteria for Milestone A.

After Milestone A, a program next proceeds through the Technology Maturation and Risk Reduction phase. In this phase, an investment decision is made to commit resources to maturing technology and/or reducing any potential risks prior to making a production decision. During this phase, specific performance attributes will be established in a CDD.

A CDD, as mandated by the JCIDS process, describes the capability solution that will wholly or partially satisfy the validated requirements documented by the ICD. It documents associated system performance parameters (Key Performance Parameters [KPPs]) and attributes (Key System Attributes [KSAs]), and Additional Performance Attributes (APAs). A CDD is intended in part to provide "traceability to predecessor documents and validated [capability requirements]" and identify "projected lifecycle costs that are expected to result from pursuing the capability solution."[27] It must describe how the identified capability addresses the operational context articulated in the ICD; update associated threat summaries; link validated requirements and associated capability gaps to the described capability; summarize associated acquisition program approaches and strategies for reaching full operational capacity; and outline associated performance parameters (KPPs, KSAs, and APAs).

Using JCIDS to Establish Mandatory Performance Attributes

The JCIDS process includes several mandatory KPPs that must be included in CDDs for relevant DoD weapon systems. The number and category of these KPPs has varied over time. In 2018, as part of an effort to streamline policy, mandatory KPPs were reduced to the four statutory mandatory KPPs (energy, system survivability, force protection, and sustainment). However, additional mandatory performance attributes for interoperability and exportability have since been introduced. Currently, the JCIDS process, as documented in the 2021 JCIDS Manual, defines five mandatory KPPs and one mandatory KSA that must be included in any CDD:

- force protection
- survivability
- energy
- sustainment
- interoperability
- exportability.

Force protection and *survivability* were designated as mandatory KPPs in response to section § 141 of the FY 2005 NDAA (Public Law 108-375). In doing so, Congress directed DoD to assess warfighter survivability and system suitability against asymmetric threats as part of the development of system requirements for any manned system and established that force protection and survivability KPPs must be included as part of the system requirements documentation for covered systems.[28] However, § 141 of the FY 2005 NDAA was repealed by § 812(b)(7) of the FY 2019 NDAA (Public Law 115-232). In

[27] Joint Chiefs of Staff, 2021, p. B-C-1.

[28] Public Law 108-375, Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, October 28, 2004, § 141, formerly codified at 10 U.S.C. § 2302.

recommending repeal of § 141 of the FY 2005 NDAA, and in making several additional repeals, the House Armed Services Committee noted that,

> with respect to repeal of a statutory requirement for issuance of a regulation, it is not expressing a view on the merits of the policies covered by the regulation. Rather . . . this section would allow the Secretary of Defense to revise the regulation as circumstances warrant. Repealing the statutory requirement would allow the Secretary to revise or rescind the regulation but would not prescribe it. The decision to retain, or not retain, the regulation would remain with the Secretary.[29]

The 2021 JCIDS Manual still reflects these KPPs as statutorily mandated. Although this is no longer accurate, both the force protection and survivability KPPs are still mandated at the DoD level by JROC Memorandum (JROCM) 120-05.

The FY 2009 NDAA required DoD to develop the *energy* KPP in order to affordably manage energy demand and related energy logistics and security risks without degrading mission effectiveness.[30] Congress mandated the *sustainment* KPP through the FY 2018 NDAA.[31] Specifically, Congress established that the SECDEF must "ensure that reliability and maintainability are included in the performance attributes of the key performance parameter on sustainment during the development of capabilities requirements."[32] This has resulted in two required KSAs, which then are used to justify the sustainment KPP.

The JCIDS Manual defines the *Joint interoperability* KPP as comprising three characteristics: physical, net ready, and Joint technical training. Both physical and Joint technical training attributes are derived from the JROC's function to ensure interoperability across the force.[33] Net ready characteristics are derived from requirements for DoD to produce an Information Support Plan (ISP) for all National Security Systems (NSS) and Information Technology (IT) systems.[34] The ISP is statutorily required by 10 U.S.C. §§ 2222–2224.

Beyond these mandatory KPPs, JCIDS also mandates the *exportability* Key System Attribute (KSA) as established by JROCM 025-19 on April 15, 2019.[35] According to the JCIDS Manual, "[s]ponsors will consider a foreign disclosure review when developing JCIDS documents that advocate for a future international acquisition program with allies and partner nations."[36]

[29] U.S. Congress, House Committee on Armed Services, National Defense Authorization Act for Fiscal Year 2019, 115th Cong., 2nd sess., May 15, 2018, H. Rept. 115-676, p. 151.

[30] Public Law 110-417, Duncan Hunter National Defense Authorization Act for Fiscal Year 2009, October 14, 2008, § 332, codified at 10 U.S.C. § 2926.

[31] Public Law 115-91, National Defense Authorization Act for Fiscal Year 2018, December 12, 2017, § 834, codified in 10 U.S.C. § 2443. This authority was later renumbered to 10 U.S.C. § 4328.

[32] Pub. L. 115-91, 2017, § 834.

[33] 10 U.S.C. § 181.

[34] DoDI 8330.01, *Interoperability of Information Technology, Including National Security Systems*, U.S. Department of Defense, September 27, 2022.

[35] Joint Chiefs of Staff, 2021.

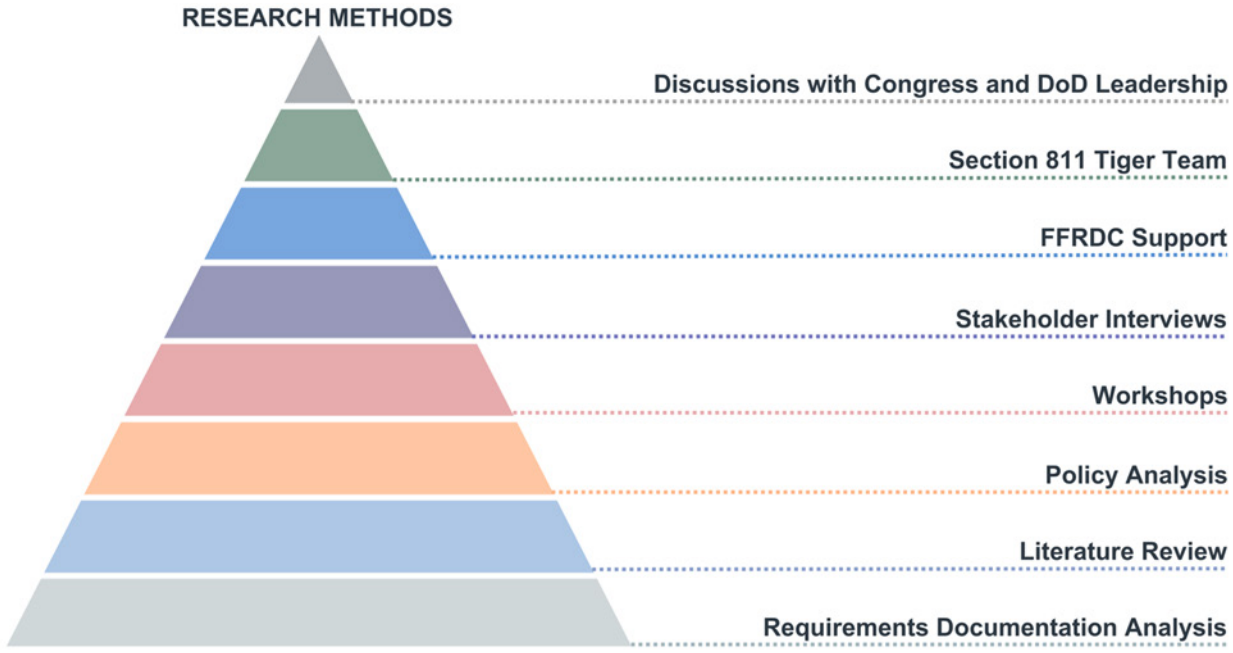
[36] Joint Chiefs of Staff, 2021, p. B-3.

Research Approach

The Section 811 task is broad in scope and complexity, involving DoD-wide equities, and has implications for requirements, acquisition, and budget processes. Therefore, DoD used a comprehensive approach (see Figure 1.6) for analyzing requirements modernization that included leveraging the collective expertise of a Section 811 Tiger Team; regularly engaging Joint Staff leadership and congressional staffers; and utilizing support from RAND's National Defense Research Institute (NDRI), a federally funded research and development center (FFRDC). This section briefly outlines the methodologies utilized; more details on select methodologies are provided in the appendixes of this report.

Figure 1.6

DoD's Comprehensive Approach to Analyze Requirements Modernization



Discussions with Congress and DoD Leadership

Since the FY 2024 NDAA was enacted, many changes have occurred within and outside of DoD related to requirements and acquisition reform. As a result, the Joint Staff J8 team has been meeting regularly with both DoD Leadership and congressional staffers in order to provide the most relevant and informed analysis on DoD requirements modernization. The 811 team has met with congressional stakeholders six times over the past 15 months and provided multiple updates to CJCS; VCJCS; Director, Joint Staff (DJS); and Director, Force Structure, Resources and Assessment, J8 (DJ8).

Section 811 Tiger Team

The Joint Staff J8 established a Section 811 Tiger Team in March 2024 with over 130 representatives (see Figure 1.7) from across the requirements and acquisition communities, including OSD, the military Services, CCMDs, and Joint Staff directorates. This 811 Tiger Team met monthly and provided a variety of

inputs to the interim and final analysis. The Tiger Team also served as the study's primary entry point into the various stakeholder offices to help facilitate interviews, identify workshop participants, and provide answers to questions on detailed processes and other equities.

The Section 811 Tiger Team was a critical source of input for this analysis because the extensive subject-matter expertise and wide-ranging perspectives of these professionals allowed the J8 to form a comprehensive picture of the historical and current state of the DoD requirements system.

Figure 1.7

DoD's Section 811 Tiger Team

TIGER TEAM DEMOGRAPHICS AND DETAILS			
TOTAL ORGS/OFFICES: 33		**TOTAL MEETINGS: 12**	**MEETING/REPORT ACTIVITIES, CONTRIBUTIONS AND SUPPORT**

• OVCJCS
• J2
• J3
• J4
• J6
• J7
• J8
• JS LA
• JS CAG
• USA
• USN
• USAF
• USMC
• USSF
• NGB
• USCYBERCOM
• USAFRICOM
	• USCENTCOM
	• USEUCOM
	• USINDOPACOM
	• USNORTHCOM
	• USSOUTHCOM
	• USSPACECOM
	• USSOCOM
	• USSTRATCOM
	• USSTRANSOCM
	• OSD (A&S)
	  ◦ DAU
	• OSD (R&E)
	• OSD CAPE
	• DoD CIO
	• Think Tanks
	  ◦ RAND
	  ◦ AIRC
	  ◦ HUDSON INSTITUTE
		• 21 MARCH 2024
		• 25 APRIL 2024
		• 23 MAY 2024
		• 25 JULY 2024
		• 17 OCTOBER 2024
		• 14 NOVEMBER 2024
		• 19 DECEMBER 2024
		• 30 JANUARY 2025
		• 15 FEBRUARY 2025
		• 20 MARCH 2025
		• 17 APRIL 2025
		• 28 APRIL 2025
			• Identification of relevant stakeholders for participation in 811 TT meetings, RAND whiteboarding and interviews, and responding to RFIs
			• Providing historical expertise, insights, and analysis regarding JROC/JCIDS history and reform efforts
			• Identifying current issues and opportunities with the JROC/JCIDS processes based on personal and organizational experience
			• Assistance with drafting Interim 811 RTC, including JCIDS History, Alternative Requirements Models, and Current Reform Efforts
			• Preparing for and reviewing inputs from the JROC offsite and other senior leader engagements
			• Sharing relevant requirements data and reviewing timeline analysis
			• Submitting and reviewing draft recommendations for Final 811 RTC
			• Reviewing relevant legislative and executive changes to the requirements process, including the FY25 NDAA, FORGED Act, and Executive Order on Defense Acquisition reform
			• Staffing and approval Final 811 RTC

FFRDC Support

To assist the Joint Staff J8 in supporting its responsibilities to respond to the FY 2024 NDAA Section 811 tasking, DoD contracted with RAND's NDRI. RAND assisted the Joint Staff in responding to the Section 811 tasks, including developing the evolutionary and revolutionary (i.e., "clean-sheet") approaches to JROC/JCIDS reform. RAND had six major research tasks:

- **Task 1:** Develop a baseline understanding of bureaucratic, political, and cultural factors in the inception of JCIDS, along with the current JCIDS reform effort over the past 3–5 years.
- **Task 2:** Evaluate JCIDS history, challenges, and opportunities.
- **Task 3:** Define core principles for JCIDS modernization.
- **Task 4:** Create a framework for innovation-centric requirement formation.
- **Task 5:** Solicit iterative feedback to refine and revise evolutionary and revolutionary approaches.
- **Task 6:** Document insights.

Stakeholder Interviews

Given that the requirements system has a wide reach across DoD, the 811 Tiger Team engaged a multitude of perspectives to inform the history, challenges, benefits, and potential options for requirements modernization. The Tiger Team chose a representative sample of DoD and non-DoD stakeholders whose perspectives could inform the modernization of the DoD requirements process. Among 207 stakeholders the Tiger Team contacted, 142 participated in interviews. The final pool of interviewees spanned the military Services, the CCMDs, the Joint Staff, OSD, the IC, industry, think tanks, and academia (Figure 1.8). Appendix G provides additional details regarding the distribution of interviewees and includes the interview protocol that was used.

Figure 1.8

A Wide Array of Stakeholders Provided Perspectives on Requirements Modernization

100 TOTAL INTERVIEWS, 142 TOTAL INTERVIEWED PARTICIPANTS				
SERVICES	COMBATANT COMMANDS	JOINT STAFF, OSD, INTELLIGENCE COMMUNITY	THINK TANKS / ACADEMIA	INDUSTRY
DEMOGRAPHICS OF COMPLETED INTERVIEWS AND NUMBER OF PARTICIPANTS				
TOTAL PARTICIPANTS: 45	**TOTAL PARTICIPANTS: 33**	**TOTAL PARTICIPANTS: 33**	**TOTAL PARTICIPANTS: 12**	**TOTAL PARTICIPANTS: 19**
Air Force Space Force Army Navy USMC NGB	USAFRICOM USCYBERCOM USEUCOM USINDOPACOM USNORTHCOM USSOCOM USSOUTHCOM USSPACECOM USSTRATCOM USTRANSCOM	Joint Staff J2 Joint Staff J4 Joint Staff J6 Joint Staff J7 Joint Staff J8 DAU DIU DoD CIO OSD CAPE OSD(P) OUSD(A&S) OUSD(R&E) ODNI	AEI Atlantic Council CNAS Gordian Knot (Stanford) Hudson Institute MITRE RAND	Shield AI In-Q-Tel Boeing HII (Huntington Ingalls Industries) Lockheed Martin Northrop Grumman RTX Textron BENS NDIA BMNT

In most cases, interviews were conducted virtually using a comprehensive, semi-structured interview protocol to elicit key stakeholder views on the DoD requirements process and opportunities for improvements. The semi-structured interviews allowed participating stakeholders to elaborate on key areas pertinent to their areas of expertise and lived experience as it relates to the JCIDS process. For details about the methods used to analyze interview responses, please refer to Appendix G.

Workshops

The Joint Staff J8 conducted three workshops on first principles, challenges, and solutions across the stakeholder community (see Figure 1.9). The aim of these workshops was to conduct a deep dive into the first principles of a Joint requirements process and different types of reforms that might be considered

(e.g., the types of evolutionary and revolutionary changes that would be needed for modernization to be successful). Invitees were members of the Joint Staff, CCMDs, Services, and other stakeholders. Appendix G provides more detail regarding the participants, how these sessions were conducted, and other relevant details.

Figure 1.9

Section 811 Requirements Modernization Workshops

MODERNIZATION WORKSHOPS: DEMOGRAPHICS AND DETAILS		
Session #1: 4 November 2024	**Session #2: 18 November 2024**	**Session #3: 3 February 2025**
• **AGENDA:** ◦ Evolutionary Changes Discussion (process and outcome changes) ◦ Revolutionary Changes Discussion ◦ Discussion on Other Needed Changes • **ORGANIZATIONS IN ATTENDANCE:** ◦ 13 people total ◦ OUSD(A&S) ◦ Space Force ◦ Marine Corps ◦ Joint Staff ◦ RAND	• **AGENDA:** ◦ Evolutionary Changes Discussion ◦ Revolutionary Changes Discussion ◦ Discussion on Other Needed Changes • **ORGANIZATIONS IN ATTENDANCE:** ◦ 15 people total ◦ OUSD(A&S) ◦ USSOCOM ◦ Air Force ◦ Army ◦ Joint Staff ◦ RAND	• **AGENDA:** ◦ Discussion of Requirements Process Tradeoffs ◦ From Evolutionary steps to Revolutionary reform Discussion • **ORGANIZATIONS IN ATTENDANCE:** ◦ 11 people total ◦ USSTRATCOM ◦ USSOUTHCOM ◦ USSOCOM ◦ USAFRICOM ◦ USTRANSCOM ◦ Joint Staff ◦ RAND

Policy Analysis

DoD reviewed the statutory mission and responsibilities for the JROC contained within Title 10, together with associated CJCS and DoD policies implementing the JCIDS process. DoD also reviewed Service-level requirements policies and documented overviews of these processes. In the course of this review, the 811 Tiger Team specifically focused on documented guidance related to respective roles and responsibilities for staffing JCIDS documents, together with policy-defined staffing timelines, and policy-defined processes for comment adjudication. During whiteboarding sessions, the study team obtained key stakeholders' insights into challenges associated with these authorities and policies; these insights helped inform the recommendations outlined in this report. The Joint Staff also identified sections of the JCIDS Manual that were not associated with statutory requirements and that 811 Tiger Team members perceived as non-essential.

Literature Review

Members of the study team conducted a scan of potentially relevant literature from 1990 to present and narrowed the results to 29 relevant, authoritative sources for this analysis. The final sources included prior analysis from congressional commissions, DoD advisory boards, the Government Accountability Office (GAO), FFRDCs, think tanks, and industry associations. The objective of this work was to gather a

diverse and comprehensive range of insights into prior reforms and lessons relevant to defense requirements processes. The study team focused on three core themes:

- **JCIDS reform efforts and lessons learned:** Identifying past reform attempts within the JCIDS framework and documenting the lessons derived from these initiatives.
- **Alternative requirements development practices:** Exploring practices from the private sector and other federal agencies that could serve as potential models for DoD.
- **Characteristics supporting management reform:** Highlighting findings and recommendations that are instructive for effective management reforms in defense acquisition.

Given the significant interest in DoD requirements modernization, the study team also identified related news articles, blogs, or opinion pieces published between 2017 and 2025 and screened those results for relevancy. This resulted in another 33 relevant articles, which informed current sentiment regarding requirements modernization.

Requirements Documentation Analysis

To establish context for the analysis and clean sheet recommendations, the 811 Tiger Team constructed a timeline for the current requirements-setting and documentation processes. Specifically, the study team analyzed the time taken to process JCIDS documents from initiation to the issuance of a signed JROCM. The objective of this analysis was to identify the most time-consuming steps in the JCIDS process and inform recommendations to improve requirements documentation timelines by comparing results with nominal timeline expectations.

The analysis used a data sample from the Joint Staff's Knowledge Management and Decision Support (KM/DS) database, covering documents processed between 2013 and 2024.[37] Only documents with complete sets of information and dates were included in the sample, which consisted of 155 records across six document types.[38] The sample includes data from the U.S. Army, U.S. Navy, U.S. Marine Corps, U.S. Air Force, U.S. Space Force, Joint Staff, FCBs, CCMDs, and defense agencies.

While these data provide insights into some aspects of documentation timelines, the analysis is limited in several respects: The data do not account for differences in document types, differences in program complexity, or specific justifications for nominal timelines at different steps in the process. In addition, the analysis does not explore underlying causes for delays or the inherent value of specific steps in the process (e.g., the analysis underlying an ICD or CDD). Although the KM/DS data provide some measure of the number of documents and time elapsed between key steps in the process, the sample size for four of the six document types in particular is too small to draw meaningful conclusions about broader trends.

To complement the analysis of KM/DS data and provide additional context on requirements validation timelines, the study team incorporated Service- and CCMD-specific data. This analysis examined the timelines for processing requirements documents within Air Force Requirements Oversight Council (AFROC), Army Requirements Oversight Council (AROC), and Special Operations Forces Capabilities

[37] *Knowledge Management and Decision Support* (KM/DS) is "the authoritative system for processing, coordinating, tasking, and archiving JCIDS documents, validation memorandums, and related data when classified at or below the level of SECRET" (CJCSI 5123.01I, 2021, p. A-9).

[38] The sample set included the following categories: CDD (63 records), CDD-U (9 records), ICD (69 records), IS-CDD (6 records), IS-ICD (4 records), and SW-ICD (4 records).

Integration and Development System (SOFCIDS) approval pathways, including comparisons with Joint Staff validation timelines for similar document types.[39] While this data provides a broader perspective on requirements validation timelines, its utility is limited by variations in document types, the scope of requirements, and the Service- and CCMD-specific authorities governing each pathway.

Structure of This Report

Following this introductory chapter, Chapter 2 provides a discussion of whether a Joint requirements process is necessary. Chapter 3 presents a series of trade-offs that any requirements system needs to consider along with how to frame the decision about requirements reform. Chapter 4 describes the prioritized revolutionary and evolutionary options that Congress and DoD should consider in requirements modernization and presents conclusions.

The report also contains a series of appendixes that provide more detail on various parts of the analysis. Appendix A provides detailed explanations on the JROC and JCIDS reform recommendations. Appendix B presents a history of DoD's requirements systems. Appendix C discusses other requirements processes in DoD at the Service and CCMD levels. Appendix D provides information and analysis on Adversaries' (China's and Russia's) and Allies' (Australia's and the United Kingdom's) defense requirements processes. Appendix E describes the AAF and how it aligns with the requirements system. Appendix F contains additional details on the literature review, while Appendix G presents methods on the stakeholder discussions and workshops. Finally, Appendix H presents the complete text of the FY24 NDAA Section 811 legislative language.

[39] This sample included 141 AFROC documents, 211 AROC documents, and 416 SOFCIDS documents, spanning CDDs, ICDs, CPDs, and other Service or CCMD-specific document types (e.g., Special Operations Rapid Requirement Documents [SORRDs] and Combat Mission Needs Statements [CMNSs]).

Chapter 2

IS A JOINT REQUIREMENTS PROCESS NECESSARY?

Key Points

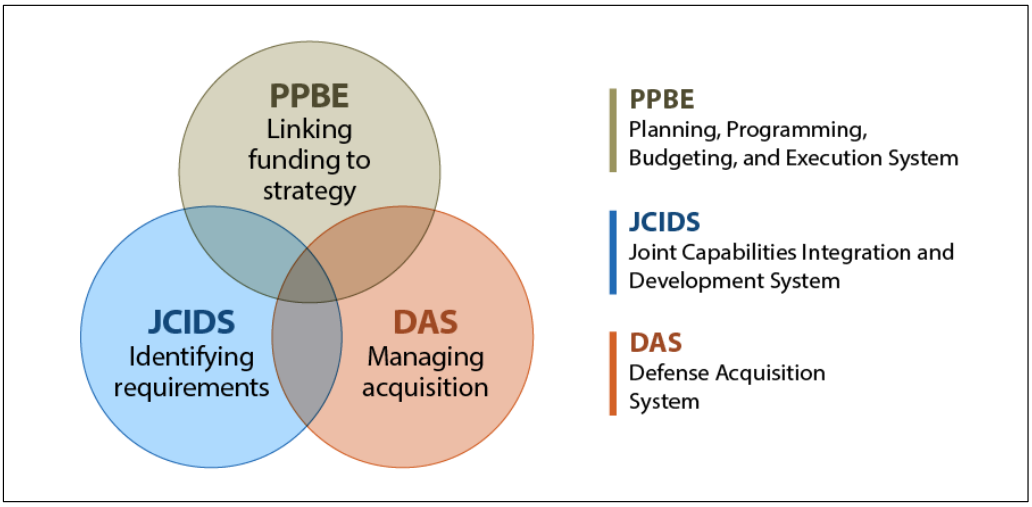
- There was a consensus among stakeholders—representing the Joint Staff, OSD, the military Services, the CCMDs, the IC, think tanks, academia, and industry—that a Joint requirements process is necessary but must be modernized to keep pace with advancing technology and evolving threats from U.S. adversaries.
- The current JCIDS process faces several strategic and process challenges that contribute to delays and discontinuities, including but not limited to excessive complexity, rigidity, lack of alignment, and poor execution.
- In order to accelerate capability delivery to the warfighter, holistic reform is needed across the Joint and Service requirements, acquisition, and budgeting processes.

The Joint requirements process (JCIDS) is one of the three DoD decision support systems, along with the Planning, Programming, Budgeting, and Execution (PPBE) System and the Defense Acquisition System (DAS). Requirements, PPBE, and acquisition represent the ends, ways, and means, respectively, of capability development and delivery for DoD. They are closely intermeshed (see Figure 2.1) but are not always aligned given that requirements are need driven, PPBE is calendar driven, and acquisition is event driven.

Figure 2.1

DoD Decision Support Systems

Figure 1. DOD Decision-Support Systems

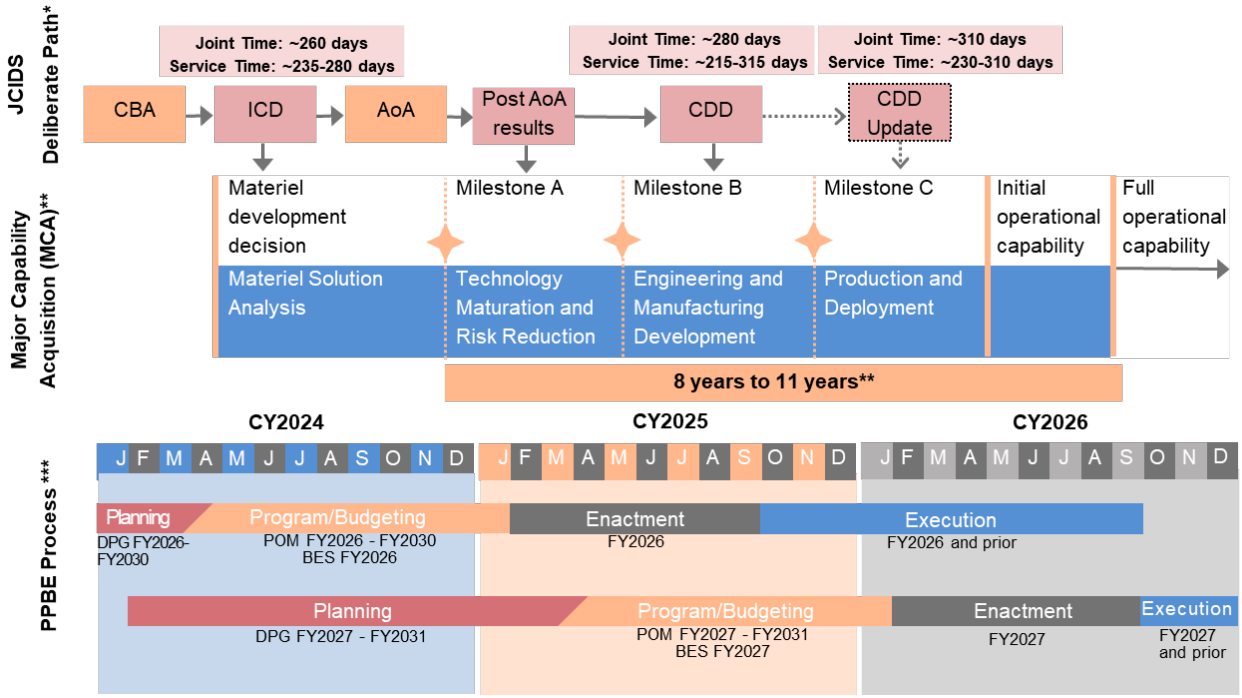


SOURCE: Adapted from Congressional Research Service, *DOD Planning, Programming, Budgeting, and Execution (PPBE): Overview and Selected Issues for Congress*, July 11, 2022.

Figure 2.2 provides a simplified illustration of how these three processes for major capabilities interact. There is significant complexity in measuring how long these various processes take for any given capability. The JCIDS Deliberate Path is estimated to take up to 24 months on average for Joint and Service-level staffing. Yet the acquisition lifecycle is much longer. Recent data in GAO's 2024 *Weapon Systems Annual Assessment* show that acquisition cycle time for major capabilities takes between eight and 11 years using MDAPs in the 2023 dataset. Finally, the DoD conducts its four-phase planning, programming, budgeting, and execution cycle across a period of 24–36 months.

Figure 2.2

DoD's Requirements, Acquisition, and Budgeting Systems for Major Capabilities



SOURCES:
JCIDS: Validated requirements documentation stored in KM/DS (Joint Staff) and Service-level documentation.
GAO, *Weapon Systems Annual Assessment: DOD Is Not Yet Well-Positioned to Field Systems with Speed*, GAO-24-106831, June 2024; Congressional Research Service, *DOD Planning, Programming, Budgeting, and Execution (PPBE): Overview and Selected Issues for Congress*, July 11, 2022.
NOTES:
JCIDS: * Average time to complete the JCIDS process across a sample of three document types (ICD, CDD, CDD update). Joint Time is calculated from gatekeeper acceptance to a signed Joint Requirements Oversight Council Memorandum (JROCM). Service Time is calculated from Service gatekeeper through requirements document approval. More information can be found in Tables 2.2–2.5. JCIDS process timeline data were calculated by the Joint Staff for this analysis using data stored in KM/DS and Service-level documentation for the three specific document types.
MCA: **Average cycle time (years) for MDAPs that have delivered capability from GAO's sample of MDAP programs from 2023. Acquisition timeline ("cycle time") data were collected and standardized by the GAO. GAO defines *cycle time* as "the number of months between program start and the planned or actual achievement of initial operational capability or an equivalent fielding date" (GAO, 2024, p. 218). The program start date may vary by starting milestone. Sample sets for the requirements documentation and acquisition documentation are not for the same set of programs.
PPBE: ***PPBE Process is simplified and timeline is notional (derived from Congressional Research Service, 2022, p. 12). CY is calendar year; FY is fiscal year. Execution as shown is based on appropriations available for one year.

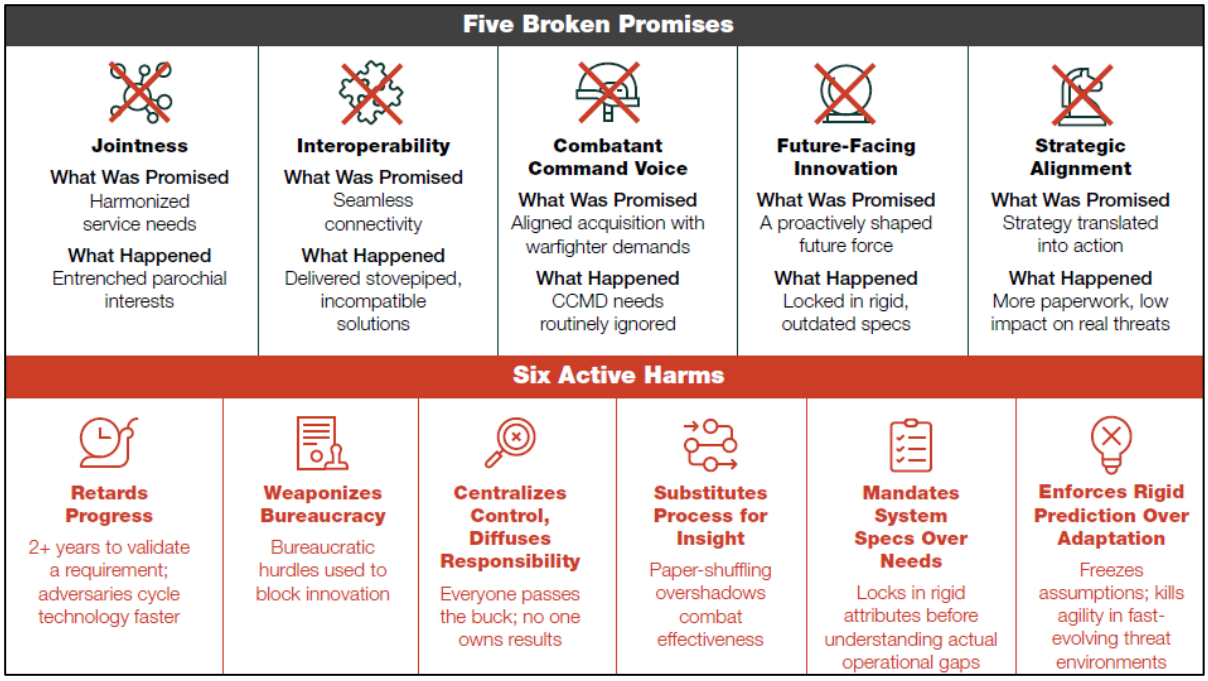
Within this system of systems, JCIDS is intended to be the process by which DoD defines capability gaps and requirements to be addressed by the acquisition and budget systems. The authority to execute JCIDS is derived from the Chairman of the Joint Chiefs of Staff's Title 10 responsibilities for Joint capability development, including identifying and performing military net assessments of new Joint military capabilities, advising the Secretary of Defense on alternative Joint military capabilities, as well as

numerous Joint Force development and global military integration activities.[40] The JROC's authorities are derived from the Chairman's authorities and executed through JCIDS.

But what was the original intent of JCIDS? And has it succeeded or failed in accomplishing this intent? A comprehensive answer to these questions can be found in Bill Greenwalt and Dan Patt's *Required to Fail: Beyond Documents: Accelerating Joint Advantage Through Direct Resourcing and Experimentation*.[41] The authors answer these questions by identifying the "Five Broken Promises" and "Six Active Harms" of JCIDS (see Figure 2.3).

Figure 2.3

JCIDS's Five Broken Promises and Six Active Harms



SOURCE: Reproduced from Greenwalt and Patt, 2025, p. 7.

Greenwalt and Patt identify five promises of JCIDS: (1) Jointness, (2) interoperability, (3) CCMD voice, (4) future-facing innovation, and (5) strategic alignment. While the authors assess that these promises have been "broken," the 811 Tiger Team asserts that they were nonetheless promised and remain important. As such, informed requirements reform must carefully consider these promises and propose solutions that will ensure that these promises are kept.

With regard to Jointness, Greenwalt and Patt argue that JCIDS was intended to harmonize Service needs but instead entrenched parochial interests. Readers can debate whether this broken promise is the result of the ineffectiveness of the JCIDS process, or a result of the JROC's limited authorities compared with

[40] 10 U.S.C. § 153.

[41] Bill Greenwalt and Dan Patt, *Required to Fail: Beyond Documents: Accelerating Joint Advantage Through Direct Resourcing and Experimentation*, Hudson Institute, February 2025.

the Services' Title 10 authorities to man, train, and equip. Regardless, most stakeholders agree that harmonizing Service capability development efforts while addressing the Joint Force's most pressing gaps is an important Joint function. Similarly, there is an important Joint role for promoting coordination and collaboration to ensure the alignment of capability development efforts, leveraging of best practices, and reduction of unintended duplication.

Greenwalt and Patt next argue that JCIDS was intended to promote interoperability, promising seamless connectivity but instead delivering incompatible stove-piped solutions. Again, there can be reasonable disagreement regarding which organization or what process is at fault for DoD's continued interoperability issues, but it is indisputable that Joint Force interoperability is essential and must be guaranteed by some sort of Joint oversight body or process. Otherwise, there will be no forcing function for the Services to develop Jointly compatible solutions with each other, let alone with Allies and Partners. Beyond digital interoperability, physical interoperability of Service capabilities must be guaranteed to ensure that, for example, Army vehicles can fit on Air Force planes or Navy ships. Delegating Jointness and interoperability functions to the Services will not be sufficient because the Services do not have the incentives or authorities to ensure this important promise is kept.

Then, Greenwalt and Patt argue that JCIDS was intended to promote the Combatant Commander's voice by aligning acquisition decisions with warfighter demands, whereas JCIDS in practice routinely ignores CCMD needs. Here again, the limited authorities of the JROC are important to note, as the JROC can prioritize and validate CCMD needs but cannot direct acquisition or budget decisions. Nonetheless, this is a critical function and a promise that the JROC/JCIDS cannot currently keep. Reformers must develop solutions to address the highest-priority warfighter needs while recognizing the separation of powers between the Services' mission to man, train, and equip; the CCMD's role to campaign and conduct operations; and the Joint Staff's role to advise and coordinate.

Lastly, Greenwalt and Patt argue that JCIDS promised future-facing innovation, proactively shaping the future force, and strategic alignment, translating strategy into action. However, they argue that JCIDS locks in rigid, outdated specifications and has little impact on strategic threats. Taken together, the Joint Staff would call these promises *future Joint Force Design*—deriving top-down requirements from strategy and future concepts, as well as introducing innovative capabilities based on emerging capability development—and agree that this is a critical function that must be improved.

Although there is reasonable disagreement regarding whether the JROC/JCIDS has succeeded or failed in accomplishing these promises, the 811 Tiger Team argues that these promises remain true today and that reformers have a generational opportunity to finally ensure that they are kept.

Moving beyond the "why" to the "how," Greenwalt and Patt identify six active harms of JCIDS: It slows progress, weaponizes bureaucracy, centralizes control while diffusing responsibility, substitutes process for insight, mandates system specifications over needs, and enforces rigid prediction over adaptation. The effectiveness and efficiency of JCIDS have been the subject of extensive debate among policymakers, practitioners, researchers, and legislators. Critics of the JCIDS process tend to argue that it is overly bureaucratic and inflexible, is slow to adapt to emerging threats, inadequately accommodates commercial innovation, struggles with information management and knowledge transfer, and is dominated by

Service-specific priorities.[42] The 811 Tiger Team found ample evidence that these criticisms are valid and must be addressed.

Proponents acknowledge the need for reform but tend to emphasize the strategic and analytic value of JCIDS, highlighting its support for Joint capability development, its institutionalization of cross-Service coordination, and its ability to evolve over time. Proponents also focus on the role of JCIDS in facilitating Joint Force development by identifying requirements and dependencies of capabilities across the Joint Force as well as ensuring appropriate levels of coordination and integration.

The remainder of this chapter offers stakeholder observations regarding perceived strengths and weaknesses of the current instantiation of the JCIDS process, including an analysis of JCIDS validation timelines for requirements documents and industry survey results.

Stakeholder Observations on JCIDS Successes and Struggles

JCIDS was introduced in 2003 and is updated by the Joint Staff every two to three years to ensure that DoD effectively addresses its strategic objectives in employing the process. A starting point to assess the strengths and weaknesses of JCIDS is to examine its purpose first (i.e., is JCIDS designed to address the right objectives?) before evaluating its performance (i.e., does JCIDS implement processes effectively to pursue its objectives?).

This section synthesizes key insights from stakeholder interviews and a literature review focusing on strengths and weaknesses of the JCIDS process (see Table 2.1).[43] For details about the method used to identify and review literature, please refer to Appendix F. For details about the method used to gather and analyze stakeholder perspectives, please refer to Appendix G.

Table 2.1

Stakeholder Observations on JCIDS Successes and Struggles

	Observation	Description
Successes	• Centered on the need for strategic Joint capability development	• Process allows JROC to fulfill its statutory responsibilities to the CJCS by using a capabilities-based approach that generates Joint requirements and prepares for a wide variety of scenarios
	• Provides a structured analytical framework to systematically assess Joint capability needs and gaps	• Ensures new capabilities developed with Joint operations in mind, improves force integration and interoperability, and reduces unnecessary duplication of effort – particularly valuable for managing requirements for large-scale integrated capabilities and systems of systems
	• Facilitates stakeholder engagement through institutionalized collection of	• Provides an avenue to integrate feedback from CCMDs and a structure in which inconsistencies between Service-specific

[42] See, for example, Greenwalt and Patt, 2025.

[43] Citations presented are selected to highlight recurring or otherwise notable perspectives, and their frequency should not be interpreted as indicating a representative pattern.

	Observation	Description
	perspectives from a range of DoD entities	priorities and Joint warfighting needs can be adjudicated and resolved
	• Reduces technological and operational risk	• Review and validation of requirements ensures new initiatives are technologically feasible, aligned with operational needs, and can be successfully integrated into the Joint Force
	• Expedites fielding of urgent capabilities through process variants	• Process associated with JUONs and JEONs can expeditiously provide CCMDs with qualified Joint capabilities
Struggles	• Lengthy, complex process that creates unnecessary delays and rigidities	• Development timelines cannot keep pace with evolving threat environments and emerging technologies – results in inflexible requirements that cannot easily accommodate changing operational needs or novel solutions.
	• Current process documentation and digital tools create challenges for knowledge management and knowledge transfer	• Complexity of process documentation creates knowledge transfer challenge; KM/DS is not capable of providing adequate knowledge management of JCIDS documents
	• Produces requirements that can be difficult to implement and evaluate	• Requirements can be overly prescriptive or insufficiently defined – difficult to update or refine as concepts or technology evolves
	• Cannot resolve tensions between Service-specific priorities and Joint requirements	• Outcomes tend to reinforce Service-specific programs at the expense of Joint priorities and more immediate needs of CCMDs.
	• Does not fully capitalize on commercial innovation opportunities	• Poor mechanisms for engagement and collaboration with industry partners
	• Unclear role for defense innovation ecosystem in JCIDS process	• JCIDS does not capitalize on potential for DoD innovation organizations to increase the speed of prototyping, acquisition, and delivery of technology to the warfighter
	• Misaligned with resourcing and acquisition processes	• JCIDS does not have sufficient interfaces with PPBE and DAS processes – misalignments create inefficiencies and delays in delivering capabilities

Strengths of the JCIDS Process Identified by Stakeholders

JCIDS Is Founded on the Need for Strategic Capability Development

JCIDS was created to enable the JROC to fulfill its statutory responsibilities to the CJCS, including "assessing Joint military capabilities, and identifying, approving, and prioritizing gaps in these capabilities, to meet applicable requirements in the National Defense Strategy."[44] JCIDS is also intended

[44] Joint Chiefs of Staff, 2021, p. 1.

"to facilitate timely and cost-effective development of capability solutions to the warfighter,"[45] providing "the baseline for documentation, review, and validation of capability requirements across the Department."[46] It aims to infuse capability development with a holistic perspective, facilitating interoperability and integration while guiding AAF pathways and informing PPBE processes.[47]

As described in Chapter 1, the focus of JCIDS on Joint capabilities emerged from the need to adapt to a changing geostrategic environment. This approach resulted in a transition from the Service-centric RGS and a threat-based approach—which concentrated on specific adversaries—to a capabilities-based approach intended to generate "true Joint requirements" and prepare for a wide variety of scenarios.[48]

JCIDS Offers Unique Analytic Value to Address Joint Capability Needs

The increased emphasis toward Joint capability development also presented the opportunity to develop a structured analytical framework intended to help systematically assess Joint capability needs and gaps.[49] This assessment ensures that new capabilities are developed with Joint operations in mind, improving force integration and interoperability while reducing unnecessary duplication of effort. Observers and experts highlight this analytic foundation as a key evolving strength and opportunity of JCIDS.[50]

The analytic foundation embedded in JCIDS is particularly valuable for managing requirements associated with large-scale, integrated capabilities and systems of systems. It offers tools and processes to coordinate long-term investments, prevent fragmented development efforts, and promote interoperability and efficiency across the military Services. In addition, it can help ensure that capability development aligns with broader Joint Force objectives.[51]

JCIDS also supports decision makers by providing a structured process to identify and prioritize capability gaps. This analytical rigor can help ensure that scarce resources are directed toward the most-critical needs while supporting alignment between the requirements development, PPBE, and acquisition processes. By grounding requirements development in systematic assessments, JCIDS can enable

[45] Joint Chiefs of Staff, 2021, p. 1.

[46] CJCSI 5123.01I, p. D-1.

[47] Joint Chiefs of Staff, 2021, p. 1; CJCSI 5123.01I, p. D-1.

[48] Joint Defense Capabilities Study Team, 2004; Susanna V. Blume and Molly Parrish, *Make Good Choices, DoD: Optimizing Core Decisionmaking Processes for Great-Power Competition*, Center for a New American Security, November 2019, p. 8.

[49] Joint Defense Capabilities Study Team, 2004.

[50] Commission on Planning, Programming, Budgeting, and Execution (PPBE) Reform, *Final Report: Defense Resourcing for the Future*, March 2024; Mo Mansouri, Michael McGrath, Donald Schlomer, Dinesh Verma, and Philip S. Antón, *Joint Capabilities Integration and Development System (JCIDS)*, Stevens Institute of Technology, September 2022; Blume and Parrish, 2019; GAO, *Best Practices: An Integrated Portfolio Management Approach to Weapon System Investments Could Improve DOD's Acquisition Outcomes*, GAO-07-388, March 30, 2007; GAO, *Defense Acquisitions: DOD's Requirements Determination Process Has Not Been Effective in Prioritizing Joint Capabilities*, GAO-08-1060, September 25, 2008; GAO, *Defense Management: Guidance and Progress Measures Are Needed to Realize Benefits from Changes in DOD's Joint Requirements Process*, GAO-12-339, February 24, 2012.

[51] GAO, 2007; GAO, 2008; GAO, 2012.

stakeholders to make informed decisions that balance operational priorities, technological feasibility, and fiscal constraints.[52]

JCIDS Processes Can Facilitate Stakeholder Engagement and Reduce Risk

One identified strength of the JCIDS process is that it institutionalizes the collection of input from a range of defense entities to improve requirements development. JCIDS provides an avenue to integrate feedback from CCMDs and a structure in which tensions or inconsistencies between Service-specific priorities and Joint warfighting needs can be investigated for adjudication and resolution.[53]

Another identified strength of JCIDS is its potential to reduce technological and operational risks. By subjecting capability proposals to multiple layers of review and JROC validation, JCIDS aims to ensure that new defense initiatives are technologically feasible, are aligned with operational needs, and able to be successfully integrated into the Joint Force. For example, GAO discusses how this review process can help identify potential risks early in the development cycle, reducing the likelihood of costly failures in later acquisition phases.[54]

The critical need to ensure that program architectures are sustainable for the Joint enterprise was undisputed across the interviews. Most stakeholders expressed that the JROC is generally effective in serving this function.[55] Furthermore, when asked to conceive of an alternative requirements process, many stakeholders emphasized that the current JCIDS process has been successful in mandating the involvement of relevant organizations and that any new governing process should maintain the convening authority of the JROC.[56]

JCIDS Has Been Able to Incorporate Flexibilities to Expedite Processes

One of the strengths of the JCIDS process highlighted by numerous experts is its ability to expedite the fielding of certain capabilities through the process for Joint Urgent Operational Needs (JUONs) and Joint Emergent Operational Needs (JEONs). These flexibilities enable the CCMDs to bypass some of the more time-consuming aspects of the JCIDS process to expeditiously provide CCMDs with qualified Joint capabilities. For example, some experts highlight how JUONs and JEONs have increased responsiveness to emergent warfighting needs, particularly during the conflicts in Iraq and Afghanistan, where warfighters needed expedited solutions for emerging threats, such as improvised explosive devices.[57]

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[52] Advisory Panel on Streamlining and Codifying Acquisition Regulations (Section 809 Panel), *Report of the Advisory Panel on Streamlining and Codifying Acquisition Regulations*, Vol. 3, January 2019; Blume and Parrish, 2019; Pete Modigliani, Dan Ward, Tyler Lewis, and Wayne McGee, *Modernizing DOD Requirements: Enabling Speed, Agility, and Innovation*, MITRE Corporation, March 2020.

[53] Irv Blickstein and Charles Nemfakos, "Improving Acquisition Outcomes: Organizational and Management Issues," in John Birkler, Mark V. Arena, Irv Blickstein, Jeffrey A. Drezner, Susan M. Gates, Meilinda Huang, Robert Murphy, Charles Nemfakos, and Susan K. Woodward, *From Marginal Adjustments to Meaningful Change: Rethinking Weapon System Acquisition*, RAND Corporation, MG-1020-OSD, 2010; GAO, 2007; GAO, 2008.

[54] GAO, 2007.

[55] JCIDS stakeholders, interviews with RAND researchers, April 7, 2025.

[56] JCIDS stakeholders, interviews with RAND researchers, February 26, 2025.

[57] Greenwalt and Patt, 2025.

Beyond the JUON and JEON processes, JCIDS has created a number of tailored processes for software development, including the Software ICD (SW-ICD), Information Systems ICD (IS-ICD), and Information Systems CDD (IS-CDD), to account for the agile and iterative development of software. The Joint Staff Gatekeeper is also given significant flexibility to waive documents (e.g., waiving an ICD prior to a CDD, tripwire waivers), as well as KPP certifications and endorsements.

Stakeholders highlighted the AAF MTA and software acquisition pathways—which both have statutory JCIDS exemptions—as adequate alternatives for capabilities that are ill suited to the traditional JCIDS process. Specifically, the MTA pathway "is useful for contractors to move smaller-system requirements through" and "explore a prototype capability and get it to a fielding solution."[58] For special operations and cyber operations capabilities, the JROC has delegated validation authority to SOCOM and CYBERCOM respectively. Between the different pathway options, some stakeholders expressed that the DoD requirements process is holistically effective in fielding capabilities.

Weaknesses of the JCIDS Process Identified by Stakeholders

The JCIDS Process Is Lengthy, Involving Unnecessary Delays and Rigidities

Some have critiqued the JCIDS process by contending that it has excessively lengthy requirements validation timelines that make it difficult to keep pace with evolving threat environments and emerging technologies. For example, GAO noted that, while some aspects of delays are beyond the Joint Staff's control, JCIDS timelines often exceed the 103-day guidance, which can result in outdated or less effective technologies reaching warfighters.[59] Other experts contend that by the time a capability is fully developed and approved, adversaries may have already developed strategies that would render the new capability unnecessary or at least reduced its strategic value.[60] However, capability development occurs across multiple parallel processes, including requirements generation, budgeting, and acquisition. Although JCIDS timelines may contribute to cumulative delays in fielding a system, they are one component of a larger system.

That said, among the challenges highlighted by stakeholders during interviews, "lack of speed" vastly outnumbered the others. Many stakeholders pointed to the length of the JCIDS Manual as one contributor to delays. The 400-page manual, in addition to other Joint Staff guidance on JCIDS, was described as "enormous," "convoluted," "overly prescriptive," "confusing," and "not intuitive."[61] Others highlighted the number of specifications for JCIDS documents, the layers of review by a large quantity of stakeholders, and prolonged timelines for document staffing as further process inhibitors.[62] Stakeholders

[58] JCIDS stakeholders, interviews with RAND researchers, March 11, 2025; JCIDS stakeholders, interviews with RAND researchers, November 17, 2024.

[59] GAO, *Weapon System Requirements: Joint Staff Lacks Reliable Data on the Effectiveness of Its Revised Joint Approval Process*, GAO-22-104432, October 21, 2021.

[60] Greenwalt and Patt, 2025.

[61] JCIDS stakeholders, interviews with RAND researchers, September 18 and 24 and October 21 and 29, 2024.

[62] JCIDS stakeholders, interview with RAND researchers, March 25, 2025.

with this perspective expressed that JCIDS was at times more focused on process accountability and procedure than on "rapid effect."[63]

A related critique some offer is that overly complex documentation and approval processes delay capability deployment. Some analysts describe JCIDS as overly reliant on voluminous requirements documentation and excessive layers of review and approval, which can slow decision making.[64] Experts have also commented that JCIDS is too document driven.[65] Others suggest that the organizational and human factors layered onto an otherwise "logical process" can lead to unintended behaviors that often cause delays.[66]

Analysts and experts also note general delays and rigidity associated with time-consuming processes and organizational dynamics. While JCIDS aims to ensure a thorough vetting process, the balance between rigor and speed often is weighted toward rigor, even for relatively low-risk or rapidly evolving technologies.[67] GAO reports that the process can become bogged down with inter-Service negotiations and Joint Staff reviews, leading to protracted decision timelines.[68] Some policy experts contend that JCIDS's rigidity stifles adaptation and limits DoD's ability to meet the evolving needs of warfighters.[69] The structured, step-by-step nature of JCIDS means that by the time a capability requirement is fully defined, reviewed, and validated, the operational context may have shifted, rendering the requirement less relevant or outdated. Other observers add that the fast pace at which near-peer adversaries are advancing capabilities requires greater urgency on the part of JCIDS and the entire acquisition system.[70]

JCIDS Requirements Documentation Timeline Analysis

The Joint Staff used a sample of 150+ Knowledge Management/Decision Support (KM/DS) data packages to better understand how long it takes for requirements documents to move through JCIDS, focusing on the elapsed time from document submission to the issuance of a signed JROCM. This exercise provided insights into the most time-consuming steps in the JCIDS process and highlighted areas in which timelines exceed nominal expectations.

According to the data sample,[71] average approval timelines for JCIDS documents significantly exceed nominal process timeline expectations for each stage of the process established in the JCIDS Manual.[72] Table 2.2 presents the average and nominal time to complete the JCIDS process, from gatekeeper

[63] JCIDS stakeholders, interview with RAND researchers, January 15, 2025.

[64] Greenwalt and Patt, 2025.

[65] Matt MacGregor, "Modernizing Defense Requirements for the 21st Century," *Defense Tech and Acquisition*, June 5, 2024; Schlomer, 2017c; Miller, 2017.

[66] Mansouri et al., 2022, p. 5.

[67] Advisory Panel on Streamlining and Codifying Acquisition Regulations (Section 809 Panel), 2019.

[68] GAO, 2021.

[69] Greenwalt and Patt, 2025.

[70] Blume and Parrish, 2019.

[71] See Chapter 1 for more information about this data sample and its limitations.

[72] Joint Chiefs of Staff, 2021.

acceptance to a signed JROCM.[73] While elapsed time varies across document types, all exceed nominal expectations.

Table 2.2

Number of Days Elapsed from Gatekeeper Acceptance to JROCM Signed (Average and Nominal)

Average Days per Document Type						Nominal Days		
CDD	CDD-U	ICD	IS-CDD	IS-ICD	SW-ICD	CDD or IS-CDD	ICD	SW-ICD
283	308	262	336	311	179	103	67	40

NOTE: CDD-U = CDD Update.

Table 2.3 summarizes the average and nominal timelines for six document types across key stages of the JCIDS process. For example, sponsor adjudication took an average of 99 days for sampled CDDs and 131 days for IS-CDDs, compared with a 30-day nominal expectation.

Table 2.3

Number of Days Elapsed by Stage and Document Type (Average and Nominal)

	Average Days per Document Type						Nominal Days		
Stage	CDD	CDD-U	ICD	IS-CDD	IS-ICD	SW-ICD	CDD or IS-CDD	ICD or IS-ICD	SW-ICD
Sponsor submission	40	20	29	46	0	26	N/A	N/A	N/A
Gatekeeper	4	4	6	8	3	5	10	4	2
Commenting	23	23	22	19	27	19	21	14	10
Sponsor adjudication	99	62	65	131	150	30	30	21	10
FCB	120	147	113	141	107	84	14	14	10
Validation	37	72	56	37	24	41	28	14	8

NOTE: CDD-U = CDD Update.

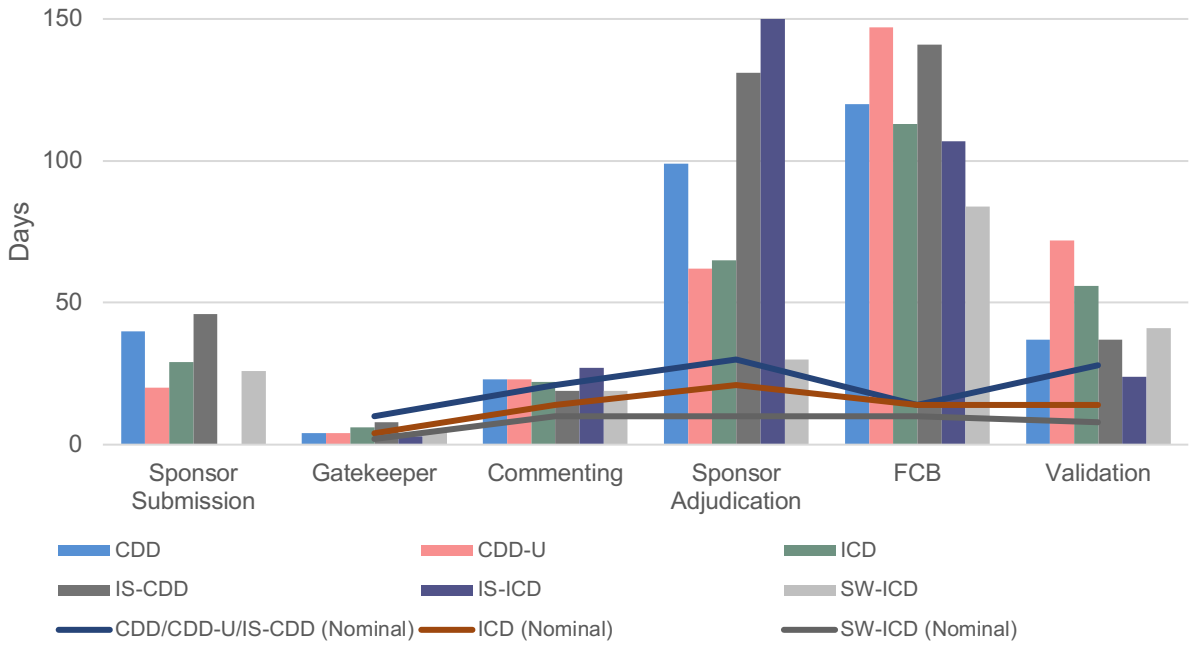
Figure 2.4 visualizes these findings by comparing average timelines with nominal expectations across the key stages of the JCIDS process. Each clustered column group represents the average number of days spent on the stage for different document types, with points indicating nominal expectations for CDDs, ICDs, and their variants.

The figure illustrates several patterns. Average timelines exceed nominal expectations in nearly every stage and document type, but delays tend to concentrate in specific stages. Sponsor adjudication and FCB review are generally the most time-consuming stages and consistently take significantly longer than allocated.

[73] These figures equal the sum of average days elapsed at each stage listed in Table 2.3, excluding sponsor submission.

Figure 2.4

Average Number of Days Elapsed by Document Type and Stage



Drawing on the above information, the Joint Staff sent a survey to the requirements stakeholder community to identify the specific pain points within the two rate-determining steps of the JCIDS process: Sponsor Adjudication and FCB Staffing. For the *Sponsor Adjudication* stage, stakeholders noted the following challenges:

- **Adjudicating Comments:** Sometimes a single individual or a small team on a Service or CCMD staff is responsible for adjudicating and incorporating hundreds of stakeholder comments in a JCIDS document. Given the consensus-based nature of the JROC, sponsors are effectively required to address as many issues as possible, which introduces significant delays.
- **Consensus:** The desire for concurrence and consensus from all members before briefing the JCB and JROC, especially in regard to critical comments, introduces delays and incentivizes sponsors to update documents to water down recommendations to the least common denominator. Additionally, multiple levels of document reviews and comment adjudication can result in additive elements to documents for sponsors to appease well-intended yet single-minded SMEs and to avoid critical non-concurrences.
- **External Coordination:** Document sponsors are not always subject-matter experts (SMEs) on all elements of a new capability or requirements document. After receiving stakeholder comments, sponsors may need to coordinate across various organizations within the Service or CCMD to receive answers to the stakeholder comments. Sponsors may also need to engage with commenters for clarification or to adjudicate issues, both of which take time to complete.
- **Service Staffing Processes:** For Services that conduct "parallel" staffing processes, sponsors might pull a document back or hold onto a document until the appropriate level of Service approval is received, causing it to languish in limbo within JCIDS. For Services that conduct

staffing in "series," delays may still occur if the sponsor requires four-star approval post–comment adjudication.

Stakeholders surveyed identified the following challenges during the *FCB Staffing* stage:

- **Certifications and Endorsements:** All mandatory KPPs and KSAs, as well as other factors such as DOTmLPF-P, Intelligence Certification,[74] and Weapons Safety Assurance, require certifications and endorsements by the Joint Staff. If sponsors are not aware of or do not initiate these processes beforehand, securing all the necessary certifications and endorsements will be required during the FCB Staffing stage and will delay document progress.
- **FCB Feedback or Changes:** After the stakeholder commenting period, FCBs provide additional comments or changes to document sponsors, which take time to implement. Depending on the changes, documents may need to be restaffed by the sponsor.
- **Scheduling:** FCB scheduling availability has been identified as a potential issue, especially when multiple working groups or FCBs are held or FCB member availability is limited.

While the data do not account for differences in program complexity or the inherent value of each of these stages, the concentrated delays portrayed in Figure 2.4 may be useful areas in which to target improvements. This analysis also underscores the need for more-robust metrics to evaluate performance across document types and stages. For example, the small sample sizes for IS-ICDs and SW-ICDs limit the ability to draw definitive conclusions about broader trends. Additionally, improving data collection practices could help identify underlying causes of delays and better inform efforts to accelerate requirements documentation.

It should be noted that the above analysis (shown in Tables 2.2 and 2.3 and Figure 2.4) only accounts for staffing timelines once a requirements document is submitted to the Joint Staff Gatekeeper. Prior to submission to the Joint Staff Gatekeeper, the Services and CCMDs must both (1) generate the requirements document and (2) staff the document through the Service and CCMD requirements process (e.g., ACIDS/AROC). Tracking document generation timelines is challenging, and perhaps even impossible, given that there is no clear starting point for the requirements generation process. However, it is possible to track the Service and CCMD-specific validation timelines, from submission to Service requirements gatekeepers through approval of a requirements document. To that end, the Joint Staff analyzed data from the Air Force, Army, and SOCOM on their staffing timelines and compared this information with Joint Staff staffing timelines for similar documents. The results are shown in Tables 2.4 and 2.5 and Figures 2.5 and 2.6.[75]

[74] Intelligence Certification includes Threat Approval and Intelligence Supportability

[75] These data are based on the following sample sizes: 141 AFROC documents, including 31 CDDs, 12 ICDs, 15 CPDs, 34 MTAs, 11 SRDs, and 38 AF Form 1067s; 211 AROC documents, including 57 CDDs, 139 CPDs, and 15 ICDs; and 416 SOFCIDS documents, including 84 CDDs, 18 ICDs, 59 CPDs, 139 DCRs, 28 SORRDs, and 88 CMNSs.

Table 2.4

Average Number of Days Elapsed by Service, CCMD, or Joint Staff and Approval Pathway

	CDD	ICD	CPD
Air Force	216	281	231
Army	314	234	308
Joint Staff	340	303	257
SOCOM	154	157	156

Figure 2.5

Average Number of Days Elapsed by Service, CCMD, or Joint Staff and Approval Pathway

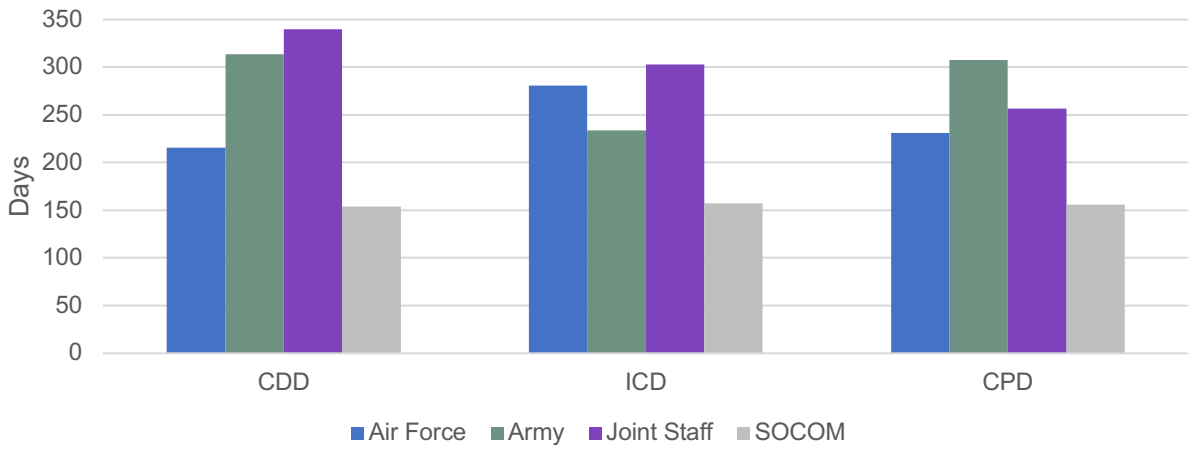


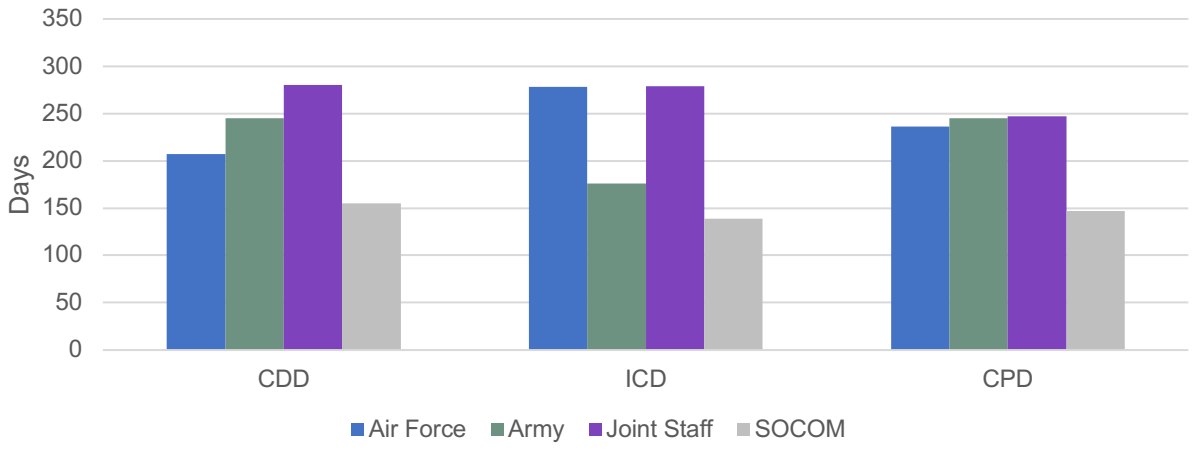
Table 2.5

Median Number of Days Elapsed by Service, CCMD, or Joint Staff and Approval Pathway

	CDD	ICD	CPD
Air Force	207	278	236
Army	245	176	245
Joint Staff	280	279	247
SOCOM	155	139	147

Figure 2.6

Median Number of Days Elapsed by Service, CCMD, or Joint Staff and Approval Pathway



According to the above analysis, the Joint Staff validation timeline consistently exceeds Service validation timelines for ICDs, CDDs, and CPDs[76] and accounts for over half of the total requirements validation timeline. As a result, improvements to the Joint Staff timelines, up to and including removing Joint Staff review, could cut total requirements staffing timelines in half, but Service-specific approval would still take six to nine months (not including document generation time). Therefore, the Service requirements processes and timelines merit further study and reform.

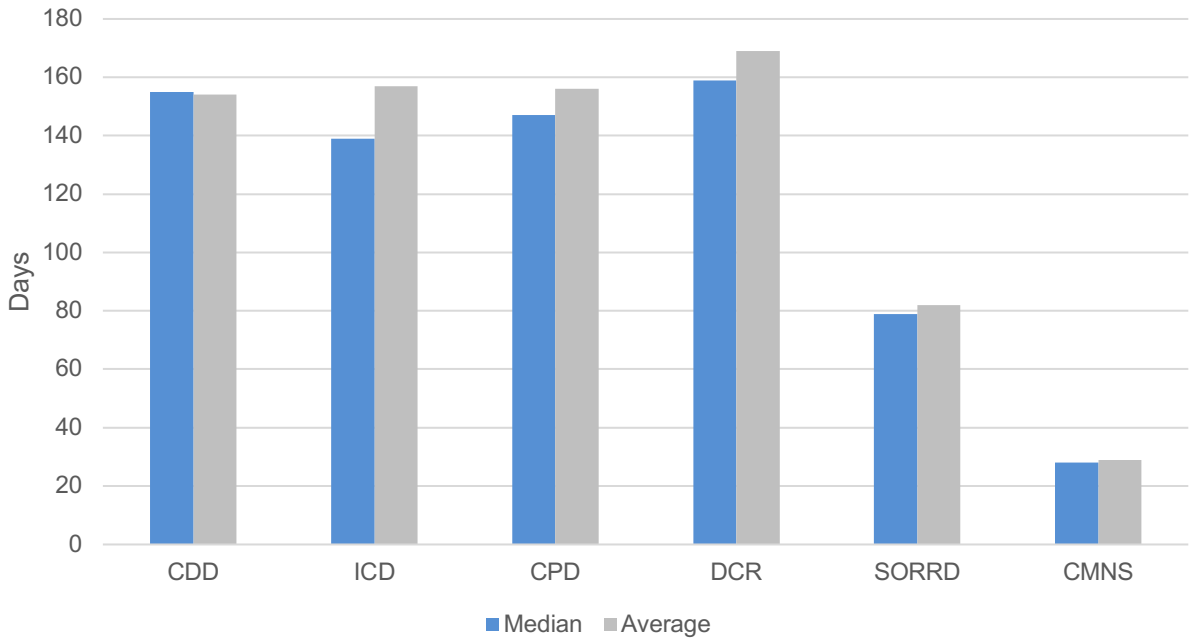
Another insight from the Service and CCMD timeline deep dive is that SOCOM's SOFCIDS process is consistently more efficient than the Joint Staff and Service process timelines; ICDs and CDDs take 140–160 days and 150 days on average, respectively. As seen in Figure 2.7, the SOCOM-specific documents (e.g., SORRD and CMNS) are validated on even faster timelines, approximately 30–80 days.

There are many reasons SOCOM can more rapidly validate requirements documents, including the JROC-delegated authority to validate and manage all special operations–peculiar (SO-P) capability requirement documents, fewer external stakeholders, and the types of capabilities (i.e., smaller, less technologically complex, SOF-specific modifications of Service platforms) that are being proposed and evaluated. Nonetheless, there are likely many best practices from SOCOM, including simplifying documents, reducing the number of approval boards, and diffusing control while centralizing decision making, that can be applied to the Joint requirements process.

[76] Changed to CDD Updates in the 2018 JCIDS manual.

Figure 2.7

Number of Days Elapsed from Start Date to End Date (SOCOM's SOFCIDS)



The JCIDS Process Faces Knowledge Management and Knowledge Transfer Challenges

In addition to the complexity of the JCIDS Manual and documentation,[77] many stakeholders pointed to the KM/DS tool as further evidence of poor knowledge management. One interviewee noted that the present document-based knowledge management system does not enable program offices to easily understand what capabilities and requirements exist without sifting through each document.[78] Stakeholders also reported a loss of visibility over their own documents, noting that once a document enters KM/DS for staffing, they can lose sight of it and have to contact partners in the building to track it down.[79]

Turnover among staff in requirements roles further exacerbates challenges with knowledge transfer. Discussion and oversight forums, such as the FCBs or JCBs, also experience turnover and inflow of military representatives without familiarity or experience with the JCIDS process.[80] The high rate of turnover poses challenges for new personnel to quickly become proficient with the lengthy JCIDS Manual. Some stakeholders advocated for some form of professionalization of the requirements field and argued that "in order to get real depth in understanding how things work, you need a big team of people doing this job for a long time."[81]

[77] JCIDS stakeholders, interview with RAND researchers, March 24, 2025.
[78] JCIDS stakeholders, interviews with RAND researchers, March 17, 2025.
[79] JCIDS stakeholder, interview with RAND researchers, October 31, 2024.
[80] JCIDS stakeholder, interview with RAND researchers, October 25, 2024.
[81] JCIDS stakeholder, interview with RAND researchers, October 3, 2024.

JCIDS Produces Requirements That Can Be Difficult to Implement and Evaluate

Observers identified conflicting challenges with the precision and accuracy of requirements documentation. According to stakeholder perspectives, Joint requirements are often either overly prescriptive or insufficiently defined. Overly prescriptive requirements can constrain the design process, leaving little room for innovation or adjustments based on new technological insights or stakeholder feedback.[82] Conversely, vague or insufficiently defined requirements create ambiguity that can result in cost overruns and schedule delays during later phases of development.[83] Furthermore, once established, requirements can be difficult to update or refine as technology evolves, which can erode their relevance over time.[84] At the same time, changes to requirements can create challenges for industry.[85]

Expert perspectives identify issues with the quality of information provided by capability sponsors in requirements documentation. GAO highlights that inconsistent documentation practices and a lack of standardized metrics across Services hinder effective evaluation and oversight of capability portfolios.[86] These inconsistencies make it difficult for Joint decision makers to compare different programs on a level playing field and to prioritize capabilities effectively. They can also prolong the JCIDS process by requiring Joint staff to coordinate further with capability sponsors to address missing or ambiguous information.

JCIDS Outcomes Tend to Reinforce Service-Specific Priorities

Although JCIDS is intended to foster a Joint approach, experts indicate that Service-specific priorities tend to dominate the decision making process. In 2012, GAO found that individual Services assert their own requirements and priorities within the JCIDS process, "with little involvement from the Joint community," reinforcing long-standing institutional practices in which each branch seeks to protect its own programs and funding, even when those programs do not align with broader Joint objectives.[87] These Service-driven priorities, often focused on the long term, frequently crowd out the more immediate needs of CCMDs. As a result, although JCIDS is designed to provide a Joint perspective, it has struggled to prioritize Joint capabilities in the face of established or otherwise well-resourced Service agendas.[88] Inter-Service rivalries further hinder the development of truly integrated solutions. Competition between Services can lead to fragmented capability development efforts, making it more difficult to implement interoperable systems and coordinated strategies.[89]

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[82] Defense Science Board, *Buying Commercial: Gaining the Cost/Schedule Benefits for Defense Systems*, February 2009.

[83] U.S. Government Accountability Office, *Defense Acquisition Process: Military Service Chiefs' Concerns Reflect Need to Better Define Requirements Before Programs Start*, GAO-15-469, June 11, 2015.

[84] Defense Science Board, 2009; Modigliani et al., 2020.

[85] This observation is supported by survey data in the report; however, the report does not elaborate on specific reasons for these challenges. See Jennifer Stewart, Chris Sax, Michael Seeds, Lorenzo Williams, Jack Little, Anthony Borda, Alec Friend, and Riley Van Steenburg, *Vital Signs: The Health and Readiness of the Defense Industrial Base*, National Defense Industrial Association, February 2025.

[86] GAO, 2012; GAO, 2021.

[87] GAO, 2008, p. 6.

[88] Commission on Planning, Programming, Budgeting, and Execution (PPBE) Reform, 2024; GAO, 2008.

[89] Defense Business Board, *Capability Requirements Identification and Development Processes Review*, October 2008; Defense Science Board, *Enabling Joint Force Capabilities*, August 2003; GAO, 2007.

Many stakeholders emphasized that CCMD demand signals should drive more decisions in the process than they currently do. Despite being the "customers" of the JCIDS process, CCMDs expressed that they found themselves with limited influence in the JROC process, primarily serving as observers rather than decision makers.

While the CCMDs drive the demand signal for short-term requirements, the Services direct resources and are tasked with projecting longer-term capability needs.[90] CCMDs are tasked with expressing their needs through multiple avenues, such as Capability Gap Assessments (CGAs), Integrated Priority Lists (IPLs), issue nominations, and JEONs/JUONs. However, as Services fund capabilities, CCMD priorities can, at times, go without funding. One CCMD described this process as a "labor-intensive lottery ticket."[91] This misalignment between priorities and resources can lead to dissatisfaction with the final product delivered through JCIDS for CCMDs.[92]

JCIDS Does Not Fully Capitalize on Commercial Innovation

Policy experts suggest that the JCIDS process is not well suited to rapidly adopting commercial technology. Observers have contended that the problem is twofold. First, JCIDS's limited engagement with external experts impedes the seamless adoption of externally developed technologies.[93] Second, the JCIDS process awkwardly attempts to reverse-engineer requirements to integrate technologies developed outside the defense ecosystem. Others argue that rigid JCIDS processes and requirements are at odds with leading commercial practices, such as iterative design, rapid prototyping, and agile development.[94] Relatedly, the use of specialized military standards, rather than widely accepted industry standards, can make it more difficult to incorporate commercial innovations.[95]

During interviews, industry representatives highlighted challenges they faced when interfacing with the JCIDS process. Some representatives highlighted the overly prescriptive nature of requirements, noting that when a contractor is constrained to a requirement and its associated discrete elements, opportunities for innovation are restricted.[96] Industry stakeholders typically expressed that requirements may not be the best solution for what the warfighter needs, and the opportunity to build, iterate, prototype, and assess feedback would incentivize innovation.

The National Defense Industrial Association (NDIA) surveyed more than 1,200 industry and government leaders and highlighted some of the most pressing issues facing the defense industrial base in their February 2025 report, *Vital Signs: The Health and Readiness of the Defense Industrial Base*.[97]

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[90] JCIDS stakeholders, interview with RAND researchers, November 22, 2024.

[91] JCIDS stakeholders, interview with RAND researchers, November 22, 2024.

[92] JCIDS stakeholders, interview with RAND researchers, November 22, 2024.

[93] Blume and Parrish, 2019.

[94] Greenwalt and Patt, 2025; Mansouri et al., 2022, p. 5; Modigliani et al., 2020.

[95] Defense Science Board, 2009.

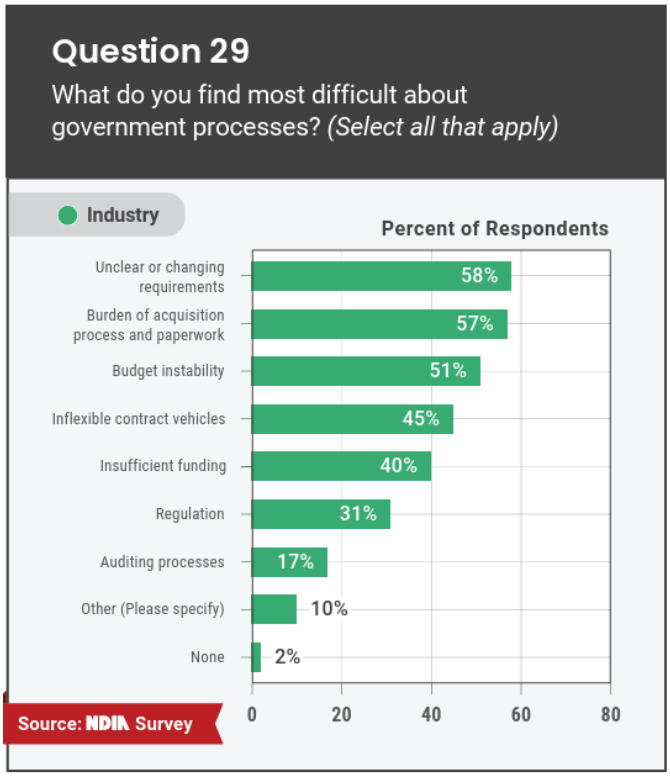
[96] JCIDS stakeholder, interview with RAND researchers, March 25, 2025.

[97] Jennifer Stewart, Chris Sax, Michael Seeds, Lorenzo Williams, Jack Little, Anthony Borda, Alec Friend, and Riley Van Steenburg, *Vital Signs: The Health and Readiness of the Defense Industrial Base*, National Defense Industrial Association, February 2025.

Industry identified unclear and changing requirements as a significant issue followed by the complicated acquisition process, funding instability, and inflexible contracting vehicles (see question 29, shown in Figure 2.8).[98]

Figure 2.8

Answer to NDIA Survey Question 29



SOURCE: Reproduced from Stewart et al., 2025, p. 12.

Of note, while technological complexity of defense system requirements is also identified as a challenge, the federal budget process, supply chain issues, workforce, and protracted procurement processes are ranked as more pressing issues by industry (see survey questions 5 and 22, shown in Figure 2.9).[99]

Industry overwhelmingly views the best step that the government can take to improve defense acquisition to be providing clear, consistent demand signals through contract vehicles. Two requirements-related reforms rank highly—improving requirements discipline and providing assistance with meeting physical security and cybersecurity requirements—along with increasing government investment in the supply base and providing clear points of contact within program offices (see question 7 and 23, shown in Figure 2.9).[100]

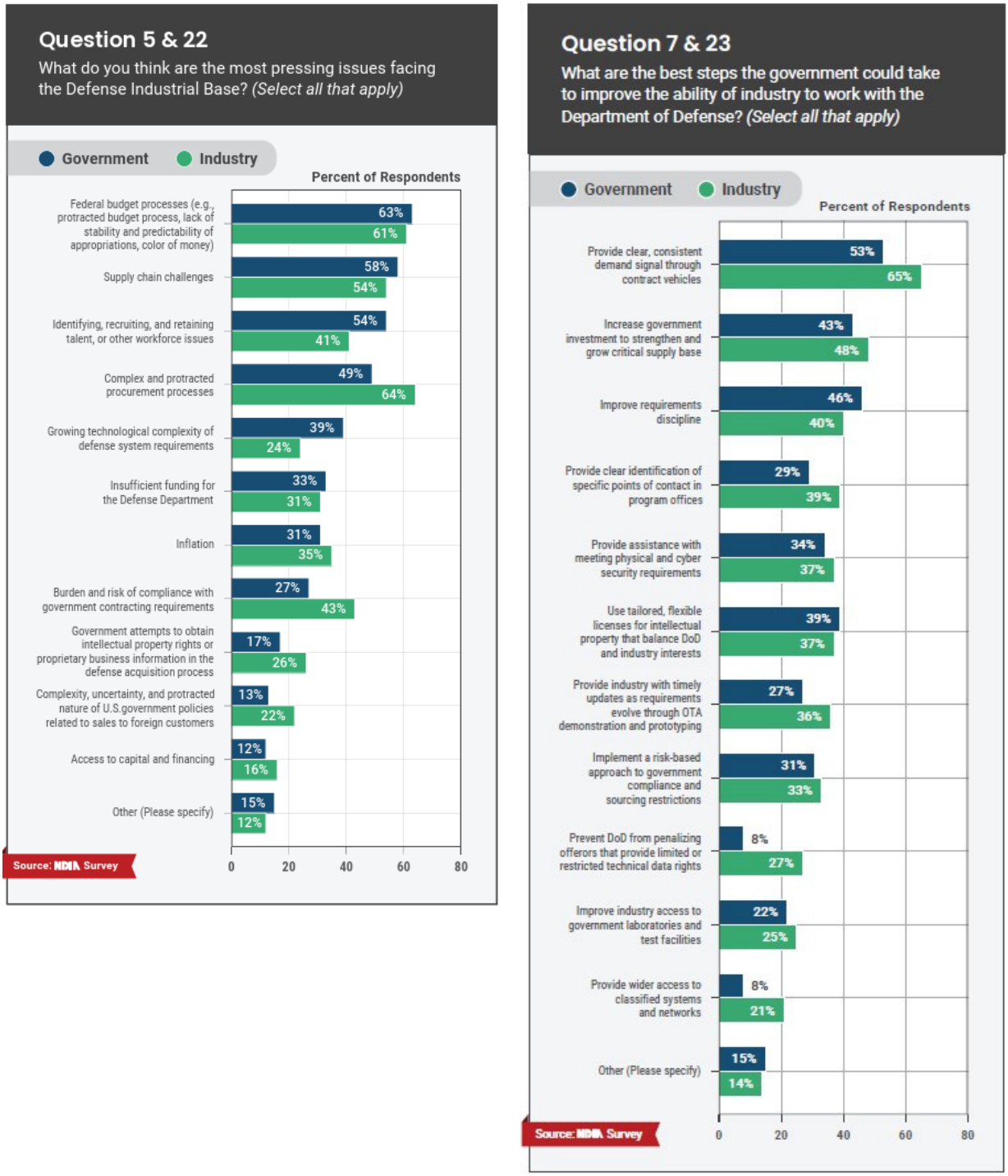
[98] Stewart et al., 2025, p. 12.

[99] Stewart et al., 2025, p. 11.

[100] Stewart et al., 2025, p. 11.

Figure 2.9

Answers to NDIA Survey Questions 5 and 22 and Questions 7 and 23



SOURCE: Reproduced from Stewart et al., 2025, pp. 11 and 13.

These industrial base survey results highlight the need for comprehensive acquisition reform across the DoD requirements, acquisition, and PPBE processes, as well as improvements to the supply chain and workforce.

The Role of the Defense Innovation Ecosystem in JCIDS Needs to Be Considered

In recent years, innovation organizations have proliferated across DoD with the intent to increase the speed of prototyping and acquisition and rapidly bring innovative technologies to warfighters. The Office of the Under Secretary of Defense for Research and Engineering (OUSD[R&E]) has identified more than 100 innovation organizations across DoD.[101] Some innovation organizations emphasize the benefit of their "short and narrow chain of command," reporting to a board of directors rather than traditional leadership hierarchies. They also highlight their close engagement with the warfighter and industry; funding stability and agility; and innovative personnel, who are adept at understanding laws, regulations, policies, and DoD processes, along with how to successfully tailor to achieve results. Congress has exempted several of these organizations from JCIDS (e.g., the Naval Air Warfare RCO, the Space RCO). Other military Services and DoD components employ the statutory exemption to JCIDS included in the MTA pathway (e.g., the Space Development Agency, the U.S. Air Force).

Executive Order 14265, titled "Modernizing Defense Acquisitions and Spurring Innovation in the Defense Industrial Base," called for a plan from the SECDEF to apply RCO policies to expedite acquisition, among other matters.[102] The executive order defines *RCO* as meaning the Army Rapid Capabilities and Critical Technologies Office, Naval Air Warfare RCO, DAF RCO, and Space RCO. As engagement with these innovation organizations increases, the Joint Staff will need to consider how a modernized requirements process intersects with innovation organizations in a way that supports their respective missions. A new requirements process needs to have a mechanism to share high-priority requirements to relevant innovation organizations that would benefit the Joint Force and also apply any lessons learned from these organizations. A final important consideration is how the requirements and acquisition output of these organizations transitions into the broader DoD capability development enterprise. More work is needed to address this complicated data-sharing challenge.

Joint Requirements Development Faces Misalignment with Resourcing and Acquisition Processes

Several misalignments between JCIDS, the PPBE process, and the DAS were identified by stakeholders. A foundational issue is the lack of a defense-wide portfolio framework with a strategic, integrated resourcing approach across JCIDS, PPBE, and the DAS.[103] This lack of alignment is exacerbated by specific issues at various points of intersection:

- Incongruent incentives between the Joint-focused JCIDS and the Service-oriented DAS can hinder Joint and cross-system integration.[104]

[101] OUSD(R&E), "Innovation Organizations," webpage, undated.

[102] Donald J. Trump, "Executive Order 14295 of April 9, 2025: Modernizing Defense Acquisitions and Spurring Innovation in the Defense Industrial Base," *Federal Register*, Vol. 90, No. 71, April 15, 2025a.

[103] Advisory Panel on Streamlining and Codifying Acquisition Regulations (Section 809 Panel), 2019; Greenwalt and Patt, 2025; Modigliani et al., 2020; GAO, 2007.

[104] GAO, 2007; GAO, 2015.

- A lack of continuous feedback mechanisms and real-time adjustments between JCIDS and PPBE hinders the ability to rapidly integrate new technologies and address evolving warfighter needs.[105]
- Challenges ensuring the interoperability and upgradability of system components during the acquisition process can exacerbate tensions with requirements and resourcing.[106]
- Misalignments between PPBE and the DAS can result in resourcing structures that lack the flexibility needed to support rapid technological evolution.[107]
- Unlike the PPBE and DAS workforces, the requirements management workforce lacks a formalized professional career field, leaving it insufficiently equipped "to understand the complex environment and effectively capture and shape system requirements."[108]

[105] Commission on Planning, Programming, Budgeting, and Execution (PPBE) Reform, 2024; Megan McKernan, Stephanie Young, Ryan Consaul, Michael Simpson, Sarah W. Denton, Anthony Vassalo, William Shelton, Devon Hill, Raphael S. Cohen, John P. Godges, Heidi Peters, and Lauren Skrabala, *Planning, Programming, Budgeting, and Execution in Comparative Organizations*: Vol. 3, *Case Studies of Selected Non-DoD Federal Agencies*, RAND Corporation, RR-A2195-3, 2024; Greenwalt and Patt, 2025.

[106] Advisory Panel on Streamlining and Codifying Acquisition Regulations (Section 809 Panel), 2019; Jonathan P. Wong, Obaid Younossi, Christine Kistler LaCoste, Philip S. Anton, Alan J. Vick, Guy Weichenberg, and Thomas C. Whitmore, *Improving Defense Acquisition: Insights from Three Decades of RAND Research*, RAND Corporation, RR-A1670-1, 2022.

[107] Advisory Panel on Streamlining and Codifying Acquisition Regulations (Section 809 Panel), 2019; Greenwalt and Patt, 2025; GAO, 2007; GAO, *Leading Practices: Agency Acquisition Policies Could Better Implement Key Product Development Principles*, GAO-22-104513, March 10, 2022; GAO, *Leading Practices: Iterative Cycles Enable Rapid Delivery of Complex, Innovative Products*, GAO-23-106222, July 27, 2023b.

[108] Advisory Panel on Streamlining and Codifying Acquisition Regulations (Section 809 Panel), 2019.

Chapter 3

FUNDAMENTAL TRADE-OFFS AND FRAMING THE DECISION

Key Points

- The 811 Tiger team identified fundamental trade-offs that a Joint requirements process must address, including prioritization, timeframe, specificity, and complexity.
- The core challenge in the requirements process is the inherent tension between optimizing short-term considerations of capabilities for the current force versus planning effectively for the future force.
- Reforms can be either *revolutionary* (a discontinuous, system-wide transformation that often restructures core institutional roles, authorities, or incentives) or *evolutionary* (gradual, incremental adaptations within existing institutional processes and institutional arrangements).

Requirements define the capabilities that military forces field, directly influencing military readiness, operational effectiveness, and strategic flexibility. Though commonly recognized as necessary, the nature and structure of the requirements process is often debated. This chapter discusses how the requirements process can be optimized across various dimensions, trade-offs among these optimization priorities, and considerations for designing a future requirements process. It also introduces the conceptual basis behind the 811 Tiger Team's framework of evolutionary and revolutionary changes.

A Fundamental Trade-Off

Through this analysis, the 811 Tiger Team identified a number of trade-offs that are inherent within the joint requirements process. In some ways, the failures of JCIDS can be traced back to the conflicting goals that it is attempting to accomplish. These trade-offs include the following:

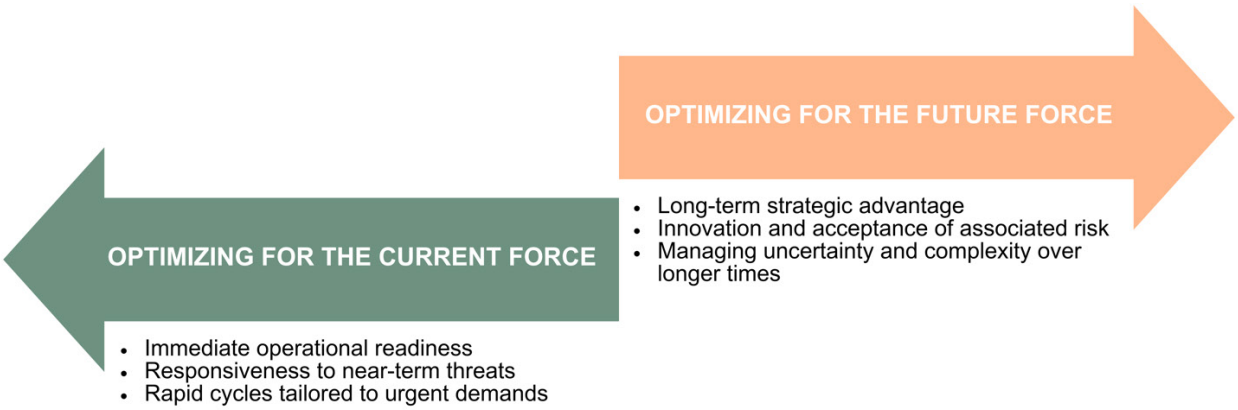
- **Priority:** top down vs. bottom up
- **Time frame:** long-term vs. short-term focus
- **Collaboration:** stakeholders/due diligence/consensus vs. speed/flexibility
- **Definition:** specific (e.g., capabilities or performance attributes) vs. broad (e.g., missions or operational problems)
- **Jointness:** interoperable/Joint vs. Service/CCMD-specific
- **Program Size/Complexity:** MDAP vs. commercial technology
- **Authorities:** Joint Staff vs. Services vs. CCMD

In many cases, the trade-offs identified above are correlated and interdependent. The study team found that the core challenge in the requirements process—and, therefore, the essential consideration for reform—is the inherent tension between optimizing short-term considerations of capabilities for the current force and planning effectively for the future force (see Figure 3.1). This tension forms the backbone of the requirements debate, manifesting in two distinctly different optimization pathways.

The core challenge in requirements reform is the inherent tension between optimizing capabilities for the current force versus the future force.

Figure 3.1

The Core Requirements Process Trade-Off



As the above figure shows, each optimization pathway comes with different benefits and challenges. For example, while a process optimized for the current force will be more responsive to short-term threats, it may lack emphasis on long-term strategic planning, which could result in developing capabilities that may not address the warfighter's long-term needs. A process optimized for the future force might provide long-term strategic advantages but, because of its longer timelines, be less responsive to rapid changes in the threat environment.

The necessity of choosing between these two optimization pathways emerges from three fundamental conditions embedded in military and bureaucratic realities:

1. inherent conflicts in developing for current needs vs. future needs
2. organizational incentives and institutional behaviors
3. challenges in balancing process efficiency and strategic flexibility.

Understanding the trade-offs inherent in each optimization pathway is needed because some process design choices are better suited to one or the other pathway. In this chapter, the study team discuss those three fundamental conditions and conclude by examining what they suggest about the kinds of processes policymakers might pursue. The discussion draws on examples from both stakeholder interviews and workshops conducted as part of this effort.

Inherent Conflicts in Developing Systems for Current vs. Future Needs

Several key risks exist depending on whether a requirements process is optimized for future needs or current needs, as outlined below.

Development Timelines for Items Needed by the Current Force and the Future Force Are Fundamentally Different

One of the fundamental structural challenges is that the current force desires capabilities to address gaps being encountered in the present or the short term, necessitating shorter capability development and delivery timelines. This suggests that rapid iteration and feedback are essential, as reflected in the establishment of the Joint Emergent Operational Need (JEON) and JUON requirements pathways. Likewise, the desire to utilize commercial off-the-shelf (COTS) solutions can be understood as a response to the needs of the current force. To achieve short-term objectives, speed becomes a priority, and there is little opportunity to design an ideal solution.

Conversely, timelines tend to be significantly longer when addressing anticipated future needs. There are fundamentally long-term or emerging challenges for which no existing solutions are available and entirely new capabilities must be developed. Additionally, some MDAPs require extensive research and development and considerable time to design, test, and produce the materiel solution. Because of potentially extensive time and resources needed, MDAPs engage in numerous activities for oversight and the reduction of risk, particularly in terms of cost, schedule, and performance. This leads to the first tension between the current and future force, centered on development timelines of inherently different scope and scale.

The implication for policymakers and JCIDS reform is straightforward: Unknowingly utilizing a process optimized for either the current or future force to address a requirement for which it was not designed risks serious consequences. In designing and implementing a reformed requirements process, DoD needs to consider such factors as (1) balancing long-term and short-term time horizons and (2) addressing gaps via available technology or developing new solutions.

Speed and Flexibility May Put Benefits of Collaboration at Risk

As noted previously, there are certainly advantages to optimizing the requirements process to meet current needs. Those who advocate for speed and flexibility see a process oriented towards these outcomes as a process that by necessity moves rapidly and is responsive to changes in threats and operational environments.

However, a process that focuses too heavily on current priorities risks failing to consider longer-term needs, such as intelligence support and logistical sustainment for rapidly developed capabilities or how the capability will be integrated into future operations across DOTmLPF-P. Such issues might be elucidated in a deliberate process that integrates input from a full array of key stakeholders with perspectives across multiple processes, including acquisition and budget. A deliberate process might also seek to form consensus from these stakeholders to ensure that a solution accounts for such issues at the expense of time and agility. The implication for defense planning is clear: robust collaboration and analytic due diligence must be considered alongside efficiency and adaptability in both short- and long-term force development; a requirements system that does not strike this balance risks covering potential gaps that never materialize.

Over-Optimization for Tomorrow Risks Misalignment with Current Operational Needs

While long-term planning remains essential to strategic foresight, a requirements system that over-optimizes for distant futures runs the risk of becoming unresponsive to present-day realities. Capabilities developed for projected scenarios may retain some residual utility, but they seldom align neatly with the operational demands encountered during their fielding. The time lag between concept development and operational delivery introduces structural vulnerability: Strategic assumptions may shift, adversaries may adapt, and emerging threats may materialize along unexpected vectors.

Strategic clarity can degrade into programmatic misalignment when long-term projections are treated as fixed design targets rather than hypotheses subject to revision; in such cases, the pursuit of revolutionary capability inadvertently creates rigidity, limiting the ability of a program to pivot in response to changing strategic contexts. In operational terms, this misalignment can mean fielding platforms that are technologically sophisticated but tactically out of step with the needs of commanders in the field.

This dynamic reinforces the imperative to balance forward thinking regarding mission with adaptability of the capabilities pursued. Designing systems and processes that can evolve with changing requirements, rather than locking in rigid futures, may prove more valuable in the long term.

Organizational Incentives and Institutional Behaviors

Fundamental organizational and process-related challenges also contribute to the tension between current and future force optimization.

The Current System Divides Responsibilities for Current and Future Operations Across Organizations

The Services are responsible to man, train, and equip the Joint Force and thus focus on maintaining current and building future capabilities. CCMDs are responsible for daily operations and global campaigning and thus focus on immediate force needs but lack direct acquisition authority.

Currently, the SECDEF, acting through the CJCS and VCJCS, arbitrates prioritization decisions (via the JROC), supported by systems (JCIDS) designed to identify priorities. However, there is a contrast between the rapid processes to acquire immediate operational items and the traditional longer-term acquisition processes. While the process for immediate needs is executed by the JROC in close coordination with the Joint Rapid Acquisition Cell (JRAC), the traditional process occurs through JCIDS, the DAS, and PPBE, which are overseen by various DoD stakeholders that include the Deputy Secretary of Defense and the Deputy Secretary's Management Action Group (DMAG). The different validation authorities and level of coordination among stakeholders and processes required for each pathway create a set of different institutional behaviors for each.

Challenges in Balancing Process Efficiency and Analytical Rigor

Another key issue is the balance between requirements process efficiency and analytical rigor. A streamlined, rapid requirements process can offer the speed and flexibility needed to respond to immediate operational demands, such as technological innovation or changes in the threat environment. However, the limited analytic depth of such a streamlined process and the focus on current needs increase the risk of failing to adequately plan for future, long-term needs. Conversely, a more deliberate,

exhaustive requirements approach provides thorough strategic foresight and reduces certain aspects of programmatic risk. A downside of this approach is that it risks producing outdated solutions that suboptimize for or delay short-term operational needs.

Implications for Requirements Reform

Given the fundamental trade-offs surveyed in this chapter, any meaningful reform must start by explicitly recognizing and addressing these tensions (i.e., striking an appropriate balance between optimizing capabilities for the current force versus the future force) rather than proposing generic process improvements. Effective reform initiatives should be judged primarily by how well they clarify and mitigate these inherent trade-offs, providing clear guidance on prioritization and institutional alignment.

The workshops and interviews conducted by the 811 Tiger Team collected a large number of potential design attributes and design trade-offs related to potential ways to reform the JCIDs process. Table 3.1 outlines the most-relevant design attributes and trade-offs that were identified and indicates whether each element might roughly benefit the current force or the future force or strike a relative balance between the two.

Table 3.1

Requirements Process Design Attributes

Process Focus	Design Attribute
Current force	• Bottom-up (operationally-driven) approach • Short-term time frame • Focus on leveraging commercial technologies for military use cases • Might more heavily emphasize capabilities needed by specific Services/CCMDs • Highly flexible and agile
Future force	• Top-down (concept-driven) approach • Long-term time frame • Focus on major acquisition programs • Might more heavily emphasize interoperability and Jointness • Rigorous analysis, minimizing operational risk
Balanced approach	• Optimize for either top-down or bottom-up approach, but might incorporate elements of both approaches • Facilitate responsiveness to warfighter needs while also minimizing long-term operational risk • Reduce bureaucracy while ensuring Joint interoperability and integration • Ensure alignment and agility among requirements, acquisition, and budgeting

Design Attributes of a Process for the Current Force

A process optimized to ensure that the current force can adapt to an ongoing threat and/or capability need should emphasize agility and responsiveness, supporting the rapid development and deployment of capabilities to the warfighter. It is typically bottom up and CCMD-driven, reflecting operational needs as they emerge in theater or through tactical feedback loops. Such a process will tend to prioritize shorter time frames, often operating on a short-term planning horizon, and will frequently leverage commercial technologies that can be adapted for military purposes with minimal delay.

Effective execution requires ensuring robust interoperability, promoting Jointness across Services and commands even as the system evolves at speed. To support this, the process encourage information-sharing, reduce redundancy, and improve traceability and visibility—all critical components of integration. Finally, oversight mechanisms must remain in place to ensure accountability in high-velocity acquisition environments.

Design Attributes of a Process for the Future Force

By contrast, a process designed to identify and validate requirements/capability needs for the future force must support longer-term strategic concept development and enable capabilities that may not yet be technologically mature or operationally defined. These processes are more often top-down and concept-driven, reflecting guidance from senior leadership and informed by future warfighter needs. Planning is done on an extended timeline, often linked to strategic forecasting, the complexity or exquisite nature of the proposed solutions, or doctrine development cycles.

Such a system requires structured collaboration among stakeholders across the Joint Staff, OSD, Services, and CCMDs. The focus shifts toward informed decision making rather than immediate threat response, with an emphasis on clearly translating strategic requirements into understandable formats for research, development, test, and evaluation (RDT&E), acquisition, and programming communities. While agility remains valuable, the process must also ensure due diligence in capability development, especially as it relates to large, complex acquisition programs. Given the complexity and scale of future-oriented programs, the process should be equipped to manage risk, promote portfolio-level alignment, and support senior-leader prioritization.

Design Attributes of a Process That Attempts to Mediate Between the Two

A balanced approach can still attempt to address both short-term and long-term needs by incorporating elements of agility as well as foresight. It should allow for iterative capability development—delivering usable increments to the current force while preserving room for refinement and evolution over time. This approach blends bottom-up inputs with top-down guidance, balancing responsiveness with strategic coherence.

Like current-force processes, this hybrid model requires flexibility and speed to address immediate operational gaps. However, it must also incorporate long-term planning inputs, harmonizing stakeholder perspectives across multiple time horizons. Interoperability and integration are essential at both tactical and strategic levels, necessitating transparent communication, data traceability, and information-sharing throughout the development lifecycle.

To succeed, such a process must mitigate the institutional frictions that emerge when multiple acquisition pathways or governance structures compete. Accountability mechanisms should remain intact, and alignment tools, such as portfolio management and risk-conscious resource allocation, must help ensure coherence between short-term acquisitions and long-term capability development. Ultimately, this model aspires to meet the demands of both timelines without allowing one to systematically undermine the other.

The discussion above illuminates that there is no single optimal requirements process. Rather, the design of any effective process must be rooted in a clear understanding of the trade-offs between responsiveness and foresight, tactical agility and strategic coherence, and Service-specific needs and Joint integration. By

categorizing process design attributes in terms of their alignment with current, future, or balanced force needs, Table 3.1 offers a foundation for more-intentional reform design.

Yet even with a well-structured framework, success depends not only on which attributes are prioritized but also on how reform is pursued. Evolutionary reforms may seek marginal improvements within existing structures, gradually increasing integration and agility. Revolutionary approaches, by contrast, may seek to realign incentives, authorities, or governance structures altogether. As the following section will explore, the selection and sequencing of potential recommendations must be evaluated not only in terms of their alignment with force needs but also considering the pace, scope, and institutional friction that different reform pathways are likely to encounter.

Framing the Decision: Types of Reforms Considered

Of the 12 reform elements defined in Sec. 811, the majority focus on evolutionary reform to the requirements process. Two of the 12 reform elements, which focus on a clean-sheet approach to requirements management and rapidly validating commercial products, represent potentially revolutionary requirements process reform. However, through the efforts to develop responses to these reform elements, the 811 Tiger Team identified both evolutionary and revolutionary reforms to the JROC's authorities and responsibilities and the joint requirements process. This section will walk through the types of changes that were identified and the criteria by which they were binned into three categories: evolutionary changes, revolutionary changes, and cross-cutting improvements.

Revolutionary Rate of Change Defined

Revolutionary change denotes discontinuous, system-wide transformation that often restructures core institutional roles, authorities, or incentives. It is typically pursued when evolutionary approaches are deemed insufficient to address fundamental misalignments between goals and system behavior. Whereas evolutionary change works within existing constraints, revolutionary change seeks to redefine the constraints themselves. It is inherently disruptive and can produce a new equilibrium or operating model. Such change is often difficult to sustain, requiring both senior leadership commitment and bureaucratic insulation to shield it from institutional pushback. While revolutionary reform can yield significant performance improvements, it also carries higher implementation risk and can disrupt operational continuity in the short term. In the context of requirements, this might include creating entirely new governance bodies, proposing rewriting authorities, or eliminating antiquated processes.

The requirements process has undergone two significant revolutionary changes over the course of its history. The first was in 1992 with the introduction of the Requirements Generation System. This shifted requirements validation from OSD to the JROC,[109] expanding the focus of requirements from mission needs (or, in modern parlance, gaps) to also incorporate system attributes. The second occurred with the 2001 Quadrennial Defense Review (QDR),[110] shifting the focus of requirements development from a threat-based approach to a capabilities-based approach. According to the 2001 QDR,

[109] For more information, see Chapter 1.

[110] DoD, *Quadrennial Defense Review Report*, September 30, 2001.

> This capabilities-based model focuses more on how an adversary might fight rather than specifically whom the adversary might be or where a war might occur. . . . Instead, the United States must identify the capabilities required to deter and defeat adversaries who will rely on surprise, deception, and asymmetric warfare to achieve their objectives.[111]

The 2001 QDR laid the foundation for the creation of JCIDS, which has been in place since 2003. Over time, what was once revolutionary eventually becomes outdated, even if systems undergo evolutionary changes to mature and refine the thinking and justification to support them.

Evolutionary Rate of Change Defined

Many of the suggestions the 811 Tiger Team received on ways to improve the current Joint requirements system could be described as incremental in nature. The 811 Tiger Team uses the term *evolutionary* to describe these types of changes. *Evolutionary change* refers to gradual, incremental adaptations within existing institutional frameworks, processes, or organizational cultures. These recommendations are intended to make the system more adaptive without disrupting its overall structure. Evolutionary change is often continuous and path dependent, meaning that reforms build on preexisting policies or routines and are shaped by institutional constraints and historical decisions. This type of change tends to be more palatable to a broad set of stakeholders than more-significant change, as it supports constituencies, aligns with a preference for consensus and stability, and can be implemented through iterative adjustments to governance, workflows, or authorities.

The 811 Tiger Team's analysis of the history of JCIDS indicates that the requirements process has undertaken a series of evolutionary changes since its inception in 2003. Examples of these evolutionary approaches include but are not limited to:

- the introduction of JUONS and JEONS
- the introduction of the IT Box for information systems
- the replacement of the Capability Production Document (CPD) with the CDD-Update
- the creation of SW-ICDs and IS-CDDs to align with the AAF.

The risk of these evolutionary changes is that such modifications often result in additional details and processes within the existing structure of JCIDS. Rarely are details removed from guidance to streamline the process.

Cross-Cutting Improvements: What Makes Sense to Do No Matter What?

While the distinction between revolutionary and evolutionary reform highlights important differences in scope, risk, and institutional appetite for change, the 811 Tiger Team also identified several areas of improvement that hold value regardless of the approach taken. These changes represent foundational enablers—underlying process upgrades or architectural refinements that do not require wholesale restructuring but can enhance system performance across the full spectrum of reform intensity.

For instance, one type of reform that might make sense no matter what is more recursivity in the requirements system—that is, deliberate, cyclical opportunities to revisit and refine earlier decisions based on new information, changing assumptions, or evolving operational environments. Current

[111] DoD, 2001, p. IV.

processes are often too linear, presuming that requirements, once validated, will remain stable through acquisition and fielding. This assumption has proven increasingly untenable in a world characterized by rapid technological advancement and fluid threat environments. Recursivity introduces mechanisms for feedback, reevaluation, and adaptation, ensuring that validated requirements can evolve in light of shifting realities.

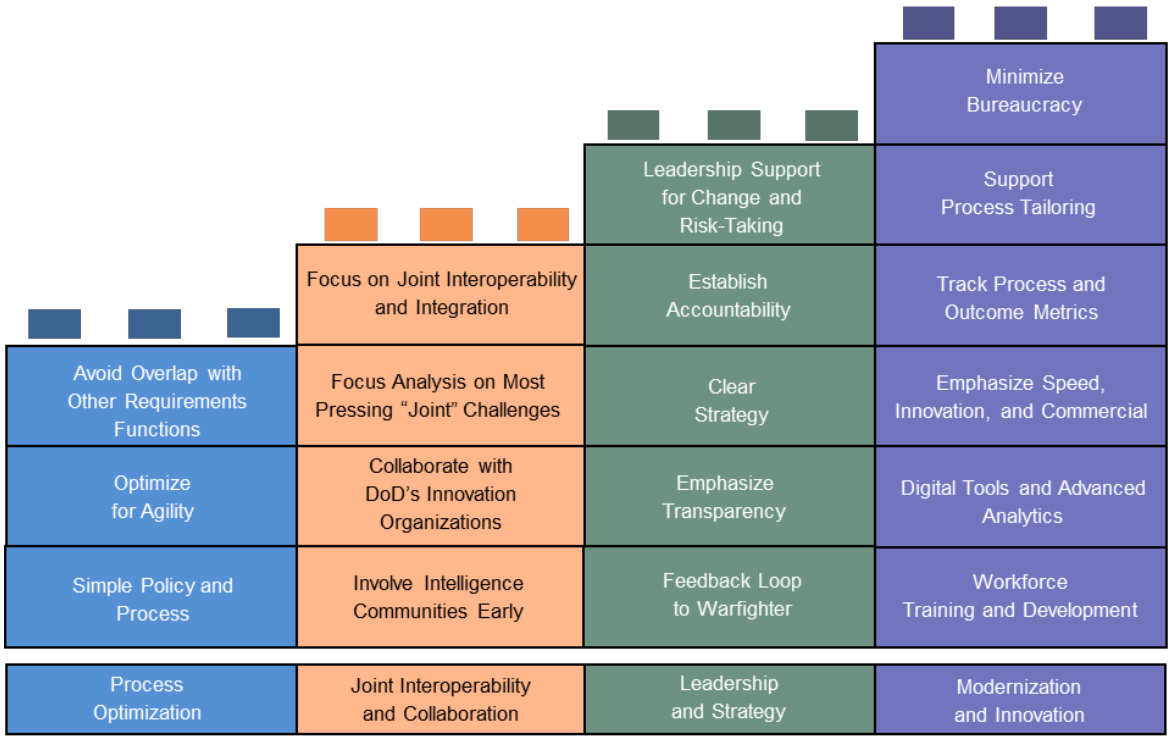
Implications for How We Think About Identifying Changes

Although there is a broad consensus that reform is necessary, there is little agreement on what that modernization should look like or how comprehensive it must be. Stakeholders diverge on the appropriate scope and pace of change; some favor targeted, evolutionary improvements, while others call for a more fundamental reset.

Nonetheless, stakeholders have highlighted the core set of building blocks of any future requirements system (Figure 3.2). This list assisted the efforts of the 811 Tiger Team, which identified over 40 recommendations spanning the full range of reform approaches, from clean-sheet redesigns to targeted improvements within the existing framework.

Figure 3.2

A Core Set of Building Blocks Recommended by Experts for Any New Requirements System



While this chapter framed the primary tension as one between current and future force needs, the more pressing trade-off for decision makers may lie in determining how far to go in reforming requirements

processes, governance, and authorities. That decision, in turn, depends on deeper judgments about institutional readiness, risk tolerance, and the desired rate of change.

Chapter 4

RECOMMENDATIONS FOR DOD REQUIREMENTS MODERNIZATION

Key Points

- Drawing on the 811 Tiger Team's analysis and the insights of 100+ stakeholders, DoD identified more than 40 options for requirements reform.
- DoD recommends revolutionary JROC reform: reorienting the JROC to focus on designing the Joint Force, validating top-down and portfolio-based requirements, ensuring Joint capability integration, and prioritizing combatant command gaps.
- Revolutionary JROC reform will also incorporate most evolutionary reform recommendations related to delegation, staffing, documentation, metrics, and more.
- At the same time, the JROC will delegate validation authority of Service requirements to the Service requirements processes, maintaining awareness and reserving the right to "manage by exception" as issues arise.

The 811 Tiger Team, with input from stakeholder interviews, workshops, and the relevant literature, identified 40+ potential recommendations for modernizing the defense requirements process. In this chapter, we present a summary of these recommendations (with full text found in Appendix A), along with the Section 811 reform element to which the recommendation aligns. Then, we describe the 811 Tiger Team's primary recommendation—revolutionary JROC reform—along with the applicable reforms that support this recommendation. Finally, we conclude by identifying corresponding changes to the JROC/JCIDS process that will be implemented as a result of the proposed revolutionary JROC reform.

Reform Options for Modernizing DoD's Requirements System

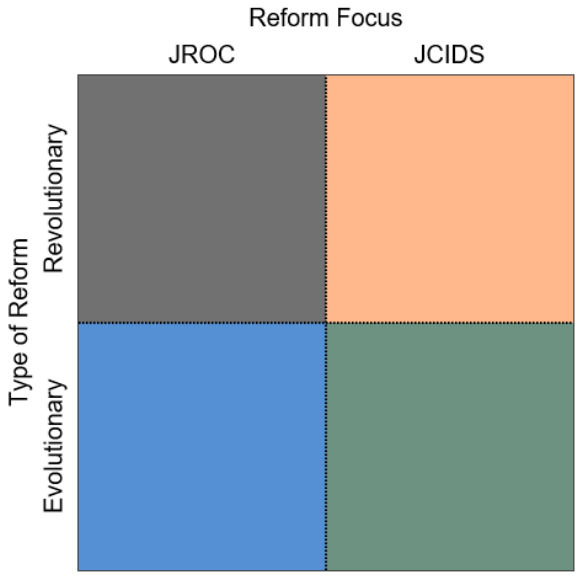
The 811 Tiger Team developed four potential categories of options for leadership consideration: revolutionary JROC, evolutionary JROC, revolutionary JCIDS, and evolutionary JCIDS reform. These options are not mutually exclusive; in practice, elements from multiple proposals could be synthesized to better reflect the priorities and constraints of the Department. Each option could, and many did, address the different provisions outlined in the congressional mandate described in Section 811 of the FY 2024 NDAA, offering a range of responses to the challenges identified therein. Each recommendation is unique,

but mutually supportive, so combinations of many or most of these recommendations could be implemented simultaneously.

To conceptualize these proposed reforms, the 811 Tiger Team sorted recommendations using a two-by-two framework in which one dimension represents focus (i.e., JROC versus JCIDS) and the second dimension represents the type of reform (i.e., revolutionary or evolutionary) in its departure from current policies and practices, resulting in four categories (see Figure 4.1).

Figure 4.1

Revolutionary and Evolutionary Reform Matrix



The 811 Tiger Team developed one option for revolutionary JROC reform, which focused on strategically reorienting the JROC to focus on Joint force design, top-down/portfolio-based requirements, Joint capability integration, and prioritizing CCMD gaps. The 811 Tiger Team also developed three proposals for revolutionary JCIDS reform: *Rapidly Validating Commercial Products to Meet Capability Gaps*, *A Strategies to Tasks Approach to Joint Requirements*, and *Adopting a Digital-Based Approach to Requirements*.

Additionally, 17 options were identified that would result in evolutionary changes to the JROC. The categories of JROC evolutionary reform options are *Delegation*, *Members*, *Oversight*, *Authority*, *Funding*, and *Manpower and Training*. Lastly, 21 recommendations were identified that focused on evolutionary JCIDS reform. Several overarching categories were used to organize these JCIDS evolutionary reform options: *Staffing*, *Documentation*, *Prioritization*, *Metrics*, *Digital Modernization*, and *Commercial Technology*.

Importantly, a majority of these evolutionary recommendations remain applicable if and when revolutionary JROC/JCIDS changes are implemented and represent important improvements for operationalizing a new joint requirements system. For the minority of recommendations that may be less applicable if and when revolutionary JROC/JCIDS changes are implemented, we have included these "other" recommendations and considerations for completeness but noted relevant implementation concerns.

Prioritized Recommendations for Modernizing DoD's Requirements System

After developing the 40+ revolutionary and evolutionary reform recommendations, DoD prioritized these recommendations. In Figure 4.2 and Table 4.1, we summarize our highest-, high-, and medium-priority recommendations, with the full text and analysis of the recommendations in Appendix A.

We also include two additional categories: *Other Recommendations* and *Other Considerations*. Other Recommendations includes reform recommendations that DoD supports but lay outside the JROC's authorities and responsibilities to implement. The Joint Staff believes that the Joint requirements system would benefit from these recommendations but lacks the authorities and/or responsibilities to implement them. *Other Considerations* represent reform recommendations developed by the 811 Tiger Team that DoD believes are worthwhile for consideration but may not be immediately executable. Nonetheless, they contain valuable concepts, ideas, and suggestions within these recommendations that could potentially be implemented in the future.

Figure 4.2

Prioritization of Joint Requirements Reform Options

Highest Priority	
Reoriented JROC	Reorient the JROC to focus on Joint Force Design, Top-Down/Portfolio-Based Requirements, Joint Capability Integration, and Combatant Command Gaps

High Priority	
Delegation	Invert Consensus-Based Decision Making and Delegate JROC Decisions to the Lowest Possible Level
	Establish Joint Equity and Joint Interest JSDs, Revoke Others
Membership	Ad Hoc CCMD JROC Membership
Oversight	Refocus JROC on MDAP-Level Programs
	Improve JROC Insight into MDAP-Level MTAs
Manpower	Increase and Standardize FCB Manpower
Staffing	Expedite Comment Adjudication
	Enforce Document Staffing Timelines and Cutoffs
	Implement Proactive Joint Requirements Stewardship
Documentation	Simplify the Joint Requirements Manual
	Reduce and Simplify Joint Requirements Documents
	Leverage Service/CCMD Documentation in the Joint Requirements Process
	Establish Capstone Requirements
Prioritization	Expedite the Release of Joint Requirements to Industry
Metrics	Develop Process and Outcome Metrics
Digital Modernization	Retire and Replace KM/DS
Commercial Technology	Rapidly Validate Commercial Solutions Ability to Meet Capability Gaps or Opportunities

Medium Priority	
Delegation	Reduce the Number of JROC Comebacks
	Delegate Performance Attribute Validation, But Provide Support
Members	Add DIU as a JROC Advisor
	Increase JROC Scheduling Options and Expedite JROCM Signing
	Formalize Allied and Partner Integration and Flexibly Expand the I-JROC
Training	Promote Requirements Managers Workforce, Not a Career Path
	Update DAU Training
Staffing	Reduce the Number of JCIDS Documents Staffed
Documentation	Redefine Threshold Values
	Align FCBs with Joint Functions
Prioritization	Conduct Annual Prioritization of the Top 10 JROC-Validated Gaps and Requirements
	Establish Joint Requirements Reviews to Revoke or Update Legacy Requirements Documents
Metrics	Implement Continuous Process Improvement
Digital Modernization	Publish the Joint Requirements Manual Online
Commercial Technology	Incorporate Emerging Technology Insights into Threat Briefs

Other Recommendations*	
Funding	Re-Establish a Fund for JEON/JUONs
	Establish a Joint Acceleration Reserve
Documentation	Modernize Analysis of Alternatives
Digital Modernization	Retire and Replace the DoD Architecture Framework
Commercial Technology	Commercial Analysis of Alternatives

Other Considerations**	
Authority	Designate and Empower the VCJCS as the DoD Future Joint Warfighter Advocate
Manpower	Increase Joint Staff Tour Length
Documentation	Adopt a Strategies-to-Tasks Approach to Joint Requirements
Digital Modernization	Adopt a Digital-Based Approach to Requirements

NOTES: * *Other Recommendations* includes recommendations developed by the 811 Tiger Team that either (1) lie outside the scope of the JROC authorities and Joint requirements process or (2) require additional resources, manpower, or authorities to implement. Nonetheless, these recommendations are supported by DoD and would represent an improvement to the Joint requirements, resourcing, and acquisition processes.
** *Other Considerations* includes ideas developed by the 811 Tiger Team that, while not immediately executable, deserve consideration for implementation in coordination with the overarching recommendations of this report.

Table 4.1

Prioritization and Brief Description of Joint Requirements Reform Options

Highest Priority					
Reform Category	**Reform Name**	**Description**	**Reform Element**	**Difficulty**	**Congressional Action Needed**
Revolutionary JROC	Reoriented JROC	Reorient the JROC to drive Joint Force design, define top-down requirements, ensure joint capability integration, and prioritize CCMD gaps	B.2 Clean Sheet Approach	High	Yes

High Priority					
Reform Category	**Reform Name**	**Description**	**Reform Element**	**Difficulty**	**Congressional Action Needed**
Delegation	Invert Consensus-Based Decision Making and Delegate JROC Decisions to the Lowest Possible Level	Invert the consensus-based decision-making processes of the JROC to a productively adversarial approach and delegate noncontentious decisions to the FCB or JCB.	B.1 Streamline Requirements	Low	No
	Establish Joint Equity and Joint Interest JSDs, Revoke Others	Simplify the Joint Staffing Designators to only Joint Equity and Joint Interest, correlated to ACAT level, and allowing FCBs to determine which topics require JCB or JROC review as required.	B.1 Streamline Requirements	Low	No
Membership	Ad Hoc CCMD JROC Membership	Invite CCMDs to serve as ad hoc JROC Members based on topics to elevate the warfighter's voice in requirements and resourcing	B.4 Continuity	Low	Yes

High Priority					
Reform Category	**Reform Name**	**Description**	**Reform Element**	**Difficulty**	**Congressional Action Needed**
Oversight	Refocus JROC on MDAP-Level Programs	Tailor the number and type of approval boards depending on actual/potential ACAT level as well as Joint equity.	B.1 Streamline Requirements	Low	Yes
	Improve JROC Insight into MDAP-Level MTAs	Improve JROC insight into MDAP-level MTAs through MTA scoring, making recommendations to improve Joint capability integration.	B.1 Streamline Requirements and B.3 Align to Adaptive Acquisition Framework	Medium	Yes
Manpower	Increase and Standardize FCB Manpower	Fully staff FCBs with 10-15 full-time personnel across military, civilians, and contractors.	C.2 Develop a Formal Career Path, Training, and Structure for Requirements Managers	High	Yes
Staffing	Expedite Comment Adjudication	Allow requirements document sponsors to reject any/all comments during comment adjudication. Capture critical non-concurs as "views of others" in JROC/JCB briefs.	B.1 Streamline Requirements	Low	No
	Enforce Document Staffing Timelines and Cutoffs	Re-establish nominal Joint staffing timelines such that they are achievable, enforceable, and timely. Track Joint requirements documentation staffing in real-time, enforcing timelines and cutoffs to ensure progress.	B.1 Streamline Requirements	Low	No
	Implement Proactive Joint Requirements Stewardship	In lieu of reactive gatekeeping, implement proactive Joint requirements stewardship through regular reviews, active collaboration, and digital modernization.	B.1 Streamline Requirements	Medium	No
Documentation	Simplify the Joint Requirements Manual	Simplify the Joint requirements manual by reducing length, removing redundant information, and simplifying the structure to focus on outcomes over process. Clearly	B.1 Streamline Requirements	Medium	No

High Priority					
Reform Category	**Reform Name**	**Description**	**Reform Element**	**Difficulty**	**Congressional Action Needed**
		define the intent and first principles while instituting business practices to prevent scope creep over time.			
	Reduce and Simplify Joint Requirements Documents	Reduce the number and content of JCIDS documents to better align and influence the PPBE and acquisition processes.	B.1 Streamline Requirements	Low	No
	Leverage Service/CCMD Documentation in the Joint Requirements Process	Allow for Service and CCMD specific requirements documentation to be submitted to the Joint requirements process. To ensure Jointness, identify a limited number of specific areas that must be included (e.g., interoperability, intelligence certification, exportability, DOTmLPF-P), but do not mandate JCIDS-specific documentation.	B.1 Streamline Requirements	Low	No
	Establish Capstone Requirements	Establish Capstone Requirements in order to define measures of effectiveness and tasks-conditions-standards for key capability areas.	B.1 Streamline Requirements and B.4 Continuity	Medium	No
Prioritization	Expedite the Release of Joint Requirements to Industry	Delegate the release of all JROC/JCIDS documentation to the JROC Gatekeeper and regularly release key strategic documentation to industry to improve collaboration.	C.1 Collaborate with Partners	Low	No
Metrics	Develop Process and Outcome Metrics	Develop process and outcome metrics for the Joint requirements process. Track metrics and report outcomes to the JROC to improve performance.	B.5.A Document Mission Impact and B.5.B Continuously Improve	Medium	No
Digital Modernization	Retire and Replace KM/DS	Retire KM/DS and replace it with a modernized Joint requirements platform, leveraging authoritative data, providing execution tools, and enabling strategic insight.	B.4 Continuity and B.5.B Continuously Improve	High	No

High Priority					
Reform Category	**Reform Name**	**Description**	**Reform Element**	**Difficulty**	**Congressional Action Needed**
Commercial Technology	Rapidly Validate Commercial Solutions Ability to Meet Capability Gaps or Opportunities	Rapidly validate commercial solutions ability to provide military utility.	B.6 Rapidly Validate Commercial Products	Medium	No

Medium Priority					
Reform Category	**Reform Name**	**Description**	**Reform Element**	**Difficulty**	**Congressional Action Needed**
Delegation	Reduce the Number of JROC Comebacks	Reduce the number of JROC comebacks by delegating to FCBs and reducing automatic tripwires.	B.1 Streamline Requirements	Medium	No
	Delegate Performance Attribute Validation, But Provide Support	Delegate performance attribute validation to the Service requirements processes, but provide guidance, coordination, and support to ensure due diligence.	B.1 Streamline Requirements	Medium	Yes
Members	Add DIU as a JROC Advisor	Add DIU as a JROC Advisor to ensure requirements decisions are informed by commercial technology developments.	B.6 Rapidly Validate Commercial Products and C.1 Collaborate with Partners	Low	No
	Increase JROC Scheduling Options and Expedite JROCM Signing	Increase options for JROC scheduling, including double scheduling sessions, and sign JROCMs at the JROC as a default policy.	B.1 Streamline Requirements	Low	No
	Formalize Allied and Partner Integration and Expand the I-JROC	Formalize Allied and Partner integration within the joint requirements processes and develop a process to dynamically expand the I-JROC membership.	C.1 Collaborate with Partners	Medium	No

Medium Priority					
Reform Category	**Reform Name**	**Description**	**Reform Element**	**Difficulty**	**Congressional Action Needed**
Training	Promote Requirements Managers Workforce, Not a Career Path	Do not establish a requirements manager career path. However, improve requirements workforce development through identification, professionalization, and collaboration.	C.2 Develop a Formal Career Path, Training, and Structure for Requirements Managers	Medium	No
	Update DAU Training	Update DAU curriculum based on upcoming changes and lessons learned.	C.2 Develop a Formal Career Path, Training, and Structure for Requirements Managers	Medium	No
Staffing	Reduce the Number of JCIDS Documents Staffed	Reduce the number of JCIDS documents staffed to only include documents with clearly identified and actionable next steps.	B.1 Streamline Requirements	Low	No
Documentation	Redefine Threshold Values	Clearly define, delegate, and iterate threshold requirements.	B.4 Continuity	Medium	No
	Align FCBs with Joint Functions	Align FCBs with Joint functions and simplify other taxonomies (e.g., JCAs, UJTLs, JCSFLs).	B.1 Streamline Requirements and B.4 Continuity	Medium	No
Prioritization	Conduct Annual Prioritization of Top 10 JROC-Validated Gaps and Requirements	Prioritize the top 10 JROC validated gaps and requirements on an annual basis and publish through a Chairman's IPL.	B.4 Continuity and C.1 Collaborate with Partners	Low	No
	Establish Joint Requirements Reviews to Revoke or Update Legacy Requirements Documents	Establish a recurring process to review legacy Joint requirements documents.	B.1 Streamline Requirements	Medium	No
Metrics	Implement Continuous Process Improvement	Regularly solicit feedback from the requirements management community and iteratively update the Joint requirements process.	B.5.B Continuously Improve	Medium	No

Medium Priority					
Reform Category	**Reform Name**	**Description**	**Reform Element**	**Difficulty**	**Congressional Action Needed**
Digital Modernization	Publish the Joint Requirements Manual Online	Maintain the updated Joint requirements manual on the DAU and Joint Staff websites.	C.3 Publish New Policies Digitally	Low	No
Commercial Technology	Incorporate Emerging Technology Insights into Threat Briefs	Ensure the JROC remains informed of key emerging technology developments by incorporating emerging technology insights into JROC threat briefs.	B.6 Rapidly Validate Commercial Products	Low	No

Other Recommendations*					
Reform Category	**Reform Name**	**Description**	**Reform Element**	**Difficulty**	**Congressional Action Needed**
Funding	Re-Establish a Fund for JEON/JUONs	Re-stablish a "Year of Execution Integration" budget line within the Joint Rapid Acquisition Cell (JRAC) to fund JROC-validated JUONs/JEONs.	B.1 Streamline Requirements	High	Yes
	Establish a Joint Acceleration Reserve (JAR)	Establish a JAR as a funding holdback mechanism to fund JROC-prioritized operational problems and CCMD gaps.	B.3 Align to AAF	High	No
Documentation	Modernize Analysis of Alternatives	Streamline AoAs to reduce the time for completion and documentation required while ensuring due diligence. Ensure innovative commercial technologies inform AoA.	B.1 Streamline Requirements	Low	No
Digital Modernization	Retire and Replace the DoD Architecture Framework	Replace DoDAF with modernized architecture framework.	B.7 Retire & Replace DoDAF	Medium	No
Commercial Technology	Commercial Analysis of Alternatives	Require AoAs to assess the ability of commercial solutions to meet capability gaps and requirements.	B.6 Rapidly Validate Commercial Products	Medium	No

NOTE: * *Other Recommendations* includes recommendations developed by the 811 Tiger Team that either (1) lie outside the scope of the JROC authorities and Joint requirements process or (2) require additional resources, manpower, or authorities to implement. Nonetheless, these recommendations are supported by DoD and would represent an improvement to the Joint requirements, resourcing, and acquisition processes.

Other Considerations**					
Reform Category	**Reform Name**	**Description**	**Reform Element**	**Difficulty**	**Congressional Action Needed**
Authority	Designate and Empower the VCJCS as the DoD Future Joint Warfighter Advocate	Expand the authority of the VCJCS by formally designating the position as the advocate for the future Joint warfighter.	B.4 Continuity	Low	Yes
Manpower	Increase Joint Staff Tour Length	Restore Joint Staff tours for requirements managers to 30-36 months and explore other opportunities to retain institutional military knowledge on the Joint Staff.	C.2 Develop a Formal Career Path, Training, and Structure for Requirements Managers	High	Yes
Documentation	Adopt a Strategies-to-Tasks Approach to Joint Requirements	Implement a strategies-to-tasks approach to requirements derivation to ensure alignment between strategies, requirements, and resourcing.	B.2 Clean Sheet Approach	High	No
Digital Modernization	Adopt a Digital-Based Approach to Requirements	Adopt a paperless, digital-based approach to requirements leveraging Model Based Systems Engineering (MBSE).	B.7 Retire & Replace DoDAF	High	No

NOTE: ** *Other Considerations* includes ideas developed by the 811 Tiger Team that, while not immediately executable, deserve consideration for implementation in coordination with the overarching recommendations of this report.

DoD Recommends Revolutionary JROC Reform

Drawing on the 811 Tiger Team's collective efforts over the past 18 months and leveraging the insights of hundreds of stakeholders representing decades of requirements experience, DoD recommends revolutionary JROC reform. Revolutionary JROC reform will include reorienting the JROC to focus on Joint Force design, validating top-down and portfolio-based requirements, ensuring Joint capability integration, and prioritizing CCMD gaps. Specifically, the JROC will conduct the following work:

- **Joint Force Design:** *What does the right force structure look like to maximize lethality in the current and projected operational/threat environments?*
  - Developing and driving future Joint Force Design and Joint Warfighting Concepts
  - Evaluating Service force design and capability development decisions for Joint impact, including integration, interoperability, and capacity
- **CPM:** *How do we look beyond individual programs to manage across a portfolio of capabilities and web of mission threads to optimize efficiencies and effectiveness?*
  - Assessing capability gaps and solutions for the Joint Force by executing Capability Portfolio Management
  - Publishing Capstone Requirements for Joint portfolios
  - Addressing non-materiel solutions through DCRs
- **Joint Capability Integration:** *For major weapons systems in development and production, how are they performing? What are the cost/schedule/performance trade-space considerations to balance Joint Force Design and strategic investments?*
  - Maintaining awareness of MDAP-level programs with cross-Service dependencies in order to
    - Manage operational risks from second- and third-order consequences and interdependencies of Service-level decisions
    - Promote integration and interoperability while avoiding unintended duplication
    - Recommend changes or alternatives for the requirements of struggling programs with Joint equity
  - The JROC will conduct reviews of MDAP-level programs (1) initially and (2) by exception.
    - Initial: Accelerated, up-front review of MDAP-level programs at Milestone B
      - When: After Service-level validation, Service-level requirements documents submitted to FCB. JROC review will last no longer than 60 days and will occur in parallel with Service requirements and acquisition processes so as not to impede program development timelines
      - What: Leverage Service-level requirements documents submitted to FCB. FCB stakeholders can provide recommendations related to interoperability, integration, DOTmLPF-P, etc.
      - How: Review delegated to FCB unless recommended for JCB and JROC review
      - Why: Brief is information only, but informs other JROC efforts (e.g., JFD, CPMR, CGA) and recommendations
    - By Exception: As requested by the JROC, Services, CCMDs or required by law
      - (A) When things go wrong: Conduct tripwire reviews due to cost or schedule slippages, as well as critical intelligence parameter breaches, and validate changes to requirements as required
      - (B) When decisions are interrelated: Service-level decisions that drive impacts across the Joint Force.

- **CCMD Requirements:** *What are the CCMD's priority gaps to be filled?*
  - Prioritizing CCMD gaps through CGAs and IPLs
  - Triaging urgent and emergent requirements through JUONs and JEONs
  - Evaluating and recommending changes related to force sufficiency issues, such as capacity

The reoriented JROC proposed here will be a more strategically focused body, driving Joint Force design and integrating Service force designs while generating top-down/portfolio-based requirements from the Joint Warfighting Concept and CPMRs. The reoriented JROC will expand its assessment of Joint capabilities, especially MDAP-level programs and programs with cross-Service dependencies. However, the method by which the JROC will maintain oversight and insight will be defined not by gatekeeping and validation but rather by continuous review and management by exception; that is, the JROC will not delay Service validation or acquisition milestones but will reserve the right to intervene to recommend changes, alternatives, or cancellations to struggling programs. Lastly, the reoriented JROC will continue to prioritize CCMD gaps and validate urgent and emergent requirements, but it will expand these efforts to include highlighting and making recommendations related to resourcing and capacity issues.

Accordingly, DoD suggests the following changes to statutory language in 10 U.S.C. § 181:

- 10 U.S.C. § 181(a): Add new paragraph (1) providing JROC authority to design the Joint Force that accounts for capability and capacity demands, evaluating service force design initiatives and force structure changes to recommend acceptance, mitigation, or alternative design
- 10 U.S.C. § 181(b)(2): Replace "*validate*" requirements with "*review*" requirements
- 10 U.S.C. § 181(b)(3): Replace "*reviewing and validating*" of Service capabilities with "*analyzing and recommending*"
- 10 U.S.C. § 181(b)(4): Replace "establishing and *approving* Joint performance requirements" with "establishing and *validating* Joint performance requirements"
- 10 U.S.C. § 181(b)(6): Strike *"new"* from "identifying *new* joint military capabilities" and add "*innovative commercial solutions*" to methods of identifying Joint military capabilities
- 10 U.S.C. § 181(b)(7): Strike *"Identifying alternatives to"* and replace with "*maintaining awareness"* of acquisition programs, and add new subparagraph (1) *"proposing alternatives or changes to acquisition programs that have made trade-offs among cost, schedule, technical feasibility, and procurement quantity objectives impacting approved joint military capability requirements"* and new subparagraph (2) "*evaluating impact to joint military capability requirements for the purposes of sections 4375(b) and 2220 of this title."*

Reform Will Incorporate Evolutionary Reform Recommendations and Sunsetting Service Requirements Validation

While revolutionary JROC reform represents the "north star" for the 811 Tiger Team's joint requirements reform recommendations, most of the 40+ recommendations identified remain valid and should be implemented in conjunction with these reform efforts. Indeed, reorienting the JROC requires a clean-sheet rewrite of the Joint requirements process that also incorporates the best practices identified in the evolutionary JROC and JCIDS recommendations to the greatest extent possible. DoD believes that most of the recommendations from Table 4.1 could be implemented in coordination with revolutionary JROC reform.

In concert with a reorientation to a top-down concept and portfolio-based requirements management, the JROC will cease validation of Service requirements documents (i.e., Service Capabilities Based Assessments [CBAs], ICDs, CDDs). The JROC will retire all instructions, manuals, and internal structures whose core mission is executing or enforcing Service requirements approval and validation associated with JCIDS. Additionally, the JROC will limit or cease new JCIDS requirements document reviews and gatekeeping or staffing activities, except where specifically mandated by law.

Instead, the Services will manage requirements through Service requirements oversight boards and will be responsible for ensuring that Key Performance Parameters are met. The JROC will maintain insight through review of validated Service requirements documents and reserves the right to "manage by exception." If Service requirements decisions or programmatic changes present potential issues for Joint interoperability or integration, the JROC will review and recommend changes as required.

Further study is required regarding the impacts on validation of non-Service requirements documentation, including CCMD requirements (e.g., CCMD-sponsored ICDs), as well as Defense Agency and Field Activity (DAFA) requirements. In some instances, Capstone ICDs should be sufficient to capture the missions and measures of effectiveness (i.e., task-condition-standard) required to fill CCMD gaps, beyond the CGA/IPL and JUON/JEON processes. In other instances, it may remain necessary for the JROC to validate DAFA requirements (e.g., DTRA, DHA, DLA, DIA). However, if DAFAs lack acquisition or budget authority, JROC validation will be insufficient, as the JROC cannot direct funding to address changes. If DAFAs possess their own acquisition and budgetary authority, then JROC validation appears to be unnecessary and redundant. Coordination with these agencies during the transition period from JCIDS to the new joint requirements process will be required to ensure that their needs are met while ensuring maximum speed, agility, and due diligence.

Conclusions

Given the accelerating pace of technological change and U.S. adversaries' modernization efforts, DoD believes that revolutionary requirements reform is needed. If implemented, the recommendations captured in this report would constitute the most significant changes to the Joint requirements system since the creation of JCIDS in 2003.

To implement the changes described in this report, action will be needed by Congress. Changes will be required to the Title 10 authorities of the JROC and increased resources and manpower will be required to fully implement this new vision. Additionally, while this report summarizes the ideological "north star" of redesigning the Joint requirements process, significant additional detail is required to implement these changes. The Joint Staff aims to consolidate the recommendations captured in this report and draft a new Joint requirements manual by October 1, 2025. Once this manual is published, the task will then fall to the requirements community to efficiently and effectively implement the new Joint requirements process.

Although the recommendations in this report would represent a significant step forward in terms of requirements reform, there is more work to be done. Specifically, the Service requirements processes, many of which are derived from the legacy JCIDS system, need similar reform efforts. Many related processes, including AoAs and Operational Test and Evaluation (OT&E), should be evaluated, potentially through DoD's response to the Executive Order on Defense Acquisition Reform, the FY 2025 Advisory Panel on Requirements Reform, or other reform initiatives. Lastly, holistic reform to the acquisition and PPBE systems remains necessary to truly accelerate capability delivery to the warfighter.

Considerations When Implementing Recommendations for Requirements Modernization

As DoD leadership considers the recommendations presented here, there are some overarching themes that have arisen from the analysis by the 811 Tiger Team:

- **Generate actionable requirements.** Generating the requirement—that is, the expression of need for a capability for the current or future force—is the first and most important step to acquiring the necessary solutions. The requirements system needs to produce actionable requirements so that the warfighter receives the needed capabilities.
- **Embrace the evolving nature of needs.** DoD needs to embrace the evolving nature of its warfighting needs in how a requirements process is designed. Centralized versus decentralized collection and validation of Joint defense requirements is a perennial problem. Process complexity will lead to failure; bureaucracy has overwhelmed all prior instantiations of reforms; and the solution will be not perfect but should be expected and able to adapt over time.
- **Be dynamic and agile.** DoD's history of prior defense requirements systems illustrates that static requirements systems always fail, in large part because of unpredictable historical events that have drawn out the weaknesses in each system. Thus, a modern requirements system needs to be dynamic and agile to respond.
- **Enable feedback and flexibility.** Any process is likely to fail that does not incorporate feedback mechanisms to the requirements generator and respond in a dynamic way. Regularly incorporate end-user feedback to ensure effective and efficient process design and execution and to prevent scope creep over time.
- **Plan for a transition period.** There needs to be a transition period from current processes to proposed reforms to ensure shared understanding, promote effective coordination, and limit unintended disruption to capability development processes.

Appendix A

FULL TEXT OF REVOLUTIONARY AND EVOLUTIONARY RECOMMENDATIONS

Key Points

- This appendix presents the full text of the 42 revolutionary and evolutionary recommendations for requirements modernization identified by the research team's analysis.
- These recommendations include one highest-priority recommendation, 17 high-priority recommendations, 15 medium-priority recommendations, and nine other recommendations and considerations.

Highest-Priority Reform

Reorient the JROC to Focus on Joint Force Design

Recommendation: Reorient the JROC to drive Joint Force design, define top-down requirements, conduct joint capability integration, and prioritize CCMD gaps
Reform Element: B.2 Clean Sheet Approach

Background: The Joint Staff proposes reorienting the JROC in alignment with the following first principles:

1. Deliver capability to the warfighters at speed. Cut red tape.
2. Preserve the independent warfighter voice.
3. Ensure alignment from strategy to budget with analytic due diligence.
4. Drive Joint Force design, development, and integration in four dimensions:
    a. Integrate globally across the CCMDs
    b. Balance near-term and future (beyond Future Years Defense Program) needs.
    c. Support the breadth of existing innovative technologies and major defense acquisition programs (MDAPs).
    d. Address all elements of DOTmLPF-P.
5. Align authorities to responsibilities and ensure accountability.

The reoriented JROC will ensure a globally integrated and interoperable Joint Force by preserving the JROC's responsibility to shape top-down requirements and prioritize bottom-up gaps. To do so, the JROC will conduct the following work:

- **Joint Force Design:** *What does the right force structure look like to maximize lethality in the current and projected operational/threat environments?*
  - Developing and driving future Joint Force Design and Joint Warfighting Concepts
  - Evaluating Service force design and capability development decisions for Joint impact, including integration, interoperability, and capacity
- **CPM:** *How do we look beyond individual programs to manage across a portfolio of capabilities and web of mission threads to optimize efficiencies and effectiveness?*
  - Assessing capability gaps and solutions for the Joint Force by executing Capability Portfolio Management
  - Publishing Capstone Requirements for Joint portfolios
  - Addressing non-materiel solutions through DCRs
- **Joint Capability Integration:** *For major weapons systems in development and production, how are they performing? What are the cost/schedule/performance trade-space considerations to balance Joint Force Design and strategic investments?*
  - Maintaining awareness of MDAP-level programs with cross-Service dependencies in order to
    - Manage operational risks from second- and third-order consequences and interdependencies of Service-level decisions
    - Promote integration and interoperability while avoiding unintended duplication
    - Recommend changes or alternatives for the requirements of struggling programs with Joint equity
  - The JROC will conduct reviews of MDAP-level programs (1) initially and (2) by exception.
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      - When: After Service-level validation, Service-level requirements documents submitted to FCB. JROC review will last no longer than 60 days and will occur in parallel with Service requirements and acquisition processes so as not to impede program development timelines
      - What: Leverage Service-level requirements documents submitted to FCB. FCB stakeholders can provide recommendations related to interoperability, integration, DOTmLPF-P, etc.
      - How: Review delegated to FCB unless recommended for JCB and JROC review
      - Why: Brief is information only, but informs other JROC efforts (e.g., JFD, CPMR, CGA) and recommendations
    - By Exception: As requested by the JROC, Services, CCMDs or required by law
      - (A) When things go wrong: Conduct tripwire reviews due to cost or schedule slippages, as well as critical intelligence parameter breaches, and validate changes to requirements as required
      - (B) When decisions are interrelated: Service-level decisions that drive impacts across the Joint Force.

- **CCMD Requirements:** *What are the CCMD's priority gaps to be filled?*
  - Prioritizing CCMD gaps through CGAs and IPLs
  - Triaging urgent and emergent requirements through JUONs and JEONs
  - Evaluating and recommending changes related to force sufficiency issues, such as capacity

The reoriented JROC proposed here will be a more strategically focused body, driving Joint Force design and integrating Service force designs while generating top-down/portfolio-based requirements from the Joint Warfighting Concept and CPMRs. The reoriented JROC will expand its assessment of Joint capabilities, especially MDAP-level programs and programs with cross-Service dependencies. However, the method by which the JROC will maintain oversight and insight will be defined not by gatekeeping and validation but rather by continuous review and management by exception; that is, the JROC will not delay Service validation or acquisition milestones but will reserve the right to intervene to recommend changes, alternatives, or cancellations to struggling programs. Lastly, the reoriented JROC will continue to prioritize CCMD gaps and validate urgent and emergent requirements, but it will expand these efforts to include highlighting and making recommendations related to resourcing and capacity issues.

In concert with a reorientation to a top-down concept and portfolio-based requirements management, the JROC will cease validation of Service requirements documents (i.e., Service Capabilities Based Assessments [CBAs], ICDs, CDDs). The JROC will retire all instructions, manuals, and internal structures whose core mission is executing or enforcing Service requirements approval and validation associated with JCIDS. Additionally, the JROC will limit or cease new JCIDS requirements document reviews and gatekeeping or staffing activities, except where specifically mandated by law.

Instead, the Services will manage requirements through Service requirements oversight boards and will be responsible for ensuring that Key Performance Parameters are met. The JROC will maintain insight through review of validated Service requirements documents and reserves the right to "manage by exception." If Service requirements decisions or programmatic changes present potential issues for Joint interoperability or integration, the JROC will review and recommend changes as required.

Further study is required regarding the impacts on validation of non-Service requirements documentation, including CCMD requirements (e.g., CCMD-sponsored ICDs), as well as Defense Agency and Field Activity (DAFA) requirements. In some instances, Capstone ICDs should be sufficient to capture the missions and measures of effectiveness (i.e., task-condition-standard) required to fill CCMD gaps, beyond the CGA/IPL and JUON/JEON processes. In other instances, it may remain necessary for the JROC to validate DAFA requirements (e.g., DTRA, DHA, DLA, DIA). However, if DAFAs lack acquisition or budget authority, JROC validation will be insufficient, as the JROC cannot direct funding to address changes. If DAFAs possess their own acquisition and budgetary authority, then JROC validation appears to be unnecessary and redundant. Coordination with these agencies during the transition period from JCIDS to the new joint requirements process will be required to ensure that their needs are met while ensuring maximum speed, agility, and due diligence.

Next Steps: To implement these recommendations, changes will be required to the Title 10 authorities of the JROC (10 U.S.C. § 181), including:

- 10 U.S.C. § 181(a): Add new paragraph (1) providing JROC authority to design the Joint Force that accounts for capability and capacity demands, evaluating service force design initiatives and force structure changes to recommend acceptance, mitigation, or alternative design
- 10 U.S.C. § 181(b)(2): Replace "***validate***" requirements with "***review***" requirements

- 10 U.S.C. § 181(b)(3): Replace "*reviewing and validating*" of Service capabilities with "*analyzing and recommending*"
- 10 U.S.C. § 181(b)(4): Replace "establishing and *approving* Joint performance requirements" with "establishing and *validating* Joint performance requirements"
- 10 U.S.C. § 181(b)(6): Strike *"new"* from "identifying *new* joint military capabilities" and add "*innovative commercial solutions"* to methods of identifying Joint military capabilities
- 10 U.S.C. § 181(b)(7): Strike *"Identifying alternatives to"* and replace with "*maintaining awareness"* of acquisition programs, and add new subparagraph (1) *"proposing alternatives or changes to acquisition programs that have made trade-offs among cost, schedule, technical feasibility, and procurement quantity objectives impacting approved joint military capability requirements"* and new subparagraph (2) "*evaluating impact to joint military capability requirements for the purposes of sections 4375(b) and 2220 of this title."*

High-Priority Reforms

Delegation

Invert Consensus-Based Decision Making and Delegate JROC Decisions to the Lowest Possible Level

Recommendation: Invert the consensus-based decision making processes of the JROC to a productively adversarial approach and delegate noncontentious decisions to the FCB or JCB.
Reform Element: B.1 Streamline Requirements

Background: As a decision making body, the JROC should be evaluated by the effectiveness and efficiency of its decisions. However, the JROC's decisions are currently hindered by (1) the desire for consensus and (2) retention of authority.

Currently, the JROC operates as a consensus-based organization, which rewards and encourages decisions that appease all parties sufficiently without satisfying anyone completely.[112] The reason the JROC operates as a consensus-based organization is tied to law and policy. Section 181 of Title 10 requires dissenting views at the JROC to be relayed to the Chairman for awareness. While the JCIDS manual states, "consensus is not required to move an issue forward to the next level of review," it also requires that "all dissenting views will be captured and briefed to inform decision makers." These requirements to report dissenting views to senior leaders serve as a deterrent from expressing such views, as well as an incentive to resolving such issues prematurely.

A second-order consequence of the consensus-based nature of the JROC is that JROC members' and advisors' comments must be fully adjudicated in document staffing prior to the JCB and JROC. As a result, requirements officers must address hundreds of comments and attempt to resolve as many as possible to ensure concurrence. At times, issues might have to be resolved multiple times (i.e., at the FCB, JCB, and/or JROC). Alternatively, issues may not arise until the three- or four-star level and must be adjudicated at that late stage. Lastly, briefs are sometimes held up post-JCB/pre-JROC to ensure that they are "ready" for the JROC (i.e., all outstanding non-concurrences are resolved) as opposed to allowing the

[112] Greenwalt and Patt, 2025.

four-stars to voice disagreements and forge compromises. This need for consensus delays Joint requirements validation and impacts the quality of JROC decisions.

Second, the JROC retains most of the authorities granted in 10 U.S.C. § 181 at the three- or four-star level. There are instances in which the JROC delegates authorities, including requirements with the Joint Staffing Designator "JCB Interest," as well as urgent needs (i.e., JUONs), which are delegated to the FCB level for validation. Otherwise, the JROC retains all authorities to prioritize, validate, and establish Joint requirements decisions. As a result, the supporting FCB and JCB merely assess and prepare decisions for the JROC, but cannot make decisions in most instances, even if decisions are non-controversial or appropriate for the one- to three-star level.

Next Steps: (1) Rewrite the JROC Charter and Joint requirements manual to make the JROC productively adversarial (i.e., non-consensus-based) and (2) delegate decision making authority to the lowest possible level.

First, the JROC should reverse its consensus-based organization and establish a productively adversarial process and culture. Instead of attempting to appease all parties, JROC members and advisors should express divergent viewpoints and attempt to convince their peers on the merits of their arguments. Then, the JROC/JCB/FCB Chair should serve as the facilitator and decision maker, encouraging productive disagreement, evaluating all viewpoints, and ultimately deciding based on the analysis provided. Where disagreement remains, these viewpoints should be captured as "views of others" and shared with the higher-level approval boards for leadership decision and action.

Second, the JROC should delegate approval authorities to the maximum extent possible. Noncontentious decisions should be validated at the FCB level. If objections cannot be resolved, issues should be brought to the JCB and, if still unresolved, the JROC. In this sense, the JROC serves as the "Supreme Court" of Joint requirements validation, adjudicating issues that can only be resolved at the four-star level. At the same time, the JROC will maintain oversight and approval of "top-down" strategy and portfolio-based requirements efforts, given the high level of importance and cross-Department coordination required. Additionally, the VCJCS should be kept aware of the decisions being made by the JCB and FCBs, through quarterly JROC executive sessions and/or weekly FCB touchpoints, to ensure an opportunity to rule by negation.

By turning consensus to contention and retention of authority to delegation, the JROC can improve its decision making ability efficiency and effectiveness by ensuring that the highest quality decisions are made at the lowest possible level.

Establish Joint Equity and Joint Information JSDs, Revoke Others

Recommendation: Simplify the Joint Staffing Designators to only Joint Equity and Joint Interest, correlated to ACAT level, and allow FCBs to elevate contentious issues or topics with significant Joint equity to the JCB or JROC level as required.
Reform Element: B.1 Streamline Requirements

Background: Currently, the JCIDS Gatekeeper assigns a Joint Staffing Designator (JSD) to Service requirements documents to establish the staffing path, timeline, and validation authority. While historically the JSD was determined by actual or potential ACAT level, currently the JSD is determined by the extent to which the proposed capability has Joint equities as determined by the sponsor, FCB, and Joint Staff Gatekeeper. There are currently three JSDs: Joint Information, JCB Interest, and JROC Interest.

- **JROC Interest:** Applied to capability requirements documents that have performance attributes considered critical or essential to ensure Joint interoperability and are necessary to fulfill a capability gap(s) of more than one armed force, agency, or entity of DoD.
    - The JROC is the validation authority for JROC Interest documents.
- **JCB Interest:** Applied to capability requirements documents that have performance attributes considered critical or essential to ensure Joint interoperability and are necessary to fulfill a capability gap(s) of more than one armed force, agency, or entity of DoD.
    - JCB Interest is used for capability requirements documents where the intended level of oversight does not meet the JROC threshold and cannot be satisfied by assignment of a lower level JSD.
- **Joint Information:** Applied to all capability requirements documents that do not need Joint Staff certifications or endorsements and are below the level of JCB Interest. The Sponsor organization has independent validation authority for Joint Information documents and responsibility for applicable certifications and endorsements. Any applicable waivers will be published for visibility.
    - The Service Gatekeeper will be responsible for ensuring timely communication with the Joint Staff Gatekeeper regarding the status of the document and will provide the Joint Staff Gatekeeper a copy of the validated capability requirements document and associated validation memorandum when complete.

Currently, there is no connection between program size (i.e., ACAT-level) and JSD. Additionally, the difference between JROC and JCD Interest JSDs is somewhat arbitrary and subjective, requiring action officers to determine the JROC principal interest or equity at the document submission stage.

By creating two JSDs—Joint Equity and Joint Information—requirements managers will only need to determine whether the program is an ACAT Level I (i.e., MDAP) program. If so, it will be assigned a JSD of Joint Equity (i.e., "Joint") and be submitted to an FCB for review. If not, it will be assigned a JSD of Joint Information (i.e., "Service") and be reviewed by the FCB and be entered into KM/DS for awareness and information purposes only.

For programs that are assigned a JSD of Joint Equity, FCBs will review requirements documentation in accordance with the other recommendations in this report, including those related to consensus and delegated decision authority. If there are potentially contentious cross-Service issues with the requirements document or issues that require three- to four-star attention, the FCB Chair would recommend JCB review. If not, the review would cease at the FCB level.

Next Steps: Update the Joint requirements manual to include only two Joint Staffing Designators—Joint Equity and Joint Information—based on ACAT level.

Membership

Ad Hoc CCMD JROC Membership

Recommendation: Invite CCMDs to serve as ad hoc JROC members based on topics to elevate the warfighter's voice in requirements and resourcing
Reform Element: B.4 Continuity

Background: In 2009, Combatant Commanders were added as JROC advisors and, in 2011, elevated to JROC members. However, the FY 2017 NDAA reduced their role from full members "when matters

related to the area of responsibility or functions of that command are under consideration" to advisors whose input the "council shall seek and consider." Given their reduced role as JROC advisors and the perception that the JROC fails to address their capability gaps, CCMDs currently send lower-level representatives to the FCBs/JCBs/JROC.

The JROC aims to support CCMD requirements through the annual CGA/IPL process, as well as the Joint Urgent/Emergent Operational Needs process. However, despite these processes, high-priority CCMD gaps remain unfilled year over year due to the limited authorities of the JROC. As the global integrator, the CJCS/VCJCS should be the CCMDs voice at the JROC, advocating for the CCMD positions to the Services. However, the Service Vices have the "seats at the table" as JROC members and dominate JROC decisions.

While it would be unmanageable to have all CCMDs serve as voting JROC members, it may be possible for VCJCS to nominate CCMDs to serve as ad hoc JROC members for topics for which their Combatant Command has significant interest. Upon receipt of a requirements document or initiation of a Joint requirements review, the Joint Staff Gatekeeper, on behalf of VCJCS, could invite a CCMD to serve as an ad hoc JROC member. Some topics, such as JUONs/JEONs or specific capabilities (e.g., JFN, PSWA), have clear CCMD leads while others (e.g., c-UAS) might require adjudication between CCMDs.

By giving a CCMD a "seat at the table" for topics of direct interest, CCMD buy-in could be increased and CCMD inputs could be fully considered, ensuring that the JROC and Services hear about high-priority gaps directly from the operational end user.

Next Steps: Update the composition of the JROC, as defined by 10 U.S.C. § 181, to give the Chairman of the JROC the authority to invite Combatant Commanders or a general/flag officer designee to be ad hoc member of the Council for topics for which their Combatant Command has significant interest. Alternatively, this change could potentially be implemented by an update to the JROC Charter (CJCSI 5123.01).

Oversight

Refocus JROC on MDAP-Level Programs

Recommendation: Tailor the number and type of approval boards depending on actual/potential ACAT level as well as Joint equity
Reform Element: B.1 Streamline Requirements

Background: In 2018, the requirement for Major Defense Acquisition Programs to be validated by the JROC was removed and replaced with Joint Performance Requirements (JPRs), which aim to ensure interoperability or fulfill a capability gap of more than one armed force. This change was intended to expedite the requirements approval timeline for MDAPs.

However, as a result, there is no differentiation between JROC/JCIDS validation process of programs by Acquisition Category (ACAT) level, be they ACAT I (currently MDAPs costing > $525M in RDT&E in FY 2020 constant dollars or > $3B in procurement FY 2020 constant dollars) versus ACAT II (currently > $200M in RDT&E or > $920M in procurement FY 2020 constant dollars) or ACAT III (below the ACAT II-dollar threshold).

While, per the recommendation of this report, the JROC will not be gatekeeping/validating Service requirements, the JROC needs to maintain insights and awareness of MDAP-level programs with cross-Service equity given the significant resource expenditure and cross-Service implications. Requiring

Services to submit validated requirements documents to the JROC and assigning Joint Equity JSDs to MDAP-level programs for expedited review should ensure appropriate awareness of key programs with cross-Service dependencies.

This initial review would be conducted after Service-level validation and would leverage Service-level requirements. It would last no longer than 60 days, which, in the timescale of an MDAP-level program, is not significant and will occur in parallel with Service requirements and acquisition processes so as not to impede program development timelines. The review will focus on key Joint criteria (e.g., interoperability, integration, DOTmLPF-P); will be conducted at the lowest possible level, unless recommended for higher-level reviews; and will be information only. However, the JROC will leverage the information from these briefs for ongoing efforts (e.g., JFD, CPM) and make recommendations to appropriate boards and reviewers.

At the same time, the JROC will delegate gatekeeping/validating programs at the ACAT II level and below and will empower the Services to develop these capabilities while only managing by exception if issues related to Joint integration arise.

Next Steps: Refocus the JROC on MDAP-level programs by updating the JROC Interest Joint Staffing Designator to correspond to actual or potential ACAT Level I. Require all MDAPs with Joint equity to brief the JROC at Milestone B after validation by the Service requirements process. Reviews should be conducted in an expedited manner that does not delay Service capability development timelines, yet provide the JROC appropriate insight into MDAP-level program development. At the same time, reduce required documents, timelines, board approval levels for programs under MDAP threshold, leveraging Service requirements documents to the greatest extent possible.

Improve JROC Insight into MDAP-level MTAs

Recommendation: Improve JROC insight into MDAP-level MTAs through MTA scoring, making recommendations to improve Joint capability integration
Reform Element: B.1 Streamline Requirements and B.3 Align to Adaptive Acquisition Framework

Background: MTA is a rapid acquisition pathway that focuses on rapidly prototyping and fielding programs with proven technology within 2-5 years. Intended as a "middle tier" to fill the gap between the Major Capability Acquisition Pathway and Urgent Acquisition Pathway, the MTA pathway can be used to accelerate capability maturation before transitioning to another acquisition pathway or to minimally develop a capability before rapidly fielding.

Per Section 804 of the FY 2016 NDAA and DoDI 5000.80, MTAs are not subject to JCIDS. DoDI 5000.80 states that the Vice Chairman of the Joint Chiefs of Staff "Advises DoD Components on interoperability across the Joint Force, cybersecurity of military networks, and alignment with future warfighting concepts." Given this responsibility, DJ8 usually attends MTA approval boards (for proposed MTAs above the MDAP threshold) and maintains awareness of MTA progress through the J8 Capabilities Acquisition Division. Additionally, per DepSecDef Memo titled "Improved Capability Awareness Through Centralized Requirements Reporting" dated December 4, 2024, all capability requirements documents and supporting information should be centrally maintained in the Joint Staff's KM/DS, including MTA documents. Thus, the Joint Staff's seat on the MTA Board, collaboration with A&S, and centralized data repository allow for a minimum level of MTA awareness.

This insight is essential to ensure that the JROC is aware of how MTAs are progressing, what issues they are facing, when they plan to deliver at scale to enable retirement of legacy and understanding of force

structure. However, there are limitations to this passive role. First, other JROC members do not have a seat at the MTA Board and may not be aware of relevant developments in the other Services. Second, the JROC does not regularly evaluate the progress or problems related to MTA program development, 15% of which are at/above the MDAP/ACAT I threshold, nor the impact on the Joint Force. Lastly, the JROC lacks the ability to direct changes to Service programs leveraging the MTA pathway with respect to interoperability, integration, or Joint Force design.

Recognizing that MTAs are not subject to JCIDS, the JROC can satisfy its 10 U.S.C. § 181 responsibilities of assessing Joint military capabilities and reviewing whether a proposed capability fulfills a gap in Joint military capabilities by conducting "MTA Scoring." Without interfering with MTA development, the JROC could develop a "scorecard" to evaluate previous, current, and future MTAs across several dimensions, including interoperability, integration, and future Joint Force design. This passive, internal scorecard process would allow the JROC to actively maintain awareness of Service MTAs and, as required, elevate issues to the appropriate forum or Service leadership. This scoring could be limited to MTAs of certain size (e.g., MDAP-level only) or deemed sufficiently Joint (e.g., JROC Interest only). JROC members could leverage MTA scorecards in other forums (e.g., DMAG, DAB, congressional testimony) to ensure appropriate Jointness. Given the JROC's scorecard, evaluation MTAs could be invited to brief the JROC as required.

Next Steps: Improve JROC insight into MTAs through an internal MTA scoring process. Task the J-8/Capabilities Acquisition Division to develop a plan for MTA Scorecards based on the key performance parameters required by law as well as other areas required to ensure appropriate Joint interoperability and integration. Leverage MTA Scorecards in ongoing JROC discussions and invite MDAP-level MTAs to brief the JROC as appropriate.

Manpower

Increase and Standardize FCB Manpower

Recommendation: Fully staff FCBs with 10-15 full-time personnel across military, civilians, and contractors
Reform Element: C.2 Develop a Formal Career Path, Training, and Structure for Requirements Managers

Background: Currently, the FCBs are staffed inconsistently and inappropriately for the critical work they conduct on behalf of the JROC and the Joint Force. As of 2024 the FCBs staffing levels are inconsistent and insufficient (Tables A.1 and A.2, Figure A.1).

Table A.1

Functional Capabilities Board Staffing by Personnel Type

	Military	Civilian	Contractor	Total
Battlespace Awareness (J2)	2	2	8	**12**
Logistics (J4)	2	0	2	**4**
C4/Cyber (J6)	2	2	2	**6**
Force Development & Design (J7)	1	1	2	**4**
Force Application (J8)	9	2	3	**14**
Force Protection (J8)	1	1	2	**4**

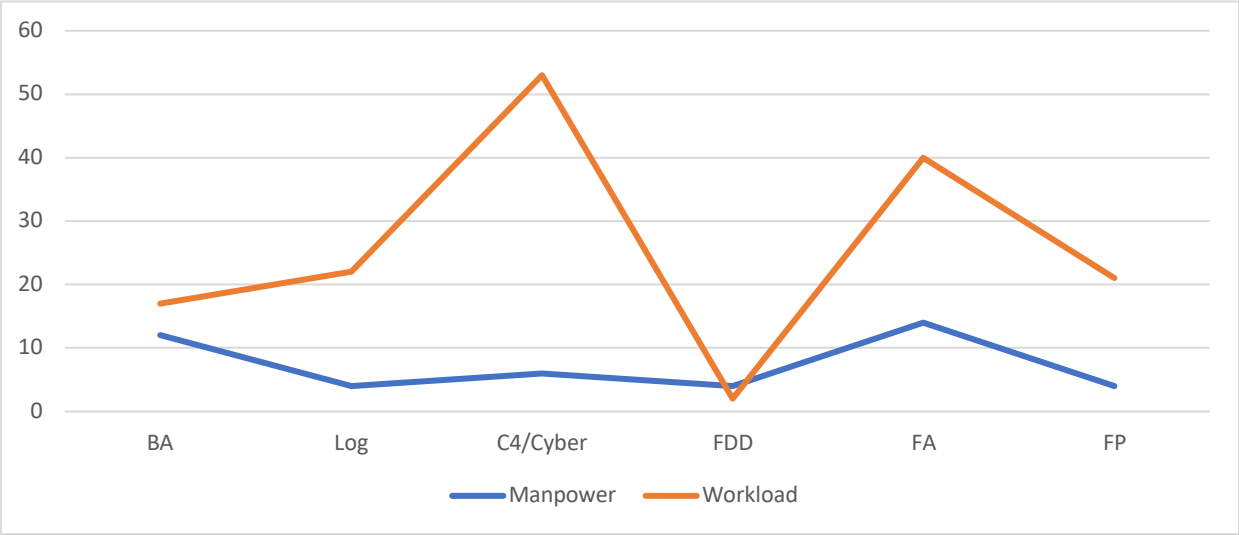
Table A.2

Number of Documents Staffed by Stage and Document Type

Stage	CDD	CDD-U	ICD	IS CDD	IS ICD	SW-ICD	Total
Battlespace Awareness	7		7	2	1		17
Logistics	6		16				22
C4/Cyber	18	5	20	3	3	4	53
Force Development & Design	1		1				2
Force Application	19	2	18	1			40
Force Protection	12	2	7				21
Total	**63**	**9**	**69**	**6**	**4**	**4**	**155**

Figure A.1

Number of Documents Staffed (Workload) Versus Total Functional Capabilities Board Staffing (Manpower)



Additionally, there appears to be an inverse correlation between the number of documents staffed and the time it takes an FCB to staff requirements documents (Table A.3 and Figure A.2). For example, FA has the lowest average FCB time of 118 days despite having a large workload of 40 documents. Similarly, C4/Cyber has the highest workload with 53 JCIDS documents staffed on an average of 121 days. Conversely, FDD takes the longest to staff documents with an average of 156 days for two documents and BA averages 132 days across 17 JCIDS documents.

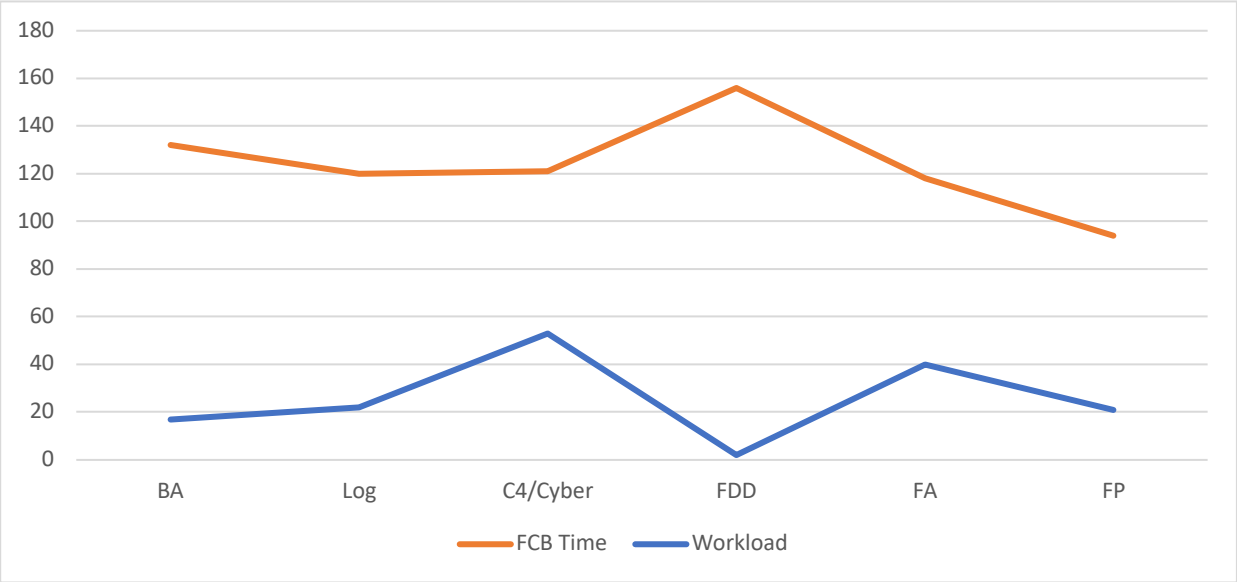
Table A.3

Functional Capabilities Board Staffing Days Required per Document and Stage

Stage	CDD	CDD-U	ICD	IS CDD	IS ICD	SW-ICD	Total Average
Battlespace Awareness	177		122	173	55		132
Logistics	90		151				120
C4/Cyber	112	132	106	166	124	84	121
Force Development & Design	133		180				156
Force Application	94	281	93	3			118
Force Protection	156	49	77				94
Total Average	**127**	**154**	**121**	**114**	**89**	**84**	**115**

Figure A.2

Number of Documents Staffed and the Time It Takes an FCB to Staff Requirements Documents



The Joint Staff's hypothesis is that increased FCB manpower allows for a higher workload which, in turn, results in faster throughput (due to, we propose, increased experience and understanding of the process). In other words, increased manpower can potentially result in increased output at a faster rate. While the FCBs roles and responsibilities will be changing significantly—including a reduction in staffing and gatekeeping—we expect an increase in responsibilities related to Joint Force design, warfighting analysis, Service and CCMD integration, and industry engagement. Current ad hoc FCB manning is insufficient for this important work.

Next Steps: Fully staff FCBs to a minimum of ten full-time (maximum of 15) personnel across military, civilians, and contractors. To the maximum extent possible, increase FCB reach-back into their JDIR to leverage the broadest possible expertise toward high-priority requirements decisions, but not at the expense of full-time FCB personnel.

Staffing

Expedite Comment Adjudication

Recommendation: Allow requirements document sponsors to reject any/all comments during comment adjudication. Capture critical non-concurs as "views of others" in JROC/JCB briefs.
Reform Element: B.1 Streamline Requirements

Background: Currently, the comment adjudication process is one of the longest steps in the JCIDS staffing process. Comment adjudication lasts 82 days on average across several document types, including close to 100 days for a CDD.

One reason that sponsor comment adjudication takes so long is that document sponsors, often composed of no more than one to two action officers, must triage hundreds of comments from stakeholders across

the Joint Staff, Services, CCMDs, and OSD. Adjudicating comments may require coordination internally (i.e., from the headquarters staff submitting to the document to SMEs located in other parts of the Service or CCMD) as well as external coordination with commenters.

Additionally, given the consensus-based nature of the JROC, there is a desire for concurrence/consensus from all stakeholders prior to briefing the JCB/JROC, especially for critical comments, which delays the process as comments are adjudicated, reducing the efficiency and potentially the effectiveness of the staffing process. Currently, there is no distinction between JROC members (i.e., Joint Staff and Services) and advisors (i.e., CCMDs and OSD) in terms of comment adjudication and resolution.

Next Steps: Requirements document sponsors should be granted the authority to reject any/all comments. Sponsors should still review all comments and take input into consideration to the maximum extent possible without significantly slowing down the staffing process. Comments that rise to the level of critical non-concurs should be captured as "views of others" in JROC/JCB briefs. If stakeholder organizations are concerned that their comments are not being incorporated, they can voice these concerns at the FCB, JCB, or JROC. This change will result in significant time savings while still providing stakeholders an opportunity to voice their concerns, balancing efficiency with due diligence.

Coupling this reform with other recommendations including removing the consensus-based nature of the JROC allows for productively adversarial disagreement and debate at FCBs/JCBs/JROCs instead of serving as a "rubber stamp" for lowest common denominator decisions.

Enforce Document Staffing Timelines and Cutoffs

Recommendation: Re-establish nominal Joint staffing timelines such that they are achievable, enforceable, and sufficiently efficient. Track Joint requirements documentation staffing in real-time, enforcing timelines and cutoffs to ensure progress.
Reform Element: B.1 Streamline Requirements

Background: JCIDS documents have nominal overall staffing timelines (e.g., 67 days for an ICD or 103 days for a CDD), yet take 300–340 days on average for Joint Staff staffing. Additionally, timelines exist for various stages of the Joint Staffing process (e.g., 30 days for comment adjudication, 14 days for FCB review), yet these stages can take 80 and 120 days on average. These timelines do not account for either Service staffing timelines, which can take 200–300 additional days on average for ICDs and CDDs, or the requirements document generation time.

Next Steps: The Joint Staff Gatekeeper should re-establish overall JCIDS staffing timelines as well as timelines for each stage in the staffing process. Staffing timelines and comment adjudication should not exceed two weeks, which is achievable if these changes are implemented along with other reform recommendations such as weighing comments by JROC members versus advisors and increasing the ability to reject critical comments. Some exceptions to timelines (e.g., waivers by the Joint Staff Gatekeeper) should be possible considering system complexity, such as commercial solutions versus MDAPs.

Once nominal timelines are re-established, the following measures should be implemented:

- Joint Staff Gatekeeper and FCB Secretariats must actively track JCIDS staffing timelines, leveraging KM/DS, the JROC Secretariat, and the JROC dashboard.
- Warnings must be sent to document sponsors and FCBs one week ahead of timelines being breached, on the date that documents are due, and regularly following deadlines that have been breached. Automatic triggers could be created in KM/DS or the JROC Dashboard.

- Failure to provide a response within the established timelines must be considered as "concur without comment." If JROC member response is critical, failures to respond within timeline should be highlighted at the appropriate forum (e.g., FCB, JCB, or JROC).
- Failure of document sponsors to address comments within the nominal time period, without requesting a waiver from the Joint Staff Gatekeeper, will result in document invalidation, restarting the joint staffing process at the beginning.

Implement Proactive Joint Requirements Stewardship

Recommendation: In lieu of reactive gatekeeping, implement proactive Joint requirements stewardship through regular reviews, active collaboration, and digital modernization.
Reform Element: B.1 Streamline Requirements

Background: Currently, Joint requirements gatekeeping is predominantly "reactive" in the sense that key functions (e.g., reviewing draft documents, assigning Joint Staffing designators, and assigning FCBs) are performed in response to sponsor submissions. While the Joint requirements gatekeeper serves an important screening function and customer service role, they do not actively track timelines, document statuses, or task completion. If the overarching recommendations of this report are implemented, the Joint requirements gatekeeper and the FCBs will need to actively work to ensure appropriate awareness and review of Service requirements decisions.

Proactive stewardship can be accomplished through three mutually supporting mechanisms. First, Services should be required to submit validated requirements documents to the JROC for awareness. These validated documents will be reviewed by the Joint requirements Gatekeeper and will be assigned a JSD of Joint Equity or Joint Information. Afterward, the Service requirements document will be assigned a relevant FCB, reviewed for relevant information, and incorporated into other FCB business (e.g., CPMR, CGA). Requiring the Services to submit validated requirements documents to the JROC can be accomplished by amending the Service Chiefs Title 10 authorities through a DoD Instruction or JROCM.

Beyond regular reviews, the Joint requirements Gatekeeper and FCBs can engage in the Service requirements processes in a much deeper way than is currently conducted. Specifically, Joint Staff representatives should attend Service-level requirements boards, as observers and by invitation only, in order to maintain real-time situational awareness of key Joint capabilities in development. Similarly, the Joint requirements gatekeeper and FCBs should be provided permission to review Service requirements databases/tools to understand what requirements are in the pipeline. Critically, the purpose of this active participation is to maintain insight, not oversight, to inform other JROC business.

Lastly, leveraging KM/DS or the JROC Dashboard, the Joint requirements Gatekeeper should track which Joint requirements documents are close to or in violation of their nominal timelines, comebacks, or tripwires and follow up with sponsors to ensure rapid completion. Additionally, the Joint requirements Gatekeeper could track JROCM task completion, providing a regular update to the JROC of which JROCM tasks are or are not being completed and what mitigation actions must be taken to address them. In this way, the JCIDS Gatekeeper would ensure that Joint requirements documents are completed effectively and efficiently and that the direction of JROC decisions are fully implemented. Lastly, through a larger-scale digital modernization effort, the Joint Staff could build a single, authoritative Joint requirements database, which Services leverage for their requirements generation, staffing, and validation, in order to maintain real-time insight into Service requirements development.

Next Steps: Implement proactive Joint requirements stewardship by reviewing validated Service requirements documents, actively collaborating with Service counterparts to attend Service requirements forums and maintain insights through Service digital tools, and improving digital tools track tasks, timelines, and documents.

Documentation

Simplify the Joint Requirements Manual

Recommendation: Simplify the Joint requirements manual by reducing length, removing redundant information, and simplifying the structure to focus on outcomes over process. Clearly define the intent and first principles while instituting business practices to prevent scope creep over time.
Reform Element: B.1 Streamline Requirements

Background: The first JROC charter (MCM 76-92, published in 1992) was seven pages and the first JCIDS manual (CJCSM 3170.01, published June 2003) was 88 pages long. By 2021, the JROC charter had grown to 118 pages and the JCIDS manual had grown to 400 pages in length. While revisions have been made every few years, changes were mostly additive, and no comprehensive effort was made to significantly reduce the length of the Charter or Manual.

A revised Joint requirements manual must be optimized for readability and usability. It should differentiate between policy (i.e., what is required) versus guidance or best practices (i.e., what is recommended). It should remove any redundant material covered elsewhere by U.S. law or DoD policy, while ensuring traceability of relevant guidance through reference and citation. In so far as document formats, KPP guides, or other references remain applicable and necessary, relevant instructions can be hosted online (e.g., KM/DS or JROC Dashboard) for easy access and updates or linked to external sources.

Next Steps: Remove the following sections from the Joint requirements manual:

- JCIDS Document Formats (IS-ICD, SW-ICD, CDD Increments and Annexes, IS-CDD)
- Performance Attributes/KPP Guides (Interoperability, Force Protection, System Survivability, Sustainment, Energy, DOTmLPF-P, Intelligence Supportability, Weapons Safety)
- Other Sections/References (DoDAF, MOSA, Exportability, Cost, Technology Readiness/Manufacturing Readiness, Analysis of Alternatives, Program Summary)

Additional process improvements to the Joint requirements manual include:

- Format: The Joint Requirements manual should be rewritten in an easily accessible format, removing the current confusing structure of enclosures, appendices, and annexes.
- Growth: Policies should be codified within the JROC Charter or JCIDS manual to prevent future regulatory growth and scope creep. Options may include setting a strict page limit (e.g., ≤ 100 pages) or removing one page for every new page added.

Reduce and Simplify Joint Requirements Documents

Recommendation: Reduce the number and content of JCIDS documents to better align and influence the PPBE and acquisition processes.
Reform Element: B.1 Streamline Requirements

Background: Since its establishment in 2003, the number of JCIDS documents has increased from two (ICD and CDD) to nine: DCR (2005), Draft CDD (2009), IS-ICD (2012), IS-CDD (2012), and SW-ICD (2021), CDD Update (2018), and CDD Annex (2018). During this time, document length and complexity have grown, as more performance attributes, certifications and endorsements, and other annexes or appendices have grown. While the amount of content of JCIDS documents has increased, the utility of these documents decreased proportionately.

Next Steps: Reduce the number of JCIDS documents to three: ICD, CDD, and DCR. Where flexibility is required by requirements sponsors (e.g., software systems), the JCIDS Gatekeeper should waive required sections to the maximum extent possible and align to best practices elsewhere in DoD (e.g., Capability Needs Statement). At the same time, ICDs, CDDs, and DCRs should be streamlined and simplified to the maximum extent possible. ICDs should be no longer than five pages and CDDs should be no longer than 10 pages. All content that is covered by acquisition policy, applicable laws, or is repetitive to other documents or processes should be removed.

ICDs should be limited to the following sections: Operational Context, Threat Summary, Capability Requirements/Gaps, and Recommendations, without additional sections addressing topics such as validation authority, exportability, acquisition, survivability, and EMS or CBRN considerations.

CDDs should be limited to the following sections: Operational Context, Threat Summary, and Capability Discussion (including DOTmLPF-P), and Program Summary (including Interoperability). The following sections should be delegated to the Services and eliminated from the Joint CDD: Performance Attributes, Other System Attributes, EMS Requirements, Intelligence Supportability, Weapons Safety Assurance, Technology Readiness, and Program Cost.

DCRs should be simplified, ensuring the end user/customer understands and can enact the change recommendations, but continue to focus on five sections: Operational Context, Threat Summary, Capability Requirements, Change Recommendations, and Implementation Plans.

Joint Staff and Service requirements organizations should continuously capture best practices and lessons learned to improve guidance, templates, and training.

Leverage Service/CCMD Documentation in the Joint Requirements Process

Recommendation: Allow for Service and CCMD specific requirements documentation to be submitted to the Joint requirements process. To ensure Jointness, identify a limited number of specific areas that must be included (e.g., interoperability, intelligence certification, exportability, DOTmLPF-P), but do not mandate JCIDS-specific documentation.
Reform Element: B.1 Streamline Requirements

Background: All Services and CCMDs have Service-specific requirements documentation (Table A.4). While not identical, these documents satisfy many of the requirements of Joint requirements documents. Where they do not, specific sections could be requested in addition (e.g., Interoperability, DOTmLPF-P, Intel Supportability, EMS Control) to supplement the Service requirements document without requiring the Services to recreate and staff a separate Joint document. Such a reform would accelerate the requirements validation process, cutting down on document generation as well as staffing time, while ensuring sufficient Jointness and due diligence.

Table A.4

Comparison of Service, CCMD, and Joint Requirements Documentation

		DOCUMENT TYPE						
		JCIDS CDD	SOCOM SORRD	Army A-CDD	Navy TLR	Air Force MTA	Marine USON	JCIDS ICD
DOCUMENT SECTIONS	Operation Context	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Threat Summary	Yes	No	Yes	Yes	Yes	Yes	Yes
	Capability Discussion	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Program Summary	Yes	Yes	Yes	No	No	Yes	Yes
	Performance Attributes	Yes	Yes	Yes	Yes	No	Yes	No
	Other System Attributes	Yes	No	Yes	No	Yes	No	No
	Joint Interoperability	Yes	Yes	Yes	Yes	Yes	Yes	No
	Electromagnetic Control	Yes	No	Yes	No	No	No	No
	Intelligence Support	Yes	No	Yes	No	Yes	No	No
	Weapon Safety	Yes	No	Yes	No	No	No	No
	Tech Readiness	Yes	No	Yes	No	No	Yes	No
	DOTmLPF-P	Yes	No	Yes	Yes	Yes	No	No
	Affordability	Yes	Yes	Yes	Yes	Yes	Yes	No

Next Steps:

- Update JCIDS manual or replacement to allow for Service and CCMD specific requirements documentation to be submitted to the Joint requirements process.
- Identify specific areas that are required to be included with Service/CCMD requirements documents for Joint staffing and oversight purposes. Update JCIDS manual to require these appendices.
- Consideration should be given to common data fields such that centralized data analysis and dashboard can provide senior leaders relevant insights.

Establish Capstone Requirements

Recommendation: Establish Capstone Requirements in order to define measures of effectiveness and tasks-conditions-standards for key capability areas.
Reform Element: B.1 Streamline Requirements and B.4 Continuity

Background:

Why do we need "Capstone" Requirements?

Many of the U.S. Military's warfighting challenges are complex in nature. Too often, one-size-fits-all processes drive capability development to assume a 1-to-1 relationship of problem-to-solution. As a result, performance parameters are defined up front by narrow thresholds and objectives at the start of capability development and there is an excess of Joint requirements hidden in volumes of system-specific documents.

Capstone Requirements provide simplified, unified, "top-down" guidance to the Joint Force to focus and enable continuous modernization and integration of "bottom-up" developed capabilities. Capstone Requirements equate to mission-type orders for capability development without overly prescribing solutions and stifling innovation. Using a Capstone Requirements approach, requirements managers provide guidance to capability developers to align their efforts to validated Joint requirements, improving continuous capability integration across the Joint Force.

Capstone Requirements build off the historical precedent of Mission Area ICD (MA-ICDs) and Joint Capabilities Documents (JCDs), which validated "Big R" requirements and could be leveraged for additional requirements generation and/or capabilities development. Think Tanks have suggested a similar concept called "Warfighter Essential Requirements," which establish enduring, enterprise-level requirements, that are not domain or platform specific.

What is a "Capstone" Requirement?

A Capstone Requirement, currently captured in a "Capstone Initial Capabilities Document," is an overarching and enduring "functional" requirement (i.e., task and standard) required for Joint Warfighting. Capstone Requirements allow Requirements Portfolio Managers to serve both the warfighting community (how do I get what I need?) and capability development, acquisition and budgeting communities (what is needed, how much, what is useful and critical to resource now and in the future?).

Joint Capstone Requirements are derived from Joint concepts and should support both Joint Force design and align Service modernization. Capstone Requirements are jointly developed and co-written with multiple Service, Agency, Combatant Command, and other Department stakeholders. Services and Agencies can develop Capstone Requirements to capture the enduring capability needs for a portfolio or area that may be met by multiple acquisition programs and/or commercial solutions. Portfolio Managers can use Capstone Requirements to continuously assess performance of an individual or a portfolio of capabilities.

How does this work?

Joint development and validation of the Combined Joint All Domain Command and Control (CJADC2) Capstone Initial Capabilities Document (ICD) sets the overall portfolio for modernization across the Command and Control (C2) Warfighting Function, including:

1. Establishes high level Capabilities Required (CRs) and operational view ("OV-1") framework that subsequent documents can trace to, such as Service requirements documents, capability needs statements, acquisition problem baselines, or requests for proposals.
2. Requirements for major interdependent efforts (e.g., EMS Management or Nuclear C2 Modernization) become appendixes–shaping a portfolio of specific requirements that are integrated, traceable, and re-usable.
3. An accessible and searchable database and model/high level architecture of these requirements is maintained. Old requirements are deleted and continuously curated across the portfolio.

The CJADC2 requirements manager continuously assesses capability gaps in their portfolio, monitoring rapid prototyping and fielding efforts, experimentation and exercise outcomes, and capability delivery schedules. This continuous process leads to an annual CPMR with prioritized actions and resourcing recommendations.

The CJADC2 requirements manager may also develop and host a "capability needs capture tool" to provide real-time visibility of capability needs from the warfighter. In the past, tools such as the Net-Enabled Requirements Identification Database (NRID) captured only system-specific capability needs for programs of record. These requests were then entered into a monthly or quarterly working group process, resulting in enormous development backlogs and funding disconnects. This new tool should allow users to enter their capability needs (CNs) for one or more systems, policy issues, emerging feature needs, etc. This tool would provide real-time visibility of program development and integration performance and responsiveness, and anticipate warfighter needs before they become critical gaps.

Next Steps: Establish Capstone Requirements in parallel with priority CPMRs (e.g., ASKW, C-C5ISRT, A&A-PNT, IAMD) to define measures of effectiveness (i.e., tasks-standards-conditions) and assess DoD's progress in closing critical capability gaps.

Prioritization

Expedite the Release of Joint Requirements to Industry

Recommendation: Delegate the release of all JROC/JCIDS documentation to the JROC Gatekeeper and regularly release key strategic documentation to industry to improve collaboration.
Reform Element: C.1 Collaborate with Partners

Background: Per the JROC Charter and the JCIDS manual, JCIDS documents and supporting data are Joint information governed by CJCSI 5714.01: Policy for the Release of Joint Information. However, the JROC Charter provides potentially conflicting guidance on the release of JROC information. It states that the JROC Secretariat is the Approval Authority for the release of all official information and documents associated with JROC recommendations. At the same time, as the document originator, the Sponsor is responsible for the release of capability documents including ICDs, CDDs, and DCRs.

Additionally, the JROC Charter specifies that JROC information will be released to non-DoD entities only after a case-by-case review and coordination with the JROC Secretariat, JROC membership, and appropriate Joint Staff offices (e.g., Legal Counsel, Public Affairs, and Legislative Affairs), and the originating organization as appropriate. As a practical matter, these unclear and cumbersome regulations mean that JROC information is rarely released to the public or industry short of a FOIA request.

Lastly, classification of documentation prevents non-traditional defense industry participants from viewing JROC information. A consequence of these policies is a lack of shared understanding between

DoD and industry regarding the Joint Force's highest-priority requirements, inhibiting the development of new capabilities to solve the warfighters' most pressing needs.

Next Steps:

- Delegate all authorities and responsibilities for release of JROC/JCIDS information into the JROC Gatekeeper regardless of document type or sponsor.
- Regularly release key strategic documents (e.g., CGAs, CPMRs) to industry partners with appropriate clearances.
- If classification issues persist, evaluate options for one-time read-ins for industry partners and/or options for classification downgrade.

Metrics

Develop Process and Outcome Metrics

Recommendation: Develop process and outcome metrics for the Joint requirements process. Track metrics and report outcomes to the JROC to improve performance.
Reform Element: B.5.A Document Mission Impact and B.5.B Continuously Improve

Background: Currently, the JROC lacks clear outcome-based metrics to measure the effectiveness of the Joint requirements process. While the JROC Secretariat tracks the total number of JROCMs signed and JCIDS documents have nominal timelines for staffing and validation (e.g., 67 days for an ICD or 103 days for a CDD), these timelines are not actively tracked nor enforced. Additionally, these process metrics are essentially measures of performance (MOP), which are insufficient measures of effectiveness (MOE) of the requirements process.

There are nascent efforts to improve JROC metric tracking and enforcement, including tracking JROCM task completion via the JROC Dashboard as well as the correlation between requirements decisions and budgets through the Resources to Requirements Data Dashboard (R2D2). However, these tools are still in development and only track two potential measures of effectiveness (i.e., task completion and resourcing impact) of the Joint requirements process.

While the other elements of the DoD decision support system have clear metrics (e.g., cost-schedule-performance for the acquisition system; funding levels and obligation rate for PPBE), the Joint requirements process does not have an equivalent. Process metrics should focus on measures of performance of generating and staffing requirements documentation. At the same time, outcome metrics should focus on measures of effectiveness of requirements decisions, specifically related to delivering the right capability to the warfighter at the time of need.

Recommendation: Develop clear, quantitative, and meaningful process and outcome metrics for the Joint requirements process. Potential metrics may include:

- Example Process Metrics (i.e., MOPs): Number of documents staffed, staffing timelines, tasks completed
- Example Outcome Metrics (i.e., MOEs): Program and resourcing alignment to Joint priorities, speed of capability delivery, gaps closed, risk to NMS/JWC execution

Actively track metrics and report outcomes to the JROC on a quarterly basis to continuously improve performance and increase impact.

Digital Modernization

Retire and Replace KM/DS

Recommendation: Retire KM/DS and replace with a modernized and authoritative Joint requirements platform, leveraging authoritative data, providing execution tools, and enabling strategic insight.
Reform Element: B.4 Continuity and B.5.B Continuously Improve

Background: Currently, the JROC manages the JCIDS process through the Knowledge Management and Decision Support system (KM/DS). KM/DS was originally developed in 2013 and, despite undergoing piecemeal updates and improvements, remains a legacy software system unable to meet the needs of a modernized Joint requirements process. A GAO Report to Congress in October 2021 titled "Weapons System Requirements" found that KM/DS does not meet federal IT standards for design, use, or communication and that the JROC is unable to use the system as intended:

- KM/DS system is not sufficiently reliable and is unable to determine the total number of programs that have been through the JCIDS process.
- KM/DS system has limited functionality, lacking the ability to track the number of documents in the JCIDS process or how long those documents took to be reviewed.
- KM/DS system functions on a case-by-case basis and does not provide an overall view across the universe of JCIDS documents.

GAO concluded that KM/DS does not meet federal IT standards for design, use, or communication and that the JROC is unable to use the system as intended. In addition, other users have noted that the KM/DS system lacks a reliable search functionality or metrics tracking capability. Additionally, KM/DS exists on SIPR and cannot host a significant portion of requirements documentation.

Efforts are underway to improve the functionality of KM/DS through C3.ai's development of the JROC Dashboard, designed to automate the tracking of requirements and gaps within the system. The dashboard will provide a comprehensive, real-time visualization of requirement documents as they progress through the JCIDS process, enabling enhanced monitoring, trend analysis, and strategic insights to support decision making. While the JROC Dashboard introduces valuable capabilities, it serves as a temporary solution to the broader limitations of KM/DS.

The Joint Staff requires digital tooling to support the new era of strategically focused Joint requirements oversight. To ensure long-term efficiency and scalability, KM/DS must be replaced with an advanced application powered by Artificial Intelligence (AI) that can streamline operations, improve data accuracy, and support adaptive decision making. It should also allow for real-time insights into Service requirements processes as well as alignments between requirements, acquisition, and resources. An authoritative Joint requirements platform would accomplish the following tasks:

- Strategic Insight: Through an executive dashboard, status and timeline metrics, and strategic risk scores, an authoritative Joint requirements platform would allow for leaders and users to gain insights, drive efficiency, and ensure accountability throughout the Joint requirements process.
- Authoritative Database: Through a unified, cross-service data integration and Generative AI search tools, the platform should allow users to interact with all historical and current requirements data in real-time across the Joint Staff, CCMDs, Services, and OSD.

- Process and Execution Tools: Through an AI-powered document builder, integrated collaboration spaces, and Service-specific workflows, the platform should empower Services with modernized AI tools while simultaneously allowing for Joint Staff insight.
- Requirements Alignment Hub: Through integration with other tools and databases, including R2D2 and Capability Portfolio Management dashboards, the platform should surface alignment between requirements, acquisition, and resources.

Next Steps: Retire KM/DS and replace with a modernized application that serves as an authoritative Joint requirements platform, enabling seamless integration with Service and Combatant Command (CCMD) requirements processes while ensuring alignment with resourcing and acquisition efforts.

The replacement system must also be implemented within an interoperable environment that facilitates efficient data sharing across relevant applications, enhancing collaboration and decision making capabilities within existing and available applications.

Commercial Technology

Rapidly Validate Commercial Solutions Ability to Meet Capability Gaps or Opportunities

Recommendation: Rapidly validate commercial solutions ability to provide military utility.
Reform Element: B.6 Rapidly Validate Commercial Solutions

Background: The dynamic U.S. technology industry and innovative commercial companies represent an asymmetric U.S. advantage over our adversaries. Today, many leading technology companies are investing significant capital into research and development to build innovative capabilities that solve DoD problems. There are many avenues where industry will propose, prototype, demonstrate, experiment, and/or exercise their commercial or dual-use technologies with DoD operational commands and acquisition professionals. Yet many capabilities that are successfully demonstrated at an operational exercise or test range, which proved valuable to military end users, are not explicitly captured in an approved requirements document for an acquisition program. Without an approved requirement, it is often difficult for new capabilities to compete for funding, leading to a two-to-three-year delay in capability development and/or procurement (i.e., the "valley of death").

Section 811 of the FY24 NDAA specifically tasks DoD to modernize DoD's requirements process by "establish[ing] a process to rapidly validate the ability of commercial products and services to meet capability needs or opportunities." This task is consistent with and supported by numerous current and recent laws and Administration policies, including:

- 10 U.S.C. § 3453 requires a *preference for commercial products and services across federal agencies*. The agency heads to the maximum extent practicable shall ensure that requirements are stated in terms of functions to be performed, performance required, or essential physical characteristics. These requirements shall be defined so that commercial products, services, or nondevelopmental items may be procured to fulfill such requirements.[113]
- The President issued an executive order on *Modernizing Defense Acquisition* to include requirements reforms and a first preference for commercial solutions to enable speed, flexibility, and execution.[114]

[113] 10 U.S.C. § 3453.

[114] Trump, 2025a.

- The President issued another executive order on *Ensuring Commercial Solutions in Federal Contracts*. This required all agencies to review all pending solicitations that were non-commercial products or services to validate sufficient research, analysis, and actions were taken.[115]
- The Secretary of Defense issued a memo *Directing Modern Software Acquisition to Maximize Lethality*. This requires software development programs to use the software acquisition pathway, Commercial Solutions Opening, and Other Transactions as the default approaches.[116]

Defense modernization requires a mix of defining capability needs from operational commands as well as identifying future military opportunities based on emerging technologies. While it is not the role of the requirements system to select and acquire specific solutions or capabilities, the requirements process can assist commercial technology solutions that fill existing capability gaps/requirements or offer novel military solutions.

Recommended Approach: The requirements and operational communities validate the military utility of a commercial solution through a Military Utility Memo when it does not fall within the scope of a current requirements document (i.e., ICD, CDD). The memo captures how the capability was demonstrated, tested, or exercised with the operational community as well as describes the gaps/requirements address and the additional value provided.

- The Military Utility Memo validates that the commercial solution aligns to a military capability gap/requirement or offers a novel approach for defense operations that is not documented elsewhere.
    - This memo would be added to Service and/or Joint Staff requirements databases or related repositories for increased awareness, integration with related artifacts, and potentially shape an existing or new requirements document if applicable.
- Capability can be a commercial product or service or something developed via the DoD S&T and R&D communities (e.g., DARPA, DoD Labs).
- This memo does not replace acquisition, contracting, or budgeting processes that must conduct market research to explore the full range of alternative capabilities and solicitation processes to compete for a DoD contract or agreement.
    - This memo does not validate that commercial solutions have been fully tested and certified for defense operations that in addition to performance characteristics, considers integration and security factors.
    - This memo does not direct funding or acquisition decisions by the Services, although it should have clear direction for how it integrates with budget and acquisition processes within the Components, including identifying a Program Executive Officer that best aligns with the commercial solution.
- This memo will constitute a validated need as an alternative to a traditional requirements document for the purposes of acquisition and funding decisions, in order to bypass bureaucratic hangups (i.e., “we don’t have a requirement for that”).

[115] Donald J. Trump, “Executive Order 14271 of April 15, 2025: Ensuring Commercial, Cost-Effective Solutions in Federal Contracts,” *Federal Register*, Vol. 90, No. 71, April 18, 2025b.

[116] Secretary of Defense Peter Hegseth, “Directing Modern Software Acquisition to Maximize Lethality,” memorandum to Senior Pentagon Leadership, Commanders of Combatant Commands and Defense Agency, and DoD Field Activity Directors, U.S. Department of Defense, March 6, 2025.

Notional Example: A company develops and produces an Unmanned Aerial System (UAS) which could be used for a variety of military applications. They demonstrate it with an operational commander who is eager to acquire this system or something like it. While the UAS does not fit within the scope of current approved CDDs for an acquisition program, it does align/fit within the scope of a broader ICD or other capability requirements identified in broader documents and frameworks (e.g., JWC CRCs, IPLs). It may address a capability need/gap or offer a novel opportunity/solution that was not previously defined but within the Operations Plan (OPLAN).

The Operational Command informs the responsible requirements organization of their interest in the commercial solution. They provide information in a Military Utility Memorandum capturing information on the operational needs or opportunities, the commercial solution, engagements with industry, results of any tests, demonstrations, or exercises, and any materials offered by the vendor.

The requirements organization should then evaluate the commercial solution from a requirements perspective, including:

- What are notional operational use cases for this capability?
- Does the capability fit within existing CONOPS/TTPs/OPLANs? If not, does this open novel operational concepts and plans?
- What other systems would this capability need to integrate/communicate with?
- What are the operational risks/considerations?

The requirements organization reviews the request and signs a memo validating that the commercial solution has military applications and does not fall within an existing requirements document. This streamlined approval process will validate commercial solutions at the lowest practical level commensurate with the scope of the commercial solution. Service specific solutions will be validated by Service requirements organizations while joint solutions or solutions above a certain cost threshold will be validated by JS/OSD. Component organizations/teams will work with Joint Staff and OSD to maintain a central repository of validated commercial solutions that may relate to Joint Staff's KM/DS and DCMA's Commercial Item Group's repositories of commercial items.

Next Steps: Joint Staff and Services should develop a common process to rapidly validate the ability of commercial products to fill capability gaps/requirements and/or present novel technological opportunities.

Medium-Priority Reforms

Delegation

Reduce the Number of JROC Comebacks

Recommendation: Reduce the number of JROC comebacks by delegating to FCBs and reducing automatic tripwires
Reform Element: B.1 Streamline Requirements

Background: Currently, the JROC frequently tasks document sponsors to return to the JROC/JCB after 6-12 months. There is no consistent rule for why comebacks are directed, and as a practical matter are often driven by the Service Vices or the quality of the presentation, nor is there a clear metric of success of these comebacks. It is unclear whether JROC comebacks have led to a program correcting course or

preventing surprise from an issue that otherwise would have caused a tripwire. However, the tasking for a JROC can unintentionally delay Service programs given the amount of time required to brief FCB Working Groups, FCBs, JCB, and the JROC.

A simple fix to reduce delays on account of staffing time and briefing schedules would be to delegate JROC Comebacks to the FCBs and allow the FCBs to elevate these briefs as required. Going one step further, instead of setting time-based standards JROC Comebacks, the JROC could establish conditions-based standards for comebacks in order to "manage by exception." Currently, this is conducted through JROC tripwires that account for slippage in cost, schedule, performance, or end-item quantity. However, due to the JROC's limited authorities to direct Service acquisition and budget processes, these tripwires briefs are often rubber stamps.

Considering this, some JROC Comebacks should be delegated to other entities. Changes to cost and schedule could be handled by other oversight bodies such as OUSD(A&S) or the Milestone Decision Authority. A similar principle could be applied to JROC comebacks that result from changes to end-item quantity due to Service budget decisions or congressional direction, which the JROC cannot impact. Delegating cost, schedule, and end-item quantity decisions to the Services—while maintaining insight, oversight, and the ability to intervene as required—improves alignment between responsibilities and authorities and provides tradespace to capability developers, allowing them to pursue novel solutions that satisfy capability gaps. At the same time, the JROC can reserve the right to intervene in cases where trade-off decisions have deleterious impacts to the Joint Force or are failing to meet threshold requirements.

Next Steps: First, change JROCM wording to "return to FCB" versus "return to JCB/JROC" and allow the FCB Chair to elevate to the JCB or JROC as appropriate. Second, explore opportunities to reduce the number of JROC comebacks by (1) establishing conditions-based standards for JROC Comebacks, (2) delegating comebacks related to cost, schedule, or end-item quantity to the appropriate OSD or Service oversight boards, except where there is significant Joint equity or programs are at risk of failing to meet their threshold requirements.

Delegate Performance Attribute Validation, But Provide Support

Recommendation: Delegate performance attribute validation to the Service requirements processes, but provide guidance, coordination, and support to ensure due diligence.
Reform Element: B.1 Streamline Requirements

Background: Currently, the Joint requirements process contains several mandatory KPPs (force protection, system survivability, sustainment, energy, interoperability) and one mandatory KSA (exportability) derived from the JROC's Title 10 authorities, NDAA language, DoD Directive, and JROCMs. In addition, the JROC currently certifies/endorses key considerations for capability development including DOTmLPF-P, Intelligence Certification, and Weapons Safety Assurance. In order to ensure that these attributes are appropriately considered in requirements documentation, JCIDS created numerous certifications and endorsements that document sponsors are required to complete prior to JROC validation. Certifications and endorsements ensure that sponsors, requirements managers, and the acquisition community understand capability requirements' implications for the warfighter and the DoD support system alike.

While there is consensus that these performance attributes are critical considerations in capability development, the validation of these KPPs/KSAs are part of the CDD validation process, which the JROC will no longer be conducting for Service-sponsored documents if the recommendations of this report are implemented. As such, the question becomes, in a world where the JROC is no longer

gatekeeping/validating Service-level requirements documents, how can DoD ensure that these important attributes are appropriately considered?

The JROC might consider some of the following approaches:

1. Joint Staff Guidance: The new Joint requirements manual could define the key performance parameters that the Service requirements processes need to consider given federal law and DoD policy (e.g., Force Protection, Sustainability). It could define the "what/why," but leave the "who/when/how" to the Service requirements process. At a minimum, the Joint requirements manual would serve as an authoritative list of key considerations (i.e., guidance) for capability development.
2. Joint Staff Coordinator: In addition to the Joint Staff guidance described above, the Joint Staff could serve as a coordinator across the Service requirements processes and Combat Support Agencies (CSAs) to ensure that the KPPs above are appropriately considered. Each FCB would serve as a SME on KPP certification, sharing best practices, recommending process improvements, and training/advising/assisting Service and CSA KPP validation. Serving as a coordinator builds on one of the JROC's strengths—robust stakeholder engagement—and would promote due diligence in requirements validation.
3. Joint Staff as a Service: Beyond guidance and coordination, the Joint Staff/FCBs could continue to perform certifications/endorsements of KPPs as a service for the Services and CSAs as requested. This "opt-in"/ "consultancy" model would not be required, but the Services could leverage the Joint Staff if desired, which would prevent the Services from having to do this work themselves.

Regardless of which approach is adopted, it is important for the Joint Staff to retain the performance attribute certification/endorsement expertise on staff, in order to provide the guidance and coordination described above, in addition to certifying CSA requirements documentation, which in some instances consists of almost half of performance attribute certifications.[117] Nonetheless, as Service-level requirements validation is delegated to the Service requirements processes, the Joint Staff's role related to performance attributes will shift from gatekeeper/validator to one of guidance, coordination, and/or customer service.

Next Steps: In the revised Joint requirements manual, provide guidance on the key performance attributes as well as other certifications/endorsements that the Service requirements processes must consider in their requirements validation processes. Engage the FCBs and Services to explore the possibility of the Joint Staff serving as a coordinator and/or Service with respect to performance attribute certification.

Members

Add DIU as a JROC Advisor

Recommendation: Add DIU as a JROC Advisor to ensure requirements decisions are informed by commercial technology developments.

[117] Per the Battlespace Awareness FCB, from January 2023 to May 2025, the Services sponsored 54 percent (68 of 126) of the capability requirements documents requiring intelligence certification. Therefore, 46 percent of Intelligence Supportability certifications were for non-Service-sponsored capabilities.

Reform Element: B.6 Rapidly Validate Commercial Products and C.1 Collaborate with Partners

Background: Title 10 USC 181(b) defines the JROC's mission to include "identifying new joint military capabilities based on advances in technology and concepts of operation." However, the academic literature and requirements practitioners agree that the JROC routinely fails to execute this portion of its mission, especially as it relates to emerging and commercial technology.

Currently, OUSD(R&E), OUSD(A&S), DOT&E, and other OSD elements with insights into emerging technology serve as JROC Advisors. However, adding DIU as a JROC Advisor would inject a unique perspective to JROC deliberations focused on innovative commercial technologies developed by non-traditional defense companies. In turn, DIU membership in the JROC would also allow its efforts to be better informed by the Joint warfighter community, improving alignment between requirements and rapid acquisition efforts.

While legitimate concerns exist regarding the number of JROC members and advisors, implementing this recommendation in coordination with other recommendations related to consensus and delegation will ensure that new members do not prohibitively slow down approval processes. Rather, DIU's perspective on commercial technology and non-traditional companies could be leveraged within the JROC without significantly increasing process complexity.

Next Steps: Update the JROC Charter (CJCSI 5123.01) to add DIU as a JROC Advisor.

Increase JROC Scheduling Options and Expedite JROCM Signing

Recommendation: Increase options for JROC scheduling and sign JROCMs at the JROC as a default policy.
Reform Element: B.1 Streamline Requirements

Background: The Requirements Validation stage of the JCIDS staffing timeline (i.e., JCB, JROC, and JROCM signing) takes 48 days on average (median time of 41 days). While not the rate-determining step of the JCIDS staffing timeline compared to Sponsor Comment Adjudication (average of 82 days) or FCB time (average of 114 days), improvements can still be made to expediate the JCIDS process. Two specific issues that delay the Validation stage include scheduling and JROCM signing.

1. Scheduling: Senior leader availability can delay the validation stage. If the JROC must be cancelled due to senior leader availability (e.g., VCJCS or Service Vice engagement with CJCS, SECDEF), the JROC is delayed seven days. Additionally, ripple effects cause all subsequent JROCs to be delayed, resulting in cumulative delays.
2. JROCM Signing: Frequently, even when the JROC concurs on a requirements validation decision, the JROCM is not signed at the JROC. Instead, after the JROC, the JROCM is staffed to the Services for final concurrence before it is sent to the VCJCS for signature. Over the past year, hard copies of JROCMs have been brought to the JROC for signature if all parties agree with the decision and language, and this strategy has had some success and has become standing policy.

Next Steps:

1. Scheduling: By implementing other changes recommended in this report related to delegation, consensus, and comebacks, the scheduling demands on the JROC may be decreased. Nonetheless, one method to mitigate JROC scheduling issues includes reducing JROC sessions to 60 minutes (versus 90 minutes) and expanding the time block to two hours (e.g., Tuesdays 0900-1100) such that two topics can be completed in a single day, reducing the ripple effect of cancellations and

increasing JROC availability for urgent and "pop-up" topics. Weeks where there is only one topic, the JROC would only last one hour and senior leaders would be given time back in their schedules.

2. JROCM Signing: Remove JROCM staffing process after a JROC. Changes required to the JROCM should be made during the meeting by the JROC Secretariat and VCJCS should sign the JROCM at the meeting as an official, default policy. Only staff JROCMs back to the Services in instances where the JROCM significantly changes such that edits cannot be made during the JROC.

Formalize Allied and Partner Integration and Flexibly Expand the I-JROC

Recommendation: Formalize Allied and Partner integration within the JROC processes and develop a process to dynamically expand the I-JROC membership
Reform Element: C.1 Collaborate with Partners

Background: The I-JROC was created in 2023 to drive co-design and co-development of allied and partner capabilities while ensuring maximum combined exportability, interoperability, and interchangeability. Since its creation, the I-JROC operated as a trilateral forum involving Australia, the United Kingdom, and the United States, and validated 19 trilateral requirements.

However, there is a need to improve integration of the JROC with the I-JROC, improving channels for integrating allied requirements earlier in the planning process and throughout concept development to improve interoperability and reduce duplication of effort. Additionally, given the transregional nature of our peer competitors and the increasing complexity of combined, global operations, there is a need for mechanisms that enable ad hoc expansion and/or reduction of I-JROC membership to ensure maximum efficiency and effectiveness. This need has been recognized at the 4th I-JROC where the body unanimously approved expansion to Canada and New Zealand.

Next Steps:

1. Develop integration framework and processes to allow for regular, deliberate cross-checks with allied requirements earlier in the planning process and throughout concept/requirement/capability development.
    a. Touchpoints would enable the identification of capabilities of mutual interest, ensure exportability built-in from inception, accelerate capability, and avoid unnecessary duplication of effort.
    b. Fora such as the bi-weekly O6/GOFO Integration Meeting or the Building Partnership Working Group could be leveraged depending on member participation and classification levels.
    c. To the maximum extent possible, Joint requirements documentation with potential allied and partner equity should be written in a releasable format.
2. Establish mechanisms to enable key allies and partners (e.g., Japan, Israel) to be temporarily and/or permanently added to the I-JROC based on current threat environment.
    a. Identify goals, expectations, and potential roadblocks regarding expansion of I-JROC membership with current and future members. Determine the best method of flexibly changing I-JROC membership depending on topic area, including bilateral and multi-lateral fora.
    b. Identify process opportunities to improve allied and partner integration, such as improving releasability, reevaluating the exportability key system attribute, as well as leveraging NATO capability taxonomy and capability codes to promote standardization.

Training

Promote Requirements Managers Workforce Development, Not a Career Path

Recommendation: Do not establish a requirements manager career path. However, improve requirements workforce development through identification, professionalization, and collaboration.
Reform Element: C.2 Develop a Formal Career Path, Training, and Structure for Requirements Managers

Background: DoD does not have a standard career path for requirements professionals. Career path management for the acquisition and requirements workforce is unique to each military department. Although the acquisition training and certification standards at the DoD level are standardized and published by DAU, the military departments are the certification authority.

The Service Chiefs value requirements managers who can bring a current operational perspective and relevance to the process. The Services have made strides to develop and retain the requirements workforce while balancing opportunities for both promotion and advancement. Some military departments balance requirements workforce teams with a blend of civilian members (for continuity) with military members (for current warfighting experience). It would be prudent to allow the military departments flexibility to continue to develop the approach that works best for their military and civilian members' career development and needs.

Short of establishing a career field, the requirements workforce can be improved through a few simple measures. First, the Services can create Special Experience Identifier (SEI) for requirements professionals, as some Services currently do. If these identifiers result in preferred assignments, requirements management may become a "step up" or a "badge to wear," like PEM in the Air Force. Additionally, the requirements management community should create new professional development opportunities, such as training opportunities and rotational assignments with industry, rotational assignments, and mentorship programs. Lastly, developing a community of interest (e.g., Teams channel with resources, RFIs) of past, present, and future requirements managers could promote information sharing and best practices.

Next Steps: JS, A&S, and the Services should improve requirements workforce development through initiatives including improved membership identification, professional development opportunities, and increasing collaboration opportunities.

Update DAU Training

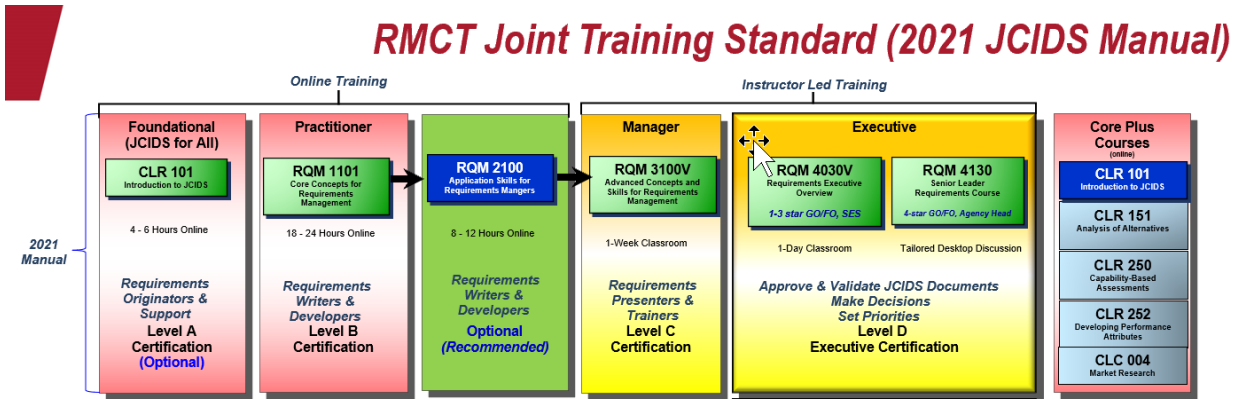
Recommendation: Update DAU curriculum based on upcoming changes and lessons learned
Reform Element: C.2 Develop a Formal Career Path, Training, and Structure for Requirements Managers

Background: The Requirements Management Certification and Training (RMCT) program provides working knowledge across the lifecycle of programs that a requirements workforce member could encounter at the appropriate level of knowledge. Created in the 2007 NDAA, RMCT attempts to standardize and improve the training and certification of the requirements management workforce. The individual military departments may require additional unique training beyond what the Joint RMCT standard requires and some military departments leverage additional DAU available training content in that effort.

The RMCT program has a standing governance structure that is led by a Functional Area Leader or "FAL" (USD(A&S)) and a Functional Area Advisor or "FAA" (Joint Staff J8/DDRCD). DAU serves as both the Requirements Management Functional Integration Team secretariat and the DAU President (along with the FAL and FAA) make up a tri-chair panel that are responsible for the RMCT program. RMCT levels are based upon jointly agreed upon core competencies and standardized job-related tasks that help determine what level of certification the DoD requirements workforce requires. The current training standards are based upon the 2021 JCIDS manual and are shown below (Figure A.3).

Figure A.3

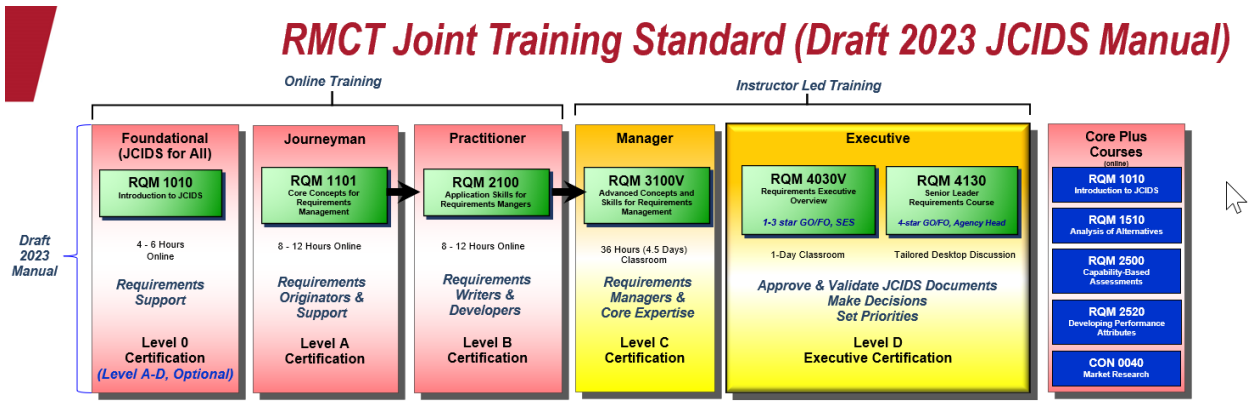
RMCT Joint Training Standard (2021 JCIDS Manual)



In December 2022, the requirements management governance structure approved a DoD-wide agreement to improve the RMCT program (Figure A.4). The decision made RQM 2100 *Application Skills for Requirements Managers* a new Level "B" centered on incorporating a suite of job support tools to assist the requirements workforce to identify, document and coordinate warfighter needs. The FIT agreed to the improved RMCT construct below, however the updated JCIDS Manual was never released. This evolutionary improvement to the workforce structure leverages RQM 2100 as the joint level "B" standard and adjusts the level "A" training standard to RQM 1101, enabling DoD to track the requirements workforce at levels A-D.

Figure A.4

RMCT Joint Training Standard (Draft 2023 JCIDS Manual)



Beyond changes and improvements to the DAU course structure and curriculum, a number of other changes should be implemented to ensure that requirements managers show up ready for the job on day one. These changes could include the following:

- Tracking and reporting requirements manager participation in DAU courses
- Implement RQM 2100 as Joint RMCT level "B" standard
- Migrate RQM 1101 as Joint RMCT level "A" standard
- Request requirements managers complete at least RQM 1101 (up to RQM 3100) prior to their arrival on the Joint Staff. If unable to do so, require 30 days to complete the 1st course, 60 days for the 2nd, and 90 days for the 3rd, etc., once the member has arrived on the Joint Staff. Offer recommended supplemental courses for individuals to complete as able.
- Update DAU curriculum on an annual basis to ensure it remains relevant to current Joint requirements processes
- Conduct an annual survey of DAU training participants to improve curriculum offerings
- Review participant learning outcomes and feedback to determine whether more DAU training courses should be conducted in-person versus online
- Publish the RMCT framework (sited above) on DAU iCatalog for component workforce certification.

Next Steps: After JROC/JCIDS reforms implement, update DAU curriculum accordingly. Implement improvements regarding participation tracking, pre-training, curriculum updates, and feedback as appropriate.

Staffing

Reduce the Number of JCIDS Documents Staffed

Recommendation: Reduce the number of JCIDS documents staffed to only include documents with clearly identified and actionable next steps.
Reform Element: B.1 Streamline Requirements

Background: In 2024, the JROC held 36 JROCs (+ 3 Paper JROCs), 39 JCBs (+63 Paper JCBs), and signed 112 JROCMs. Often, the quantity of documents staffed exceeds the capacity of JROC members to review and respond, reducing the quality of responses, delaying timelines, and diluting the focus of the JROC. Additionally, many documents staffed, especially Capabilities Based Assessments (CBAs) and Initial Capabilities Documents, are not acted on past the JROC/JCB validation phase, calling into question the utility of the time and effort spent to validate them.

Next Steps: Prior to the submission of JCIDS documents, the Joint Staff Gatekeeper should confirm that sponsors have coordinated with transition partners to ensure that there is a clear need for a validated, Joint requirement. If there is not clear stakeholder buy-in nor next steps identified, a document should not be staffed to the JROC. This method enables all JCIDS stakeholders to manage throughout to meet the established timeline, align requirements validation to priority capability areas, and reduce the likelihood of wasted time and effort.

Documentation

Redefine Threshold Values

Recommendation: Clearly define, delegate, and iterate threshold requirements

Reform Element: B.4 Continuity

Background: The JCIDS Manual initially defines the term *threshold* as follows: "performance below the threshold value is not operationally effective or suitable or may not provide any improvement over current capabilities." It continues: "where an inability to meet the threshold value should call into question the continued value of the program."

However, later the JCIDS Manual says, "A deeper analysis of cost-capability trade-offs at and around threshold . . . values may be beneficial to decision makers, by exploring incremental return on investment where certain performance attributes might be insensitive to small deviation at great advantage in lifecycle cost, performance, schedule, and quantity reviews."

This lack of clarity has caused delays in many programs by unintentionally conceding that the initially established threshold value really *wasn't* the true threshold value. Rather, the initial threshold value likely represented a 'desired' value or 'expected' value, neither of which serve the intention of the threshold as defined nor provide value to the acquisition process. The acquisition process must be rooted in clear and consistent requirements that represent the true limits of their flexibility—or be free to operate absent any such rigidness.

Threshold values are important for communicating operational needs and clearly establishing metrics for acquisition professionals. However, threshold requirements can also prematurely constrain solutions through the articulation of rigid characteristics, constrain program managers' ability to make trade-off decisions, and stifle adaptation to evolving threats or technological opportunities. As such, an appropriate balance must be struck between clearly defining threshold requirements and improving the ability to iterate and update these requirements given changing circumstances.

Next Steps: Use 'threshold' as intended, where it represents a 'red line' or 'deal-breaker' between the requirements and acquisition communities. These values must be a resolute representation of the difference between operational utility and ineffectiveness or unsuitability. For programs that fail to meet threshold KPPs, approval from the relevant Joint/Service requirements oversight board should be required to continue program development.

However, only utilize threshold requirements by exception—where only certain performance attributes absolutely must meet certain criteria or values. Instead of requiring all performance attributes to have a threshold value, assign a "desired" value that can be 'traded-off' in pursuit of schedule or cost. Delegate threshold requirements validation to the Services to allow for increased flexibility and iteration between the requirements and acquisition community.

Align FCBs with Joint Functions

Recommendation: Align FCBs with Joint functions and simplify other taxonomies (e.g., JCAs, UJTLs, JCSFLs)
Reform Element: B.1 Streamline Requirements and B.4 Continuity

Background: In U.S. military doctrine, there are seven Joint functions: intelligence, movement and maneuver, sustainment, C2, information, protection, and fires. Currently, there are six FCBs: Battlespace Awareness, Logistics, C4/Cyber, Force Development and Design, Force Application, and Force Protection. Joint functions and FCBs/JCAs, including subordinate Tier 2-3 JCAs, could be better aligned for consistency between doctrine and process.

Additionally, beyond aligning FCBs, JCAs, and Joint functions, further alignment between JCAs (Functions), UJTLs (Tasks), and JCSFLs (Systems) should be considered to improve decomposition and eliminate confusion.

Next Steps: For continuity and clarity, the Joint functions and FCBs should be aligned as shown in Table A.5.

Table A.5

Proposed Alignment of Joint Functions and FCBs

Joint Function	Current FCB	Proposed FCB
Intelligence	Battlespace Awareness FCB	Intelligence FCB (J2)
Sustainment	Logistics FCB	Sustainment FCB (J4)
Information	C4/Cyber FCB	Information FCB* (J3 or J6)
C2	C4/Cyber FCB	C2 FCB (J6)
Protection	Force Protection FCB	Protection FCB (J8)
Fires	Force Application FCB	Fires FCB (J8)
Movement and Maneuver	Force Application FCB	
—	Force Development and Design FCB	Force Development and Design FCB** (J7)

* The JROC previously proposed creating an Information FCB, including JCAs such as non-kinetic fires and information operations. However, this proposal was not implemented and Joint Information JCAs are currently covered under the C4/Cyber FCB.
** No Joint functions exist for force development and design, but we recommend preserving the FDD FCB given their efforts to support force integration through force integration, force preparation (i.e., DOTmLPF-P), and building partnerships.

If implemented, review Tier 2-3 JCAs such that they align with Joint function tasks in JP 3-0 as appropriate.

Prioritization

Conduct Annual Prioritization of the Top Ten JROC-Validated Gaps and Requirements

Recommendation: Prioritize the top ten JROC validated gaps and requirements on an annual basis and publish through a Chairman's IPL.
Reform Element: B.4 Continuity and C.1 Collaborate with Partners

Background: Currently, the JROC prioritizes requirements in silos (e.g., CGA, JWC, CPMRs) while Service-driven requirements validation decisions are done individually and absent from prioritization.

However, there is no overall prioritization of JROC decisions, preventing stakeholders inside and outside DoD from understanding the Joint Force's top priorities at any given time.[118]

This recommendation proposes creating a CJCS-validated annual prioritization of the top ten JROC-validated requirements, ensuring an appropriate balance between near/long-term risks, as well as bottom-up/top-down requirements. This synthesized product would allow CJCS and the JROC to speak with one voice in terms of the highest-priority Joint Force gaps through congressional testimony, best military advice, and influence on the acquisition and budget processes. Additionally, the CJCS IPLs could be shared with industry to provide a clear demand signal to industry partners about the highest-priority Joint gaps and requirements.

Next Steps: Establish an annual process to develop the CJCS's IPL by

- building off the CGA/IPL process and aligning with the CRA/CPR timelines
- establishing which requirements and gaps will be used as source materials for the CJCS IPLs (e.g., CCMD IPLs, JUONs/JEONs, JWC CRCs, CPMRs, Service Requirements Documents)
- determining criteria and metrics for evaluating and prioritizing the gaps and requirements (e.g., risk, threat, AOR, ongoing efforts) within and across portfolios
- initially, conducting prioritization within each FCB, and then compiling FCB inputs through the JCB and JROC to develop a JROC-validated CJCS IPL
- annually assessing the closure of JROC-validated CJCS IPL in order to measure the effectiveness of the process and improve execution.

Establish Joint Requirements Reviews to Revoke or Update Legacy Requirements Documents

Recommendation: Establish a recurring process to review legacy Joint requirements documents
Reform Element: B.1 Streamline Requirements

Background: Currently, JROC-validated requirements do not expire. While there are some exemptions (e.g., JUONs/JEONs must be revalidated after two years), Joint requirements remain validated until they are specifically revoked. Few Joint requirements are ever rescinded, and new Joint requirements are regularly validated, making searching, comparing, and leveraging Joint requirements a cumbersome and confusing process. Consequently, strategic direction from the JROC is diluted, potentially reducing the CJCS's impact on acquisition and budgeting decisions.

The Army is currently pioneering the Continuous Objective Requirements Analysis (CORA) effort to identify requirements on the books that are rendered invalid because of new or changing requirements. Leveraging artificial intelligence and automation, the Army is reviewing 2,000+ requirements documents amassed over decades and considering alignment to current strategies and plans as well as current and future funding allocation. As a result, 400 legacy requirements documents have been rescinded.

A similar process could be executed at the Joint level in coordination with the Services, leveraging best practices from the Army. The Joint Staff could start by identifying the total number of ICDs and CDDs with Joint Equity over the past 20 years. Of those programs, work to identify X% percent have active

[118] The Chairman's Program Recommendations (CPR) represents the closest that the Joint Staff comes to an overall prioritization of requirements, recommending increasing/sustaining/reducing investment by capability area based on JROC-validated requirements. However, the CPR does not prioritize JROC-validated requirements from highest to lowest (e.g., "1-n"). Additionally, the CPR is considered best military advice between CJCS and SECDEF and is not widely distributed with external audiences.

acquisition programs, Y% are unfunded and still valid, and Z% have achieved FOC. Priority for elimination should go to any validated requirements where there are no current or expected future acquisition or budget activities to close gaps. It may be possible to execute this requirement review and removal function as part of the CPMR process.

Other methods, such as an automatic requirements expiration period, have precedent in the SOFCIDS system (e.g., SORRDs are valid only for five years) and could be explored. However, this method would have to be executed in a fashion that does not add process/bureaucracy for the requirements or acquisition communities. For example, revalidation could be automatic if a document owner requests revalidation, but revocation could also be automatic after 5-10 years if unrequested.

Next Steps: Establish a CORA-like process to review legacy Joint requirements documents in coordination with the Services. Explore the possibility of an automatic requirements invalidation period.

Metrics

Implement Continuous Process Improvement

Recommendation: Regularly solicit feedback from the requirements management community and iteratively update the Joint requirements process.
Reform Element: B.5.B Continuously Improve

Background: The current requirements process is rigid, codified in a Chairman's Instruction (CJCSI) and updated every 2–3 years. JCIDS Manual updates are generally additive, not reductive, and thus rarely reduce red tape or simplify processes. Opportunities for feedback from some stakeholders exist in the bi-weekly O6 and GOFO integration meetings. However, while headquarters staffs across the Joint Staff, OSD, and the Services are included, requirements and acquisition practitioners (e.g., PMs) or end-users (e.g., CCMDs) are not included in these conversations. Surveys are periodically sent to the requirements stakeholder community and some process or policy recommendations are incorporated. Lastly, Congress regularly directs changes and improvements to the Joint requirements process through the NDAA, as has been the case in the FY22–FY25 NDAAs.

Recommendation: Create an agile process to ensure continuous process improvement within the Joint requirements process, including:

- Regularly request and review feedback on process improvements through post-JROC/JCB hotwashes, bi-weekly O6/GOFO meetings, and quarterly stakeholder surveys
- Invite feedback from "end users" of the requirements process, including acquisition officers, budget/programmers, and the operational community
- Leverage open JROCs/JCBs to review real-time feedback from and propose process improvements to senior leaders
- Actively track Joint requirements process and outcome metrics and review at the GOFO integration meeting.

Digital Modernization

Publish the Joint Requirements Manual Online

Recommendation: Maintain the updated Joint requirements manual on the DAU and Joint Staff websites
Reform Element: C.3 Publish New Policies Digitally

Background: Currently, the JCIDS manual is maintained as Word document, PDF, and printed out as hard copies. Up to date e-copies of the JCIDS manual can be difficult to acquire, forcing action officers to manually search through the hard-copy of the manual. Better methods exist to publish acquisition policies and guidance, such as the Adaptive Acquisition Framework (https://aaf.dau.edu/) and the Contracting Cone (https://aaf.dau.edu/aaf/contracting-cone/) on the DAU website, which help acquisition professionals navigate the large number of processes, policies, guidance, and resources more effectively.

An added benefit of publishing the Joint requirements manual online is an improved ability to update in real-time. Currently, the JCIDS manual is updated every 2-3 years. However, an online resource can be more easily updated in an iterative and dynamic fashion. Implemented in coordination with other recommendations, including establishing metrics and implementing continuous process improvement, publishing the Joint requirements manual online will help create a more understandable, agile, and efficient requirements process.

Next Steps: Publish new Joint requirements manual online on DAU website and on the Joint electronic library.

Commercial Technology

Incorporate Emerging Technology Insights into Threat Briefs

Recommendation: Ensure the JROC remains informed of key emerging technology developments by incorporating emerging technology insights into JROC threat briefs.
Reform Element: B.6 Rapidly Validate Commercial Products

Background: Per 10 U.S.C 181, the JROC shall identify new Joint military capabilities based on advances in technology and concepts of operation. While this task is partially completed through existing JROC membership (e.g., USD(R&E), USD(A&S), DOT&E serve as JROC advisors) and processes (e.g., IAPR/TMTR, AoAs), technology is not a central focus of the JROC's core requirements processes and gap identification. Requirements validation, gap prioritization, and future force design decisions should be informed by relevant developments in emerging technology.

The JROC regularly includes "threat briefs" by the IC to ensure that requirements decisions are sufficiently threat informed. Similarly, in an era of rapid technological innovation, when our adversaries are outpacing our modernization efforts, the JROC should incorporate emerging technology insights into these briefs to ensure our requirements and acquisition processes are sufficiently technology-informed to ensure relevance, timeliness, and impact. This recommendation can be implemented without adding additional briefings to the calendar but rather adding a short section in relevant briefs (e.g., CPMRs) where relevant technological developments are addressed. Additionally, relevant results from DOT&E events can be shared through this channel, in addition to increased attendance of FCB personnel at relevant testing events.

Next Steps: Improve upon existing JROC threat briefs by incorporating insights on emerging technology that directly impact current or future requirements development. To the greatest extent possible, Service requirements organizations should leverage similar emerging technology insights and briefings.

Other Recommendations

Other Recommendations includes recommendations developed by the 811 Tiger Team that either (1) lie outside the scope of the JROC authorities and joint requirements process or (2) require additional resources, manpower, or authorities to implement. Nonetheless, these recommendations are supported by DoD and would represent an improvement to the joint requirements, resourcing, and acquisition processes.

Funding

Re-Establish a Fund for JEON/JUONs

Recommendation: Re-establish a "Year of Execution Integration" budget line within the Joint Rapid Acquisition Cell (JRAC) to fund JROC-validated JUONs and JEONs.
Reform Element: B.1 Streamline Requirements

Background: In Section 846 of the FY 2012 NDAA, Congress established a Joint Urgent Operational Needs Fund in 10 U.S.C. 2216a. This fund was intended to support rapid fielding of capabilities in response to urgent operational needs. However, the authority to make expenditures or transfers from the Fund expired on September 30, 2019, and Congress never appropriated amounts for the fund.

Since 2015, the JROC has validated six JUONs/JEONs per year on average[119] with an average cost of $90.8M per JUON/JEON.[120] However, there is no pre-planned budget line for validated urgent and emergent capability requirements from the CCMDs. Instead, the JRAC directs Services to fund CCMD validated requirements by reprogramming funds within other budget line items. Therefore, JUON/JEON validation necessarily impacts solution sponsor's ongoing efforts, leading to potential cost increases, program slips, and, potentially, program termination. Notably, JUONs/JEONs are the only Joint requirements validation process that is directly tied to a funding decision. As a result, stakeholders may oppose JEON/JUON validation due to budget implications instead of the legitimacy of the requirement (e.g., concerns about "breaking a program"). At times, the JROC validates CCMD requirements as valid gaps but not as JUONs/JEONs.

In order to appropriately plan for the "known unknown" of urgent and emergent needs, as well as support the rapid fielding of capabilities without delaying planned program development, the Joint Urgent Operational Needs Fund should be re-established. The fund should be created as a "Year of Execution Integration" budget line with procurement and/or colorless funding for integration purposes. Having a set aside of funds for JUONs/JEONs would serve as an "insurance" policy for the known unknowns of JUONs/JEONs and allow for current programs to continue fully funded and not be delayed due to lack of funding.

The budget should be limited to and not increased at the expense of a Service TOA. This set aside funding will only be authorized to support validated JEON/JUONs requested capabilities that fall outside

[119] Since 2015, the JROC has received 98 JUON/JEON submissions and validated 60 JUONs/JEONs.

[120] Per OSD(A&S) Joint Rapid Acquisition Cell's Quarterly Review of DoD's Quick Action Requirements (QARs), 2nd Quarter FY25, 14 March 2025

Services' current POM. Additional options could be explored, such as cost-sharing models with the CCMDs and Services, which this JUON/JEON fund could supplement.

In the long-run, Services will have to pick up capability for FOC and sustainment as required. However, this fund would improve the initial development and deployment of urgent and emergent capabilities. Coupled with other proposals, such as the Joint Acceleration Reserve, this fund could assist with long term financial sustainment of JUONs/JEONs.

Next Steps: Joint Staff (J8) and OSD (JRAC) should work with Congress to create a "Year of Execution Integration" budget line within JRAC to fill urgent and emergent CCMD capability gaps with a topline of $500M, which is roughly equivalent to the average allocated to JUONs/JEONs per year over the past ten years.

Establish a Joint Acceleration Reserve (JAR)

Recommendation: Establish a JAR as a funding holdback mechanism to fund JROC-prioritized operational problems and CCMD gaps.
Reform Element: B.3 Align to AAF

Description: Historically, DoD has lacked a systematic resourcing approach that can transition a capability rather than see it languish in the valley of death. Since the creation of the Planning, Programming, and Budgeting System (PPBS), DoD has trapped itself in a multiyear budget cycle and rigid appropriations categories that lock in plans and spending years ahead, leaving little room to capitalize on technological breakthroughs. Additionally, DoD has long struggled with funding key Joint equities that are not a priority in any given Service budget.

The Joint Allocation Reserve (JAR) aims to address these systemic issues through a modest holdback from Service toplines during initial fiscal guidance development, creating a pool of resources that can be allocated to address high-priority Joint operational problems identified by the JROC. Critically, JAR allocations are made before the President's Budget submission, flowing directly to Service program elements/budget lines. This pre-submission allocation, managed by the Comptroller based on JROC recommendations, enables rapid resourcing of validated solutions. It creates a dedicated funding stream for Joint priorities without new appropriations or visible, separate budget structures. These allocations are exempt from the normal issue paper process.

Implementation of the JAR would require collaboration between CAPE, the Comptroller, and the Joint Staff. The Joint Staff's role would predominantly be prioritizing Joint priorities and CCMD gaps for funding. By functioning as a flexible, perpetual incentive mechanism, the JAR inherently ties Joint priorities to tangible budget action, providing scalable and sustainable funding to key capabilities. Over time, this approach ensures that Joint solutions receive the steady funding they need to outpace emerging threats. At the same time, the JAR does not require CCMDs to handle acquisition or sustainment themselves; it simply channels resources to wherever operationally driven concepts can be best acquired and maintained over time.

Next Steps: Establish a JAR, in collaboration with CAPE and Comptroller, as a funding holdback mechanism to JROC-prioritized operational problems.

Documentation

Modernize Analysis of Alternatives

Recommendation: Streamline the Analysis of Alternatives to reduce the time for completion and documentation required while ensuring due diligence. Emphasize leveraging of RDT&E and innovative commercial technologies to inform the AoA.
Reform Element: B.1 Streamline Requirements

Background: The Analysis of Alternatives (AoA) is a documented evaluation of the performance, operational effectiveness, operational suitability, and estimated costs of alternative systems to meet an identified capability need. It focuses on the identification and analysis of alternatives, Measures of Effectiveness (MOEs), Concepts of Operation (CONOPS), schedule, and risk.

Streamlining the AoA should introduce tailorability based on the complexity and scope of the proposed program. Additionally, streamlining should include reducing the seven steps of the AoA Study Guidance and removing non-essential AoA sections. Additionally, modernizing the AoA processes should enable a more iterative approach that values prototypes, experiments, minimum viable products, and commercial solutions with warfighter and other user feedback over lengthy headquarters staff analysis. The new guidance should only require the analysis to focus on whether the investment on transitioning the prototype to full production is worth it for the department (i.e., acquire-to-require).

Next Steps: The AoA is not a JCIDS document, but rather a Service/Sponsor event for the MDA, so recommend CAPE review and update DoDI 5000.84 to include the modernized AoA described above.

Digital Modernization

Retire and Replace the DoD Architecture Framework

Recommendation: Replace DoDAF with modernized architecture framework
Reform Element: B.7 Retire & Replace DoDAF

Background: The Department of Defense (DoD) Chief Information Office (CIO) oversees DoD's Enterprise Architecture (EA) and maintains the DoD Architecture Framework (DoDAF), guiding decisions related to its potential retirement or replacement. DoD CIO has been championing a standardized EA model with data exchange specifications that drives interoperability. The DoD CIO is defining the terms of reference and establishing a forum to facilitate DoD-wide collaboration. These specifications have been implemented by the commercial sector's EA tooling vendors, leading to an opportunity to adopt commercial best practices and international standards, ultimately modernizing DoD architectural framework.

DoD CIO has developed the EA Maturity Model that identifies risks and opportunities, and materials for an analysis of alternatives (AoA) on current existing EA frameworks, tooling, training, and policy actions to support the development of an implementation plan toward modernization. This model also identifies and describes five increasing levels of EA sophistication, from "cosmetic adoption" to "enterprise adoption," to inform the implementation and impacts by DoD Components and stakeholders. Additional factors for consideration are

1. aspects of capability and solutions development: Doctrine, Organization, Training, Materiel, Leadership and education, Personnel, Facilities, and Policies (DOTMLPF-P)
2. the existence and quality of the model Application Programming Interface (API)

3. interactions between data models, especially at higher levels of EA sophistications
4. resource requirements for tooling. Case studies of DoD Component tool approaches will be analyzed against risks and benefits.

In modernizing the DoDAF, the framework will support the FY23 HASC 117-397 Reforms items by

1. promoting incremental updates to the architecture model data resulting in a more iterative and flexible requirement generation in response to technological change and user feedback
2. enabling automated assistance, such as model validation, leading to the reduction of time required to create, socialize, clarify, update, and approve requirement documents
3. consolidating lower-level oversight boards into a single forum to maximize interactions of stakeholders and users across the Department
4. encouraging the use of prototyping and minimally viable products (MVP) to evaluate an architecture model's executability, resulting in best practices for future requirement generation.

Next Steps:

1. DoD CIO will continue to assess impacts and timelines: EA Maturity Model, Modernized Architecture Framework Transition Roadmap, and Descriptions
2. DoD CIO will coordinate a stakeholder forum to collect requirements for a modernized architecture framework
3. DoD CIO will work with Joint Staff to incorporate the JCIDS manual and other policies in the modernized architecture framework upon completion of stakeholder transition activities
4. DoD CIO will work with stakeholders on architecture model sharing and best practices for modeling tools usage and interoperability.

Commercial Technology

Commercial Analysis of Alternatives

Recommendation: Require AoAs to assess the ability of commercial solutions to meet capability gaps and requirements.
Reform Element: B.6 Rapidly Validate Commercial Products

Background: The Analysis of Alternatives (AoA) assesses potential materiel solutions to satisfy the capability needs documented in an approved Initial Capabilities Document. It focuses on identification and assessment of potential materiel solutions, key trades between cost and capability, concepts of operation, and trade space to minimize risk. The AoA is intended to assess critical technology elements associated with each proposed materiel solution, including technology maturity, integration risk, manufacturing feasibility, and technology maturation or demonstration needs.

Given the rapid pace of commercial technology development, the AoA must ensure upfront and continual checkpoints for leveraging Commercial Solutions. Title 10 has in many places a statutory preference for commercial solutions (e.g., Buy Before Build), yet DoD frequently ignores that mandate to spend a decade to design, develop, test, and produce a DoD unique solution.

If a commercial solution only meets 50–70% of the capability needs, DoD should work with those companies to explore how to shape requirements to leverage that and then iterate on the next 30–50%. Where required, tailoring the DoD requirements to the maximum extent practicable to align with commercial solutions should be explored. Commercial solutions should be the default approach and only

if there are no viable commercial solutions should approval to pursue a defense unique solution be approved.

Next Steps:

- Institute process changes (e.g., checklists, templates, and reviews) to ensure that AoAs review the ability of commercial solutions to meet capability gaps and requirements.
- Ensure CAPE engages with RDT&E and innovation organizations (e.g., Defense Innovation Unit (DIU), AFWERX, DARPA, DoD/DoE Labs, FFRDCs) to explore what solutions are commercially available.
- In collaboration with the requirements community, allow AoA to evaluate and propose viable commercial solutions that can rapidly close capability gaps, even if tailoring of requirements or solutions may be required.

Other Considerations

Other Considerations includes ideas developed by the 811 Tiger Team that, while not immediately executable, deserve consideration for implementation in coordination with the overarching recommendations of this report.

Authority

Designate and Empower the VCJCS as the DoD Future Joint Warfighter Advocate

Recommendation: Formally designate the VCJCS as the advocate for the future Joint warfighter with the authority to direct Services and resources toward high-priority Joint programs.
Reform Element:

Background: Apart from the Secretary and Deputy Secretary of Defense, the Department lacks a single, authoritative, and empowered leader who can consistently advocate for the future Joint warfighter. Given systemic tensions between Joint and Service priorities, as well as current and future risks, the Department would benefit from improved alignment between Joint responsibilities, authorities, priorities, and resources.

Formally designating the VCJCS as the Department's advocate for the future Joint warfighter may appear more symbolic than substantive, given the VCJCS already serves as a future force advocate through his role as Chairman of the JROC. However, the new designation would underscore the VCJCS's recent efforts to promote a "proactive" and "top-down" approach to the JROC's role in future Joint Force design. It would also underscore the role of the VCJCS and JROC in promoting the Joint warfighter voice as well as the global integrator, balancing competing demands between the Services and CCMDs in capability development.

The formal designation of the VCJCS as the Future Joint Warfighter Advocate would be the authorities and responsibilities that come with that role. One such authority would be the ability to direct the Services with respect to Joint capability development (e.g., directing changes to cost-schedule-performance or capacity of Service capabilities with cross-service interdependences), which is something the VCJCS and JROC currently cannot do. Similarly, increasing VCJCS authority to be able to direct resources—like the Director of CAPE or the USD(A&S) through the Joint Rapid Acquisition Cell—would be a significant departure from the status quo but would represent a significant step forward with respect to closing the

highest-priority Joint capability gaps. Similarly, others have suggested the creation of a Joint Program Set-Aside Fund,[121] which could be used to accomplish this goal, as could the Joint Acceleration Reserve proposed in Greenwalt and Patt (2025).

When implementing this recommendation, consideration must be given to USD(A&S), the Service Secretaries and the Chiefs authorities with respect to acquisition programs and requirements, specifically 10 U.S.C. 133b, 3104, 7013, 8013, and 9013. However, as described above, precedent exists for Joint entities to be able to direct small portions of Service resourcing toward Joint problems.

While formal designation of VCJCS as DoD's Future Joint Warfighter Advocate may be only symbolic in and of itself, it would clarify and solidify the VCJCS's roles and responsibilities, similar to the designations of the Deputy Secretary of Defense as DoD's COO and the USD(R&E) as DoD's CTO. Additionally, it would provide a foundation for future authorities and responsibilities changes as deemed appropriate by Congress and the Department.

Next Steps: Update 10 U.S. Code § 154 to state that the Vice Chairman of the Joint Chiefs of Staff is DoD's Future Joint Warfighter Advocate. Alternatively, implement initially through a DoDI or CJCSI. Explore updating VCJCS authorities and abilities to influence resourcing accordingly.

Manpower

Increase Joint Staff Tour Length

Recommendation: Restore Joint Staff tours for requirements managers to 30–36 months and explore other opportunities to retain institutional military knowledge on the Joint Staff.
Reform Element: C.2 Develop a Formal Career Path, Training, and Structure for Requirements Managers

Background: Currently, Joint Staff tours for military members are nominally 36 months but reducible to 22 by the Service to maintain the officer's career progression within their Service. For requirements managers, many of whom have never worked in the requirements system before (as opposed to career acquisition or intelligence officers), 22 months is just enough time to learn the role and process before their next assignment. This reduction to two years reduces continuity and in-house expertise of Joint requirements managers in the FCBs.

While it is possible and intended for civilians to serve as continuity and retain institutional knowledge throughout military transitions, the ongoing reduction of the civilian workforce threatens this assumption. While it may be possible for contractors to fill this gap, it is not ideal given they cannot speak on behalf of the government nor make inherently governmental decisions.

Next Steps: Limit waivers/reductions of Joint Staff time for requirements officers to improve the effectiveness and efficiency of requirements management on the Joint Staff. Additionally, provide maximum opportunities for GOFOs to return to the Joint Staff in leadership positions after their AO tour or to gain requirements experience at lower levels (e.g., O3/O4 via OCJCS interns) prior to their O4-O6 Joint Staff assignment. Through these methods, the JROC can retain institutional requirements knowledge among past, present, and future staff officers.

[121] Institute for Defense Analyses, Joint Force Development and Design Enterprise Assessment, 2021.

Documentation

Adopt a Strategies-to-Tasks Approach to Joint Requirements

Recommendation: Implement a strategies-to-tasks approach to requirements derivation to ensure alignment between strategies, requirements, and resourcing.
Reform Element: B.2 Clean Sheet Approach

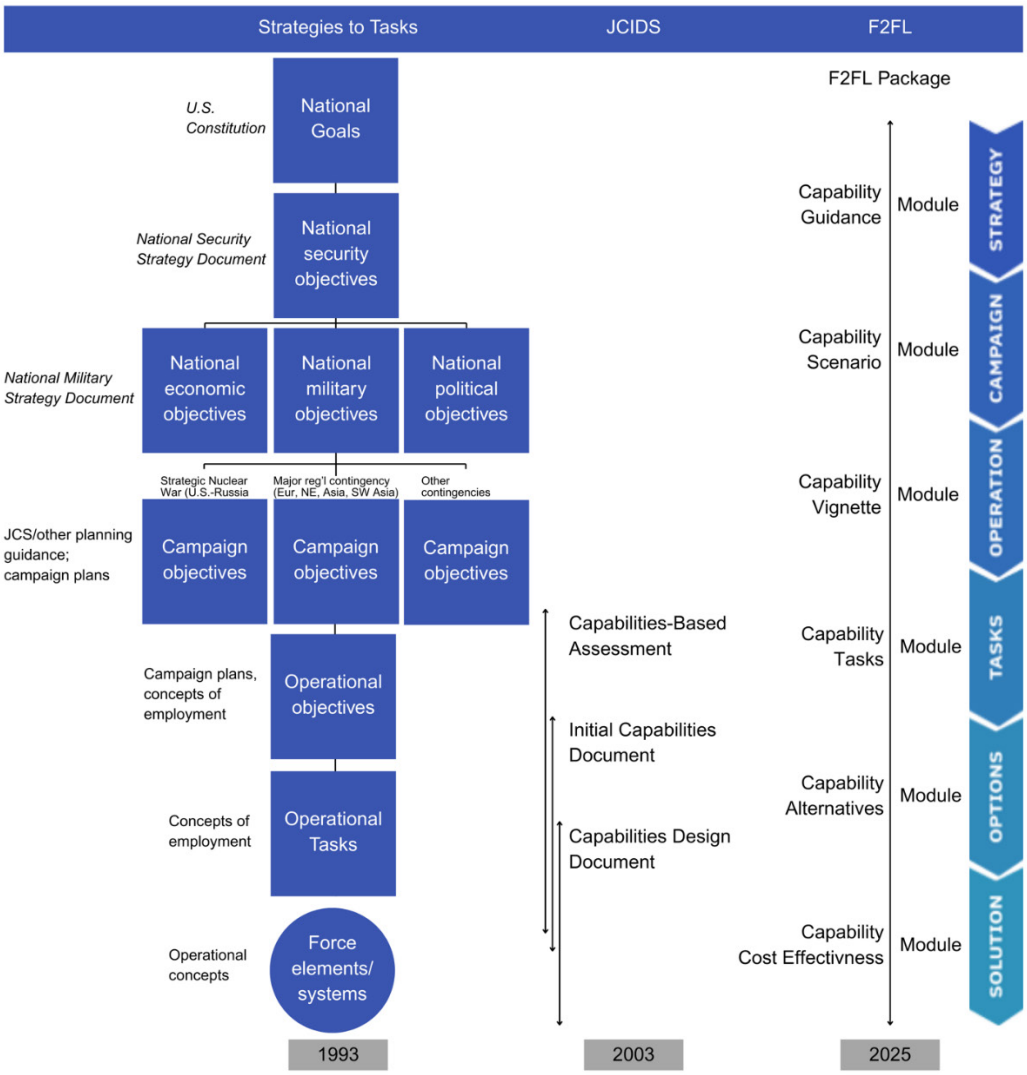
Background: Flagpole to Front Lines (F2FL) is a strategies-to-tasks methodology that links national objectives to operational tasks and codifies those linkages in requirements and acquisition processes that are characterized by *alignment*, *clarity*, and *adaptability*. This ensures that the link between each dollar and strategic objectives is evident, permitting effective prioritization (Figure A.5). This approach is consistent with research on military innovation that suggests "innovation begins with strategy" and that "it is the identification and framing of a strategically important operational problem" that drive innovation, rather than technological change alone.[122]

The F2FL approach codifies the strategies-to-tasks and operational capabilities process in a series of modules to provide senior leaders with visibility into the process and an understanding of its logic (i.e., *alignment*). Each document module is necessarily brief (the goal is 4,000 words or less) to maximize *clarity*.

[122] Adam R. Grissom, Caitlin Lee, and Karl P. Mueller, *Innovation in the United States Air Force: Evidence from Six Cases*, RAND Corporation, RR-1207-AF, 2016. As of March 12, 2025: https://www.rand.org/pubs/research_reports/RR1207.html

Figure A.5

Evolution of Requirements



SOURCE: DoD and RAND analysis (JCIDS and F2FL).
Strategies to Tasks:
David E. Thaler, *Strategies to Tasks: A Framework for Linking Means and Ends*, RAND Corporation, MR-300-AF, 1993. As of May 7, 2025: https://www.rand.org/pubs/monograph_reports/MR300.html

The F2FL agile framework reconceives the traditional, linear JCIDS process by incorporating decision makers into an iterative, continuous cycle. Instead of a single linear process that is followed sequentially from beginning to end, F2FL employs agile methodologies in which iterative sprints of conceptualizing, building, and refining are repeated. Each sprint reevaluates the entire F2FL package, allowing for progressive refinement and *adaption*, as well as fundamental shifts, as more information becomes available (Figure A.6).

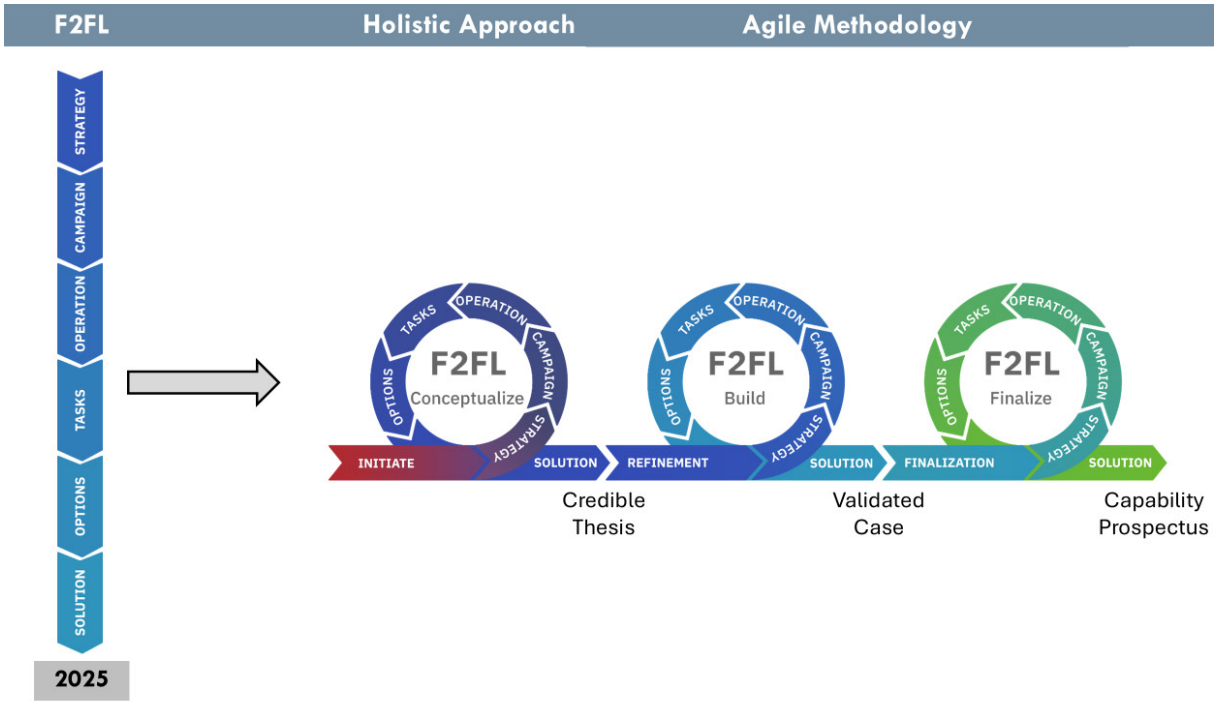
This iterative process includes decision points at each stage of the cycle to provide an opportunity for review and input by decision makers. At the working level, decision makers analogous to the Functional

Capabilities Board (FCB) review the thesis of the requirement for credibility and provide feedback to refine the thesis. Decision makers analogous to the Joint Capabilities Board (JCB) review the case for the requirement and provide feedback for further refinement of the capability prospectus before it is presented to the Joint Requirements Oversight Council (JROC) for final approval and comment. Requirements are validated by explaining the logic underpinning them, rather than by the process steps taken to arrive at the decision.

The process is analogous to a DevOps approach, in which incremental delivery and prototyping are used to develop capabilities more quickly and efficiently than the traditional JCIDS process, which focuses on documenting requirements prior to milestone decisions. Each iteration of the F2FL process takes a holistic approach, encompassing all aspects of requirement development. Using an agile methodology, each iteration is refined based on feedback, resulting in progressively stronger and more robust capability requirement.

Figure A.6

Flagpole to Front Lines (F2FL) Process



F2FL will be managed by the Joint Staff. However, F2FL would involve the Joint Staff serving as a facilitator rather than a gatekeeper of requirements. The F2FL process would include representatives from all the key stakeholder groups, including the Joint Staff, OSD, the military Services, the CCMDs, the IC, and industry.

Next Steps:

The following are potential next steps or considerations for implementing F2FL:

- Implement a strategies-to-tasks approach to requirements derivation, ensuring a straight line from strategies and concepts to requirements and resourcing.
- Explore opportunities to implement an iterative, agile approach to requirements generation and validation as described in the F2FL proposal.
- Identify specific ways to incorporate stakeholders throughout the F2FL process while minimizing friction.
- Define and refine the interface between the F2FL process and the acquisition and PPBE processes.

Digital Modernization

Adopt a Digital-Based Approach to Requirements

Recommendation: Adopt a paperless, digital-based approach to requirements leveraging Model Based Systems Engineering (MBSE)
Reform Element: B.7 Retire & Replace DoDAF

Background: DoD has traditionally used a document-based approach to capability development. A document-based approach captures CONOPS, requirements, interface definitions, test case specifications, and much more in spreadsheets, presentations, text documents, and diagrams. There are several benefits to using a document-based approach–it is familiar, has significant corporate process built around it, and does not require any software more specialized than Microsoft Office. However, the complexity of today's military environment and the speed needed to support our military drive us to change the way we operate. The limitations of a document-based process warrant a fresh look at new methods using models instead of documents to capture the requirements and design of military systems.

A model-based approach to system development captures the same information as a document-based approach but uses modern software tools and databases to make that data easier to manage and understand for the stakeholder. Instead of having the details of a system scattered across dozens of text documents, excel spreadsheets and power point presentations, system design and requirements are captured in a relational object-oriented model where each piece of information exists in federated databases that serve as the 'authoritative source of truth' (ASOT). In model-based systems engineering (MBSE) text documents and excel spreadsheets may be generated from the authoritative model (typically using single-click automated reports), and any changes are made in the model–not in the document.

Moving DoD's requirements from documents to models will make it easier to keep them up-to-date, improve traceability among requirement sets and between Services, better support the complexity of modern military systems, and improve collaboration among stakeholders.

Advantage: Managing Requirements over the Capability Development Lifecycle

A document-based set of requirement artifacts is static–unless they are continually updated, they are frozen in time the day they are signed and validated. If any element within those artifacts is updated, each document/spreadsheet/presentation where that element appears must be updated individually. A system's paper trail can grow significantly over time as modifications are made, requirements are adjusted, and new employees are brought on to manage legacy programs. Ensuring that growing paper trail is kept up to date can become a manpower-intensive task. If that work is not done, the organization must accept that documents will become more inaccurate, inconsistent, and obsolete over time.

A model-based requirement set has the advantage of a relational database that allows for every piece of information to be stored in one (and only one) place. The practical benefit is the ability to change a piece of information in one place, and that change is automatically propagated everywhere that piece of information is found within the model. This is a simple but powerful feature of model-based system development that grows more valuable as the lifecycle of a system progresses, especially as the system design progresses and the ASOT becomes the central hub that many communities use for development.

Imagine a KPP is approved by the JROC as part of a CDD, and it spawns an acquisition program to build a widget. That widget is part of a larger architecture designed to produce an effect on the battlefield. It is developed and acquired, but operational testing reveals that the KPP in question is not quite met. After much analysis and discussion, the performance of the widget is deemed sufficient to produce the desired effect and the KPP is updated to reflect actual performance. A document-based approach would require significant man-hours to locate and update all the references to that particular KPP, as well as any elements of the design which rely on that KPP. A model-based approach would require one change that would automatically propagate through the model. The model's ability to graphically show the relationships between requirements and design elements provides an intuitive way to see second and third order effects of making changes to either side of the equation.

Advantage: Traceability

Traceability is accountability. The ability to draw a line from a system being acquired to the requirements and/or combatant command gap that system fills is critical to ensuring the warfighter's needs are being met and the Services are spending limited resources on the right capabilities. Traditional document-based approaches to requirements and system design often struggle with maintaining clear and consistent traceability. This is where model-based approaches shine, offering a more robust and efficient solution for requirement traceability.

Traceability in document-based approaches is typically achieved through manual linking, using techniques like cross-referencing, matrices, and hyperlinks. However, this approach is prone to errors, inconsistencies, and becomes increasingly difficult to manage as the system complexity grows. Information silos make it challenging to track dependencies across different development phases and organizational boundaries to link such varied artifacts as national strategy, policy, and doctrine; combatant command plans and gaps; Joint Staff metrics such as JCAs, UJTL's and JCSFL's; Service-developed requirement documents and funding profiles; acquisition community documentation such as RFP's, CDRL's, and interface control documents; developmental and operational test plans; and operational tactics, techniques and procedures. In a document-based approach, traceability among these elements requires a stack of paper that may stand taller than the action officer assigned to keep track of it all.

A model-based approach will use databases with interconnected tools that can be used to deliver decision-ready data in the form of dashboards. These models provide a structured and unambiguous representation of system elements and their relationships, and modern software handles the hard work of developing intuitive graphical representations of the capability and its requirements. This structure facilitates software-automated vertical and horizontal traceability.

Vertical traceability refers to tracing requirements across different levels of abstraction, from combatant command needs down to system design parameters. Models excel in this area by allowing for the decomposition of high-level (i.e., Big-R) requirements into lower-level (i.e., little-r) ones, with clear links

maintained throughout the hierarchy. This transparency ensures that every design decision can be traced back to its originating requirement.

Horizontal Traceability focuses on tracing relationships between elements at the same level of abstraction. Model-based approaches facilitate this by visually depicting dependencies between different system components, interfaces, and functionalities. For example, a model can clearly show how changes in a database schema might impact different software modules, allowing developers to anticipate and address potential conflicts early on. An example of this is shown below.

Advantage: Managing Complexity

Military systems are growing more connected and complex with each passing year. In today's defense environment, defined by accelerating technological change and the rapid modernization of our adversaries, we must not only field cutting-edge capabilities–they must also work through threats in the electromagnetic spectrum, be cyber-secure, fit into ever smaller and lighter packaging, while transmitting and receiving information from other compatible systems in the battlespace. Model-based systems engineering methods, languages, and tools are designed to capture these complex requirements by providing requirement developers with a framework that eases information overload, reduces ambiguity and inconsistency, and enables faster requirement development and coordination.

Requirements documents can become unwieldy and difficult to navigate, making it challenging to maintain a clear picture of the system and its dependencies, interfaces, and net-centric requirements. Models provide a hierarchical and structured view of requirements, breaking down complexity into manageable chunks. Relationships between different requirements, such as dependencies or conflicts, can be explicitly visualized, facilitating understanding and analysis. The utility of the model-based approach in managing complexity is the analytic accessibility of those interdependencies and the corresponding ability to answer extremely complicated questions at the push of a button.

The natural language found in text-based requirements can be ambiguous, and even the most thorough description or rationale for a requirement may fall prey to inconsistencies in documentation. The acquisition community's interpretation of a requirement may differ wildly from the requirement team's intention, leading to problems when a system is operationally tested and doesn't function as expected. Visual modeling languages offer standardized notations and symbols to represent requirements unambiguously. This minimizes misinterpretations and ensures shared understanding among stakeholders.

In a model-based approach to requirement and system development, many elements of a system design can be built once and re-used in other models. For example, terms in the DoD dictionary can be modeled once and added to any future model to ensure that terminology across requirement documents is consistent. Many systems rely on SATCOM for beyond line-of-sight communications, and a communications function could be modeled once and propagated to any number of systems to ensure interoperability. Models are reusable assets that can be easily modified and extended to accommodate evolving requirements, reducing time and effort spent developing and coordinating requirements.

Advantage: Improved Understanding and Collaboration

Using a model-based approach to develop systems can improve understanding among stakeholders of how the system behaves and improve collaboration between organizations. MBSE relies on a standards-based visual language to represent data. Every diagram in MBSE is made up of two types of elements–boxes and lines. A box represents a piece of data–it may be a requirement, a design parameter, an

organization, or any number of other things that play into the design. A line represents a relationship between two boxes–it may be a command relationship between two organizations, a mapping of a gap to a requirement, etc. Taking advantage of a more expressive, visual language allows information to be translated more easily into interactive dashboards. When information in the model is updated, the dashboard changes are seamless.

Text-based documentation is static and requires manual updates, a poor combination for anybody who wants to work with an interactive dashboard. Relationships between pieces of information, which is what dashboards are based upon, are more difficult to convey via natural language as well. Meaning can be confused by imprecise wording, assumed understanding by the writer, or relationships between information elements may not be addressed in the document at all. The model forces these relationships to be documented and provides a software solution to manage and display them for stakeholder understanding and interaction.

Collaboration is also aided by model-based design practices and tools. The current practice of sending out a CRM in MS Word or Excel along with a pdf document with line numbers along the side is tedious and time consuming. It is not uncommon for a large requirement document to have 1000+ comments spread across dozens of excel spreadsheets. Model based requirements could simplify the process by inviting external stakeholders to view the model and comment on it directly using a web-based interface. Modern systems engineering tools allow models to be exported in an html format to be hosted on the internet. These websites could serve as the coordination medium to invite comments from stakeholders that could be stored as part of the model–ensuring validation authorities have a full understanding of stakeholder positions and concerns.

What Would a Paperless JCIDS Process Look Like?

Mission engineering is an "interdisciplinary process encompassing the entire technical effort to analyze, design, and integrate current and emerging operational needs and capabilities to achieve desired mission outcomes." In other words, mission engineering moves the focus of capability development from systems to mission outcomes. A paperless JCIDS process would lean heavily on mission engineering best practices that are well documented in the *Mission Engineering Guide*.[123]

Much of the initial work for building a requirement set would look very similar. Mission engineering analysis would be undertaken to understand the mission outcomes that the force is capable of meeting in a 'fight tonight' scenario along with a projection of needed mission outcomes that are expected in a future conflict. The difference between those two mission outcomes is analogous to the CBA of today's JCIDS process. These gaps in capability would be modeled and documented in the Modernized Architecture Framework.

Once the gaps are identified and initial architecture products are made, the model leaves the hands of the analytic team and moves to the requirements team to continue the 'Paperless JCIDS' process. The requirements team is not writing a separate document based on the analysis from the CBA, they are building requirements into the existing model that will satisfy the gaps. This means that each gap in the mission thread must have a capability traced to it with associated performance requirements. In many cases, the capabilities needed to meet a mission outcome will be a mix of existing, modified, and new

[123] Office of the Under Secretary of Defense for Research and Engineering, *Department of Defense Mission Engineering Guide Version 2.0*, October 1, 2023.

system–e.g., a long range kill chain will require SATCOM assets that already exist but will require new modems and antennas to be developed for an existing airframe. The model can easily bring in existing specifications for the SATCOM system while also showing new requirements for an existing system to use that SATCOM asset to meet the mission outcome that is already in the model.

Once the requirements are developed in the model, the entire model can be exported to a website to enable collaboration with external stakeholders without expensive software licenses. The web versions of the model would show pertinent information for the architecture and the associated requirements and provide the ability to comment on individual elements of the model for adjudication by the requirement owners. The website could incorporate a comment repository, change history, dashboards, and approval mechanisms to make the website a one-stop-shop for stakeholders to engage with the requirements at the appropriate security level.

When the requirement model is validated, the acquisition team then decomposes operational requirements into technical requirements to begin designing the system. They do not write new documents–they continue to build onto the same model so they can trace the design decisions they are making all the way back to the mission outcome that started the process. This snowball effect can continue even into system test and operations–at which point the model would become the 'digital twin' used for digital training and experimentation. The model also becomes the core of the Request for Proposal (RFP) to industry. Our industry partners have provided resounding feedback that being supplied a clear model delineating the mission thread and associated capability gap is a game changer for their understanding of the system they are responsible for developing. Also, the model provided by the vendors as part of their proposals can be connected to our analytic tools as part of source selection to truly understand the ability of the proposed solution to be able to close the necessary capability gap.

The last piece of Paperless JCIDS is feedback. When one organization hands the model off to the next, their role in the development of that capability does not end. The power of the model is that it is constantly growing and evolving, and each layer added to the model should drive feedback to each of the previous owners of that model. When assumptions in a previous step are found to be faulty, that should trigger an update to that analysis with better information to ensure that issues are found and corrected as early in the development process as possible. The earlier these issues are caught, the bigger the time and resource savings will be.

The Cost of Moving to Model-Based Requirements

Big process changes like the ones being proposed here require time, funding, and shared vision to execute well. Document based requirements use software tools that are ubiquitous on every DoD system–Microsoft Word, Excel, and PowerPoint being the primary examples. They are cheap, easy to use, and they come pre-loaded on every computer in DoD. Model-based requirements use specialized software, with a data governance and modeling structure, to develop the models that would replace or support those disjoint documents, spreadsheets and presentations. There will be up-front costs to buy the software and develop a common digital infrastructure to provide access to the software at the appropriate classification levels. Many of these up-front costs are being covered by the services and individual programs that are already taking the leap into a digital acquisition ecosystem. Also, per the recently released DoDI 5000.97, the Test Resource Management Center has been designated with establishing the core digital enterprise infrastructure for DoD.

Today, MBSE software and a corresponding trained workforce exists to support required JCIDS architectures and the acquisitions engineering community. This small group of practitioners will need to

grow, and there will be costs associated with developing and executing training to facilitate that growth. Modeling practitioners should be aligned closer together in the overarching process to enable handoff between organizations as a requirement set moves through the paperless requirements process. Modeled requirements also need a shared vision and common standard for how modeling languages will be used to interface with each other to be more effective.

While these costs are important considerations, it's crucial to weigh them against the potential benefits of moving to a model-based approach. The time savings, improved communication and understanding, as well as traceability will prove to be game changers to meet the speed and quality of requirements needed in this age of increasingly complex military systems.

Next Steps: In redesigning the Joint requirements process, work closely with the Services to better understand ongoing efforts to implement a digital-based approach to requirements. Leverage best practices and lessons learned and implement them into the new Joint requirements process to the greatest extent possible.

Appendix B
REQUIREMENTS HISTORY

Key Points

- The history and evolution of the U.S. military's requirements process shows an oscillation between centralization and decentralization.
- Since the Goldwater-Nichols–era reforms of the 1980s, when the JROC was created, major acquisition and requirements reform has been mainly defined by devolution of previously centralized authority to other organizations.
- The JCIDS process, created in 2003, was meant to generate Joint requirements using a capabilities-based approach.
- Since then, the JROC and JCIDS have been undergoing regular evolutionary reforms, but the process has grown in complexity to the point where exceptions have become the norm and revolutionary reform is needed.

The U.S. military has acquired goods and munitions since the Second Continental Congress created the first Quartermaster General and Henry Knox served as the Chief of Artillery in the Revolutionary War.[124] However, the history of modern requirements begins in 1907, when the Army Signal Corps issued a document containing specifications for a heavier-than-air flying machine. (The world's first military airplane, the Wright Flying Machine, was created for the Signal Corps in 1909 and is shown in Figure B.1.) This document was one and a half pages and included eight requirements.[125] The specifications centered on ease of assembly and transportation, passenger number, combined passenger weight and fuel amounts, speed, launch and recovery, flight safety, and simplicity of construction.

[124] Janet A. McDonnell, "A History of Defense Contract Administration," Defense Contract Management Agency, March 5, 2020.

[125] U.S. Army Signal Corps, "Advertisement and Specification for a Heavier Than-Air Flying Machine," Signal Corps Specification #486, December 23, 1907.

Figure B.1

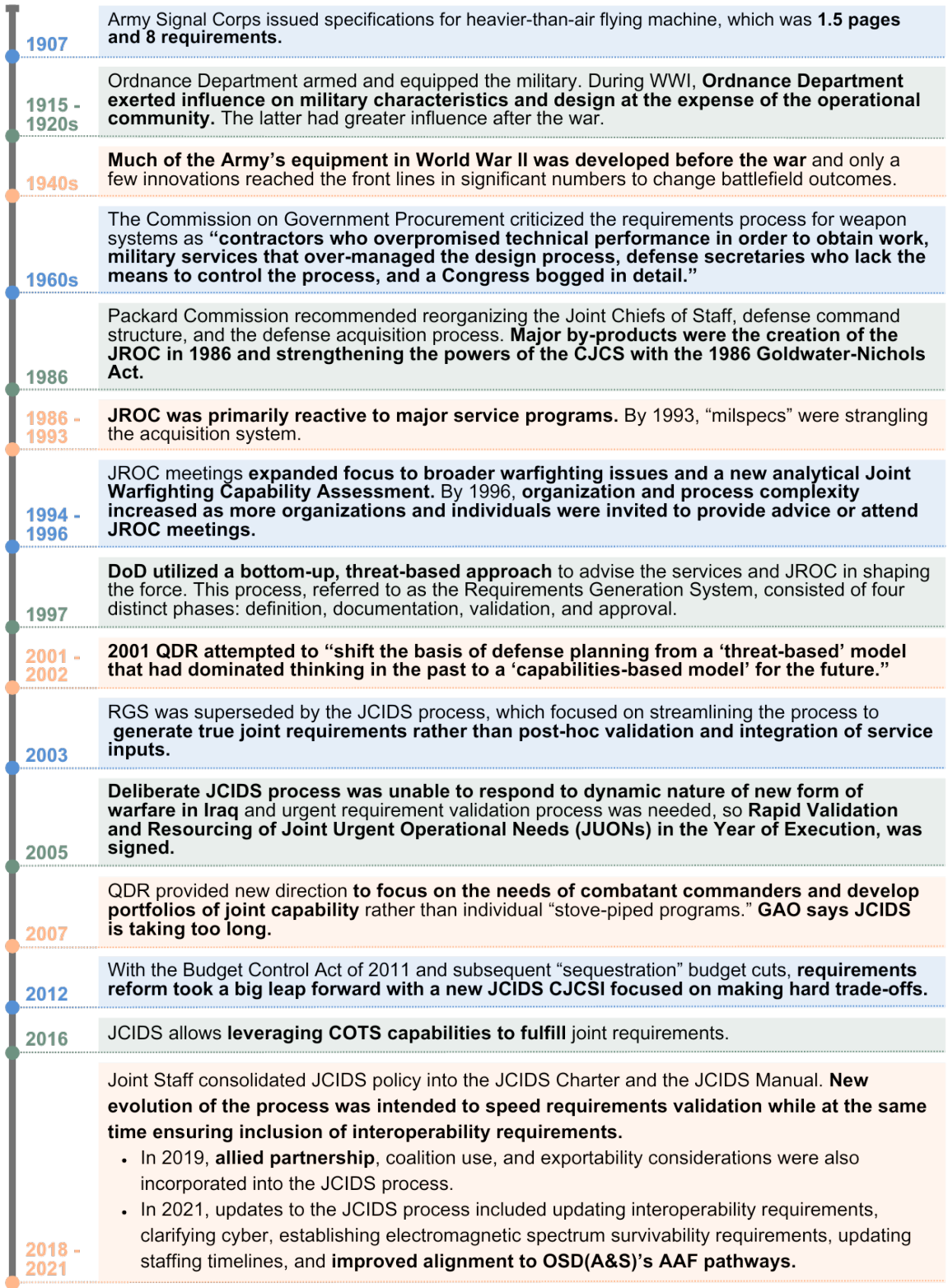
1909 Wright Military Flier

SOURCE: Reproduced from Jim Preston, "1909 Wright Military Flyer," Smithsonian National Air and Space Museum, May 23, 2022.

This simplicity in requirements description eroded over time as the number of stakeholders, policies, regulations, missions, and technological complexity increased exponentially. By the late 1960s, growing concerns regarding the superiority of U.S. weapon systems over their Soviet Union counterparts led to congressional requirements reform efforts over the next decade. Subsequently, through the Goldwater-Nichols Act, the RGS, and eventually JCIDS, the Joint requirements system became increasingly complex. A historical timeline illustrating the struggle between centralization and decentralization of the defense requirements system is shown in Figure B.2.

Figure B.2

Historical Analysis of DoD Requirements Systems: DoD Struggles with Trade-Offs



1915–1920s: The Ordnance Department and the Operational Community

During the pre–World War I years, the responsibility for arming and equipping the military belonged with the Ordnance Department. Led by Brigadier General William Crozier, the leaders of the Ordnance Department believed that "the technician knew best what combat troops required."[126] Thus, in 1918, weapon design and development lay in the hands of the ordnance officers.

During the war years, the Ordnance Department faced the shortcomings of its influence on military characteristics and design at the expense of the operational community. Thus, in the years following the Allied victory, the weight and influence of the operational community increasingly determined the types and models of weapons the Allies would employ.

This transition of influence was further emphasized in 1918, when the new Chief of Ordnance, Brigadier General Clarence Williams, reportedly said, "If the fighting men want elephants, we give them elephants."[127]

1940s: The Ordnance Committee and World War II

Significant military innovation occurred during the period between World War I and World War II, including the development of carrier aviation, strategic bombing, amphibious warfare, and radar. During this same period, proposals for a new weapon could originate from several entities: the Ordnance Department, combat troops, commercial companies, or even private citizens. In 1953, when documenting the Ordnance Department's war planning, Green, Thomson, and Roots stated,

> The Infantry, the Coast and Field Artillery, the Air Forces, and the Cavalry, later called the Armored Forces, collaborated closely with the Ordnance Department designers in determining the characteristics needed in any given weapon or accessory to fulfill a definite military purpose.[128]

However, the authors also note that, faced with disagreements, such as regarding the importance of heavy armor or powerful guns, the Ordnance Department and military Services had responsibility for resolution. But the difficulties in determining military characteristics remained challenging.

From the Army's perspective, the time-intensive design, test, refinement, and production were unsuitable in a wartime environment. Thus, much of the Army's equipment in World War II was developed in the years prior to U.S. involvement in 1941, and only a few important innovations reached the front lines in significant numbers to alter or improve battlefield outcomes.

Major General Orlando Ward, Secretary to Army Chief of Staff General George C. Marshall, concluded, "It shows the urgent necessity of a directed, continuous, and intensive research program and the danger in failing to recognize and profit by developments abroad."

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[126] Proceedings of the Board of Ordnance and Fortifications.

[127] Quoted by Arthur Adelman, Chief of Artillery Ammunition Branch, in interviews with Constance McLaughlin Green, Harry C. Thomson, and Peter C. Roots, *The Ordnance Department: Planning Munitions for War*, U.S. Army Center of Military History, 1955, p. 29.

[128] Green, Thomson, and Roots, 1955, p. 5.

1960s–1970s: Commission on Government Procurement

In the late 1960s, Congress created the Commission on Government Procurement to propose fundamental improvements to the laws, directives, and regulations that had accumulated over the previous decades. In 1972, the Commission published its findings, leveling severe criticism against the requirements process for weapon systems. The report described "a process that included contractors who overpromised technical performance in order to obtain work, military services that over-managed the design process, defense secretaries who lack the means to control the process, and a Congress bogged in detail."[129]

The Commission further rebuked the Department's requirements process, noting that its focus on predetermined technical solutions actually increased risk. The Commission proposed more competition up front and increased emphasis on competitive alternative solutions. However, the Department did not act and asserted that requirements reform was unnecessary.

From 1971 to 1977, operational needs were documented in accordance with DoDD 5000.1 and DoDI 5000.2 in the Decision Coordinating Paper (DCP) approved by the SECDEF at the first milestone decision. The January 18, 1977, versions of DoDD 5000.1 and DoDI 5000.2 directed the use of a Mission Element Need Statement (MENS) to support program initiation at Milestone 0. The MENS was limited to ten pages and attached to the DCP as an annex.

Congress subsequently revisited the Commission's recommendations, tasking the Comptroller General with providing a report, which was submitted in 1979.[130] The report noted that "success of the reform program is still not assured" and that, although important groundwork was accomplished, the "outlook for many incomplete actions is not encouraging."

1986–2003: The JROC and Threat-Based Requirements Generation

On March 20, 1984, the JCS established the JRMB to monitor the development and acquisition of Joint programs. The board would evaluate potential Joint military requirements; identify, evaluate, and select candidates for Joint development and acquisition; oversee cross-Service requirements and management issues; and resolve Service differences arising after initiation of Joint programs. The membership of the board comprised the Vice Chiefs of the Services and the Director of the Joint Staff. The chairmanship would rotate among the four Vice Chiefs with the Vice Chief of Staff, U.S. Army, designated as the first chairman for a term of one year.

Notably, in the mid-1980s, the Army produced and fielded its "Big 4" combat systems: the AH-64 Apache, UH-60 Black Hawk, M1 Abrams, and M2/M3 Bradley Fighting Vehicle. These obvious successes of a very simplified requirements process are stark reminders that a simplified requirements generation process can be successful.

In June 1986, the Packard Commission (also known as the President's Blue Ribbon Commission on Defense Management) issued a report that proposed significant recommendations for reorganizing the Joint Chiefs of Staff, the defense command structure, and the defense acquisition process (see Figure

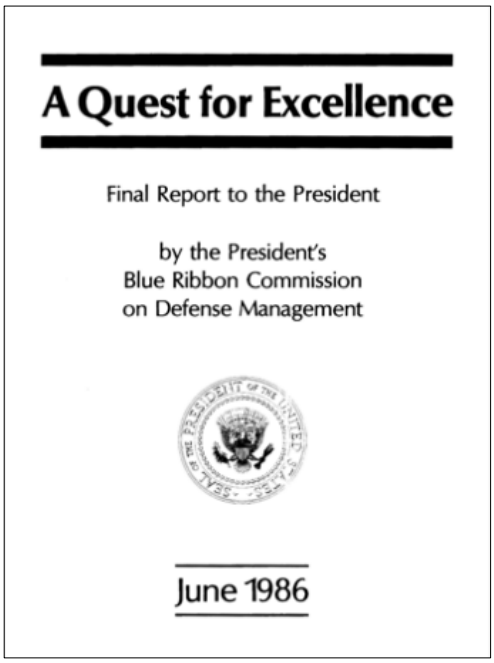
[129] Quoted in John Ronald Fox, *Defense Acquisition Reform, 1960–2009: An Elusive Goal*, U.S. Army Center of Military History, 2011.

[130] Commission on Government Procurement, *Recommendations of the Commission on Government Procurement: A Final Assessment*, May 31, 1979.

B.3).[131] Major by-products of this report were the repurposing of the JRMB, which was subsequently renamed as the Joint Requirements and Management Board (JROC) in June 1986, and the strengthening of the powers of the CJCS with the 1986 Goldwater-Nichols Act.

Figure B.3

The Packard Commission Report



SOURCE: President's Blue Ribbon Commission on Defense Management, 1986.

The emerging role of the VCJCS was the most striking organizational development of Goldwater-Nichols. As authorized by Goldwater-Nichols, the Vice Chairman had no statutory duties other than to preside in place of the Chairman. The Vice Chairman did, however, serve as the Chairman of the JROC and Vice Chairman of the DAB—setting requirements for major weapons, logistics, and information systems—that reinvigorated the JROC and put the requirements process back in the hands of the military and the Joint Staff.

In 1989, following the Defense Management Review, the JROC's role was further enhanced, and the JROC was charged with reviewing current and future mission needs to inform the DAB. However, from 1986 to 1993, the JROC was primarily reactive to major Service programs, since the council met infrequently, and those meetings typically focused on acquisition programs.

Prior to 1991, the only DoD-level requirements document was the MNS, mandated by DoDI 5000.02. All other requirements documents to support the acquisition process were military department unique. The 1991 versions of the DoD 5000 series standardized DoD on the MNS and a new ORD. In 1992, CJCS Memo of Policy 77 was issued to describe the policies and procedures for the RGS as directed by DoDD

[131] President's Blue Ribbon Commission on Defense Management, *A Quest for Excellence: Final Report to the President by the President's Blue Ribbon Commission on Defense Management*, June 1986.

5000.1.[132] By 1999, the format and content of the MNS and ORD, along with all policies and procedures, had been moved from the DoD 5000 series to CJCS 3170.01.[133]

By the early 1990s, acquisition and requirements reform, including the problems associated with military specifications and standards, had become the topic de jour, and there was an "assault on the requirements process."[134] John Ronald Fox notes that detailed specifications for "fruitcakes, chocolate syrup, and dog combs became the subject of much public amusement and ridicule."[135] Thus, by 1993, it became evident that "milspecs" were strangling the acquisition system.

In June 1994, SECDEF William Perry prohibited using military specifications and standards in any acquisition unless used as a last resort with a supporting waiver to document the rationale. Going forward, acquisition was to use *performance* specifications.[136] However, Secretary Perry acknowledged that "the problem of unique military systems does not begin with the standards. The problem is rooted in the requirements determination phase of the acquisition cycle."[137]

Meanwhile, during the period of 1994–1996, the frequency of JROC meetings significantly increased. The JROC's focus expanded to broader warfighting issues and a new analytical Joint Warfighting Capability Assessment. By 1996, organization and process complexity had increased, as more organizations and individuals were invited to provide advice or attend JROC meetings and formal lower-level organizations were established.

Requirements Generation System

For a decade, the Joint Staff had reorganized at the margins, but the OSD leadership sought more-thorough reforms. Among the recommendations of the first QDR, issued in May 1997, was a mandate to DoD to adopt better business processes in order to reduce forces and facilities while simultaneously dominating the battlefield.

A major by-product of this congressional direction was the creation by DoD of a bottom-up, threat-based approach to advise and assist the Services and JROC in shaping the force. This process, referred to earlier as the *RGS* (see Figure B.4), consisted of four distinct phases: definition, documentation, validation, and approval. RGS produced threat-based MNSs, Capstone Requirements Documents (CRDs), and ORDs. The purpose of the CRD was to capture the overarching requirements for a mission area that formed a family of systems to guide the DoD components. In contrast, the ORD captured the operational performance requirements for a proposed concept or systems (e.g., distance and speed).

[132] CJCS Memo of Policy 77, "Requirements Generation System (RGS)," September 17, 1992.

[133] CJCSI 3170.01, *Requirements Generation System*, Joint Chiefs of Staff, June 13, 1997; CJCSI 3170.01A, *Requirements Generation System*, Joint Chiefs of Staff, August 10, 1999.

[134] Fox, 2011, p. 171.

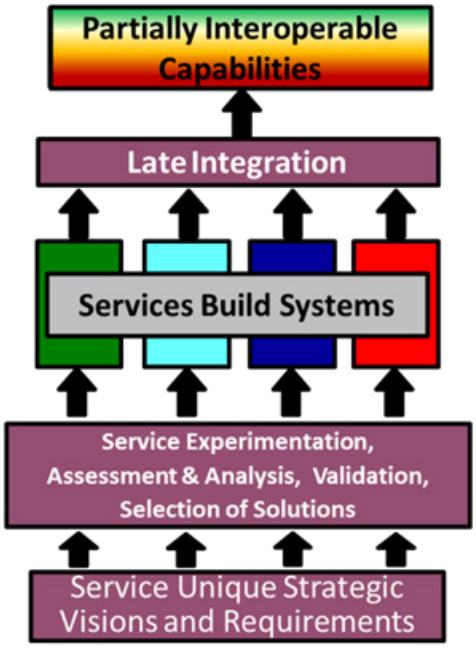
[135] Fox, 2011, p. 171.

[136] Performance specifications told contractors what performance was required but did not prescribe technical specifications for how to achieve it.

[137] William J. Perry, "A New Way of Doing Business," memorandum for secretaries of the military departments, June 22, 1994.

Figure B.4

The Requirements Generation System



The 2001 QDR attempted to "shift the basis of defense planning from a 'threat-based' model that had dominated thinking in the past to a 'capabilities-based model' for the future." The authors of the report acknowledged that

> Adopting this capabilities-based approach to planning requires that the nation maintain its military advantages in key areas while it develops new areas of military advantage and denies asymmetric advantages to adversaries. It entails adapting existing military capabilities to new circumstances, while experimenting with the development of new military capabilities. In short, it requires the transformation of U.S. forces, capabilities, and institutions to extend America's asymmetric advantages well into the future.[138]

The 2001 QDR also made clear its authors' vision for a forward-looking process, one that could anticipate and be prepared for the capabilities of future rivals and competitors:

> This capabilities-based model focuses more on how an adversary might fight rather than specifically whom the adversary might be or where a war might occur. It recognizes that it is not enough to plan for large conventional wars in distant theaters. Instead, the United States must identify the capabilities required to deter and defeat adversaries who will rely on surprise, deception, and asymmetric warfare to achieve their objectives.[139]

Donald Rumsfeld, while serving as the 21st SECDEF, furthered the case and implored the then CJCS, General Peter Pace, in an email dated March 19, 2002, to "think through what we all need to do,

[138] DoD, 2001, p. iv.

[139] DoD, 2001, p. iv.

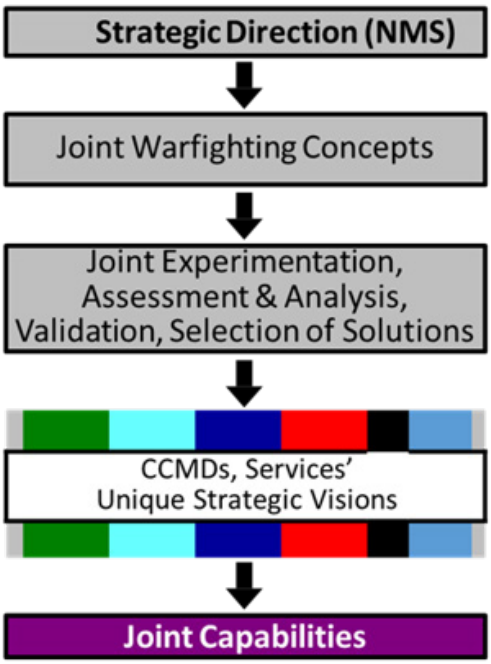
individually or collectively, to get the requirements system fixed. It is pretty clear it is broken . . . it continues to require things that ought not to be required and does not require things that need to be required."

2003: JCIDS—A Capabilities-Based Approach

Through his Joint Operations Concepts (2003), General Richard Myers promoted Joint culture. He articulated a vision to develop integrated functional capabilities. That same year, General Pace replaced the aging RGS, in use since 1992, with the newer, more versatile JCIDS (see Figure B.5).[140] The JROC also collaborated with the Joint Rapid Acquisition Cell, an OSD initiative to fulfill immediate warfighting needs that could otherwise result in U.S. casualties or hamper near-term military missions.

Figure B.5

JCIDS Diagram



The design of this new process was driven largely by Secretary Rumsfeld's Defense Capabilities Study in collaboration with the CJCS, also known as the *Aldridge Report*, on streamlining the process to generate true Joint requirements rather than post-hoc validation and integration of Service inputs.[141] A major difference between the two processes was that JCIDS transformed the RGS into a top-down, Joint approach that had as its basis in the NMS, Joint concepts, and Joint integration from inception. JCIDS

[140] CJCSI 3170.01C, *Joint Capabilities Integration and Development System*, Joint Chiefs of Staff, June 24, 2003.

[141] Joint Defense Capabilities Study Team, 2004.

was envisioned as a collaborative process to achieve deliberate Joint capabilities from the outset that would allow Services to compete to provide capabilities and the SECDEF to make early trade-offs.

Collectively, DoD justified this evolution to a capabilities-based approach "on the need for a joint concepts-centric capabilities identification process that will allow the Joint forces to meet the full range of military challenges of the future."[142]

Documentation also evolved during the transition from RGS to JCIDS as the adaptation of a longer-term perspective was institutionalized. The new JCIDS process abandoned MNSs, ORDs, and CRDs as outputs. In their place, JCIDS directed the production of an Initial Capability Document (ICD) in lieu of the CRD and the MNS to describe a broad mission area and the capabilities required to assure tactical and operational superiority. Likewise, elements of the ORD were split across the new CDD, a broad definition of the requirement sufficient for early development efforts and trade-space analysis, and a CPD, used to describe the capability to be produced in the production phase of a program. The CDD also outlined KPPs to guide the development and testing of the current increment.

To further support the development of these products, underlying analysis and assessment was conducted consisting of a Functional Area Analysis (FAA) to identify operational tasks, conditions, and standards needed to achieve military objectives; a Functional Needs Analysis to assess the ability of the current and programmed Joint capabilities to accomplish the task identified by the FAA; and finally a Functional Solution Analysis to operationally assess all potential Doctrine, Organization, Training, materiel, Leadership and Education, Personnel, and Facilities (DOTmLPF) approach to solving one or more of the capability gaps previously identified.

The new JCIDS process also recognized and subsequently addressed the need for a new construct for decision making. It consisted of a set of Joint Staff–led FCBs that were Joint Capability Area–centered and inclusive of the whole-of-DoD. These FCBs fed the Joint Staff–led, but whole-of-DoD JCB, and the JCB directly supported the JROC. To support the implementation of JCIDS, the JCB issued the first JCIDS Manual, CJCSM 3170.01M, at a length of 88 pages.[143]

Also, during this time (September 2004) CBAs were created to provide the demanded robust assessment (analytical rigor) of a mission area, or similarly framed set of activities, to assess the capability and capacity of the Joint Force to successfully complete the mission or task activities. As intended, a CBA could lead to the identification of new or modified capability requirements and associated capability gaps. A few years later, in January 2006, the Joint Staff created the initial version of a CBA user's guide to provide practical advice on conducting CBAs to meet the JCIDS objectives.

In June 2004, JROCM 095-04 established the "Mission Area Initial Capabilities Document" (MA ICD). The MA ICD contributed to the JCIDS process's elimination of the Department's reliance on the system-oriented CRD as a way of enforcing standards and ensuring interoperability to deliver capabilities in key mission areas. The incorporation of the MA ICD drove changes to improve the effectiveness of JCIDS in meeting the objectives of the JCIDS process.

Further changes in 2005 led to the creation of the Joint Capabilities Document and the subsequent replacement of the MA ICD, as an overarching JCIDS document used to identify a set of capabilities which support a defined mission area. This mission could be identified in the Family of Joint Future Concepts

[142] CJCSI 3170.01C, 2003.

[143] CJCSM 3170.01M, *Joint Capabilities Integration and Development System*, Joint Chiefs of Staff, June 24, 2003.

(e.g., the JWC), concept of operations, or Unified Command Plan (UCP)-assigned missions. The flexibility of the Joint Capabilities Document allowed it to be updated as changes were made to the above noted concepts and missions.

Ultimately, the new JCIDS process still suffered from systemic shortcomings that stymied its conclusive success. Cross-Service prioritization and interoperability, or lack thereof, continued to cause friction between Service programmers and operators. Other complaints focused on the process, documentation, and time required for the Joint requirements process. In the eyes of many, JCIDS was too consensus-driven, leading to decisions at the lowest common denominator but not necessarily what the warfighter required. JCIDS also paid little attention to cost, schedule, and performance trade-offs, struggling to prioritize within or across portfolios, and thus having little impact on shaping the force.

2005: An Urgent Validation Pathway

On March 19, 2003, President George W. Bush announced military operations to disarm Iraq during an address to the nation. Though major combat operations concluded relatively quickly, opposition to U.S. occupation metastasized over time, leading to widespread insurgency in Iraq. Improvised explosive devices became the weapon of choice, leading to killed-in-action rates doubling and wounded-in-action rates almost quadrupling from 2003 to 2004.[144]

It quickly became evident that the deliberate JCIDS process was unable to respond to the dynamic nature of this new form of warfare in Iraq and that another more urgent requirement validation process was needed. Operation Iraqi Freedom also demonstrated the problem with any multiyear requirements process and the fallacy that future needs can be predicted well in advance and that changes can be made to adjust quickly if needed. On July 15, 2005, CJCSI 3470.01, *Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONs) in the Year of Execution*, was signed. Its purpose was to establish "policy and procedures to facilitate assessment, validation, sourcing, resourcing and fielding of operational driven urgent, execution-year combatant commander needs."[145]

The instruction outlined three conditions for entry into the JUON process: (1) the need must be quickly addressed to prevent combat-related loss of life or mission failure, (2) the requirement had to be considered inherently Joint in nature, and (3) the requirement had to be outside the scope of any existing OSD or Service processes (e.g., a Service-unique urgent requirement process). With significantly streamlined requirements documentation paperwork, the goal of the JUON process was to accelerate the requirements decision processes and put capabilities into the hands of the warfighter as fast as possible,

[144] Defense Casualty Analysis System, website, undated.

[145] CJCSI 3470.01, *Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONS) in the Year of Execution*, Joint Chiefs of Staff, July 15, 2005.

bypassing many of the traditional processes resident within the requirements (JCIDS), programming (PPBE), and acquisition processes of the time.

Nonetheless, in January 2006, the Defense Acquisition Performance Assessment (DAPA) study report was released by the Acting SECDEF, Gordon England. He acknowledged that "there is a growing and deep concern with the Congress and within the [DoD] Leadership team about the DoD acquisition processes."[146]

"Neither JCIDS nor the services requirements development process were well informed about the maturity of technologies that underlie achievement of the requirement or the resources necessary to realize their developments."

– Defense Acquisition Performance Assessment (January 2006)

The DAPA report also cited significant problems with the requirements process, stating that senior military leadership was not adequately involved in managing the process.[147] In the minds of the DAPA Commission, this had created serious differences in the conception of what was being built, the associated cost, and the subsequent schedule for fielding.

2007: Introduction of Portfolio Management

In 2006, the QDR report recommended that the Department move from a Service-focused weapon development process to a Joint portfolio model.[148] The QDR provided a new direction to focus on the needs of combatant commanders and develop portfolios of Joint capability rather than individual "stove-piped programs," accelerating the transformation of the Department.

In 2007, given this new direction on portfolio management, the lower-level working groups—the FCBs and the JCB—became the "engine rooms" of the JROC: assessing Joint military capabilities, validating capability gaps, and prioritizing requirements. The FCBs also evaluated the sponsors' KPPs and began to make strategic investment decisions informed by capability portfolio assessments.[149]

Yet still, too often, ICDs and CDDs reflected Service programs and priorities and were not necessarily aligned with Joint priorities. GAO subsequently issued a report in 2008 on DoD's requirements process, stating unequivocally that the process had not been effective in prioritizing Joint capabilities and was hindered by the lack of an underlying analytical approach:

> GAO reviewed JCIDS documentation related to proposals for new capabilities and found that most—almost 70 percent—were sponsored by the military services, with little involvement from the joint community—including the combatant commands, which are largely responsible for planning and carrying out military operations. By continuing to rely on capability proposals that lack a joint perspective, DOD may be losing opportunities to improve joint warfighting capabilities and reduce the

[146] Defense Acquisition Performance Assessment Project, *Defense Acquisition Performance Assessment Report*, January 2006.

[147] Defense Acquisition Performance Assessment Project, 2006, p. 11.

[148] DoD, *Quadrennial Defense Review Report*, February 6, 2006.

[149] CJCSI 3170.01F, *Joint Capabilities Integration and Development System*, Joint Chiefs of Staff, May 1, 2007.

> duplication of capabilities in some areas. In addition, virtually all capability proposals that have gone through the JCIDS process since 2003 have been validated—or approved.[150]

From GAO's perspective, the JCIDS process had also proven to be lengthy, taking an average of 8 to 10 months to validate a requirements document, specifically ICDs and CDDs, making it unnecessarily unwieldy and nonresponsive to the changing nature of warfare.

In March 2009, Michael J. Sullivan, GAO's Director for Acquisition and Sourcing Management testified before Congress, drawing from GAO's body of work on DoD's acquisition, requirements, and funding processes. He highlighted systemic root causes in DoD's inability to meet cost and schedule expectations. In his testimony, he stated that DoD lacked an integrated approach to balance weapon system investments:

> At the program level, DOD allows programs to begin development without a full understanding of requirements and the resources needed to execute them. The lack of early systems engineering, acceptance of unreliable cost estimates based on overly optimistic assumptions, failure to commit full funding, and the addition of new requirements well into the acquisition cycle all contribute to poor outcomes.[151]

In response to congressional pressure and GAO recommendations, the Department issued policy and identified responsibilities for portfolio management[152] and other acquisition-related initiatives. The JCIDS process responded even quicker, adding capability portfolio management to the roles and responsibilities of the various FCBs in 2007.[153]

Within this new role, the FCBs became more holistically responsible for their respective Joint Capability Areas (JCA) and held accountable for a balance of capabilities within their portfolio. As originally envisioned, the JCA portfolio would also include Defense Acquisition System (DAS) Acquisition Category II (ACAT II) programs and projects and ACAT IIIs. Although the latter was not achieved, the former began to gain traction within the Joint Staff and the Department.

[150] GAO, 2008.

[151] Michael J. Sullivan, *Defense Acquisitions: DOD Must Balance Its Needs with Available Resources and Follow an Incremental Approach to Acquiring Weapons Systems*, statement of Michael J. Sullivan, Director, Acquisition and Sourcing Management, to the Committee on Armed Services, U.S. Senate, March 3, 2009, U.S. Government Accountability Office, GAO-09-431T, 2009.

[152] DoDD 7045.20, *Capability Portfolio Management*, U.S. Department of Defense, December 2, 2008.

[153] CJCSI 3170.01F, 2007.

2012: Addition of an Emergent Validation Pathway and Other Changes

In 2012, with the Budget Control Act of 2011 and subsequent DoD budget cuts, requirements reform took a big leap forward in with the publication of a new JCIDS CJCSI.[154]

Financial pressures demanded that the Department look at all areas to achieve savings, and efforts were taken to eliminate overhead infrastructure, personnel costs, force structure, as well as modernization and procurement. In late 2010, recognizing the increased budgetary pressure, the Joint Capabilities Development Process Review (JCDPR) was kick-started by then-VCJCS General James "Hoss" Cartwright. The JCDPR's mandate was to review JCIDS end to end and "provide recommendations to improve the process responsiveness and decision support to the JROC."

The goal of the new process was to debate difficult issues and make difficult choices earlier. This new process should also have better upfront fidelity on cost, schedule, and performance trade-offs, incorporating more analytic rigor and portfolio risk analysis. With a stronger emphasis on prioritizing capability requirements, the expectation was that the final product would be a more dynamic and iterative process throughout a program's lifecycle.

> "The Department will be required, over the next ten years, to reduce its projected spending by more than $450 billion. . . . I promised that we would not have to choose between National Security and fiscal security. What I cannot promise is that this can be achieved without making some very difficult choices."
>
> – Secretary Leon Panetta

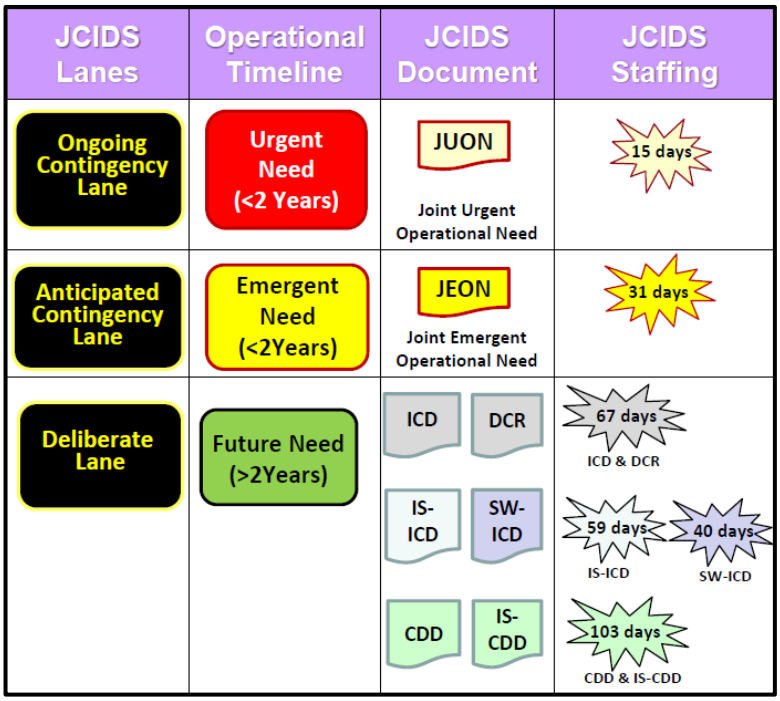
Ultimately, the revised JCIDS process embraced a "three-lane" approach for capability requirements staffing and approval (see Figure B.6). The first lane (represented by the bottom row of the figure) was for deliberate requirements that were sponsor-driven and used ICDs, CDDs, CPDs, and Joint DCRs to document the requirements. This was the traditional route for capability requirements that required significant technology development for solutions that were not urgent in nature, leading to a JROC, or delegation to the sponsor, validation.

The 2012 JCIDS revision also included a new lane to address emergent requirements documented via a JEON (the center row in Figure B.6). The principal purpose of this lane was to support rapid acquisition of capability solutions needed for an anticipated or pending contingency operation. The JROC was the validation authority for JEONs unless delegated by the VCJCS to the JCB.

[154] CJCSI 3170.01H, *Joint Capabilities Integration and Development System*, Joint Chiefs of Staff, January 10, 2012.

Figure B.6

JCIDS Lanes and Staffing Timelines

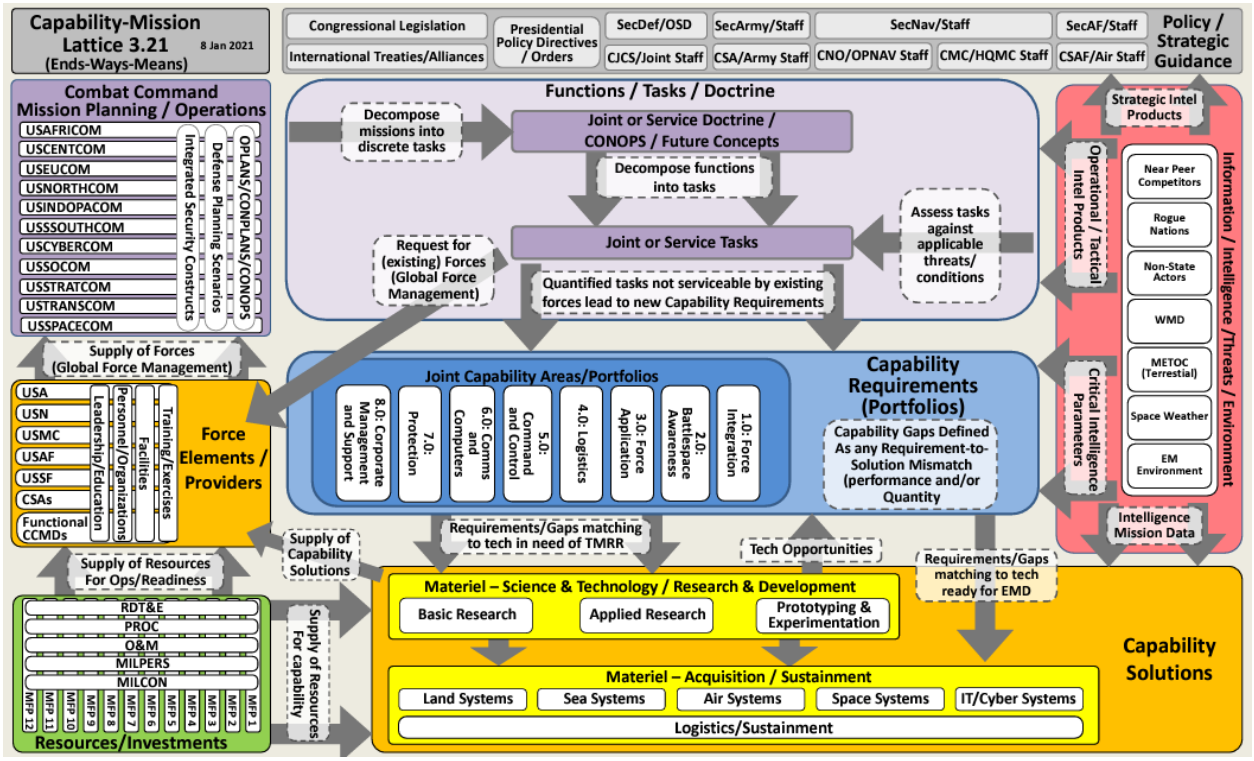


This revision also institutionalized urgent requirements by incorporating CJCSI 3470.01, *Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONS) in the Year of Execution*, as the third and final lane (the upper row in Figure B.6). It adapted CJCSI 3470.01's mandate to rapidly validate CCMD urgent and compelling needs to prevent loss of life and/or mission failure during current operation through fielding of a solution in less than two years. To expedite the review process, the J8 Deputy Director for Requirements validated JUONs in this lane.

The 2012 JCIDS revisions limited page lengths to force concise documents and revised the "mandatory" KPPs for CDDs and CPDs to force protection, survivability, sustainment, net-ready, training, and energy. This revision also institutionalized the "IT Box" construct and capability-mission lattice (CML). The CML was intended to provide an integrating construct to ensure traceability to strategic guidance, missions of the Joint Force, Service and Joint concepts, concepts of operations, and other Department activities—both in the identification of capability requirements and their associated capability gaps (Figure B.7).

Figure B.7

Capability Mission Lattice



SOURCE: Defense Acquisition University (DAU), Manual for the Operation of the Joint Capabilities Integration and Development System, p. C-5, 30 October 2021.

Ultimately, the updates to the JCIDS process were attuned to the new fiscal reality and the consummate reduction in military spending, which required sponsors to make tough choices up front. At its core, the sponsor had to articulate how a new capability requirement fit into an FCB's portfolio and identify capability trade-offs, including the replacement and retirement of legacy capabilities.

With these reforms, the role of the FCB was strengthened, and a portfolio-focused assessment was institutionalized. Within this assessment, better up-front analysis of alternatives was required, as well as tougher deliberations on the "80% solution." Transformation to a deliberative process versus a consensus-based process was also incorporated into the new JCIDS process as a fundamental element.

Since 2016, JCIDS has allowed leveraging COTS capabilities to fulfill Joint requirements. COTS is now considered as part of the small "m" materiel analysis within DOTmLPF-P required for developing every Joint capability. Small "m" identifies materiel items, systems, or equipment needed to support the required capability, increased quantities, modifications, improvements, or alternate applications of existing materiel or the purchase of COTS, government-off-the-shelf (GOTS), or non-development items (NDIs). Materiel includes ships, tanks, self-propelled weapons, aircraft, related spares, repair parts, and support equipment, but excludes real property, installations, and utilities.

Finally, the new JCIDS process included a more robust tripwire process in which a sponsor had to return to the JROC or JCD when (1) cost growth exceeded 10%, based on the current Acquisition Program Baseline (APB) or 25% of the original APB, (2) when Initial Operating Capability (IOC) or Final Operating

Capability (FOC) breeches of 12 months or greater occurred, and (3) any quantity reductions greater than 10%.

In 2015, GAO published its first report on DoD's portfolio management initiatives.[155] It highlighted a lack of coherent governance or sustained leadership and policy, and a perceived lack of decision making authority across the enterprise.

From a governance perspective, GAO noted that DoD had a significant number of processes, practices, organizations, and decision makers that operated in stovepipes rather than cooperating and collaborating with each other. This extended into the acquisition and requirements community's penchant to focus on individual programs rather than the collective whole of the capability portfolio under evaluation.

GAO's findings regarding leadership documented that DoD stopped implementing its portfolio management initiatives due to changes in leadership. As an aside, GAO also noted that current DoD policies were outdated and needed updating, as they no longer conformed to best practices as outlined in the Project Management Institute's *The Standard for Portfolio Management—Third Edition*.[156]

Finally, emphasizing the importance of cross-DoD prioritization of needs and resources, GAO highlighted the fact that, for all practical purposes, it is the individual Services that prioritize needs across their respective Service rather than across the military.[157] The Services used internally conducted reviews on their programs to drive out redundancy, plan for resourcing uncertainties, and manage resources more effectively, but GAO recommended that, for DoD to thrive, it needed an integrated enterprise-level portfolio review approach using a common set of planning assumptions for investment decisions.

2018–2021: Reducing Mandatory Key Performance Parameters and Delegating Authority

In 2018, to streamline policy, the Joint Staff canceled the CJCSI 3170.01 series and consolidated JCIDS policy into the JCIDS Charter (CJCSI 5123.01H) and the JCIDS Manual, which enables easier modifications and republications.[158] This new evolution of the process was intended to speed requirements validation while at the same time ensuring inclusion of interoperability requirements. Delegating authorities when and where appropriate to speed requirements validation, adding JPRs to ensure interoperability considerations are addressed, reducing mandatory KPPs to the four statutory mandatory KPPs (energy, system survivability, force protection, and sustainment), and minimizing touchpoints between the sponsor and the JROC, were implemented to address previous JCIDS issues.

In 2019, Allied partnership, coalition use, and exportability considerations were also incorporated into the JCIDS process. In 2021, updates to the JCIDS process included updating interoperability requirements, clarifying cyber, establishing electromagnetic spectrum survivability requirements, updating staffing timelines, and improved alignment to OSD(A&S)'s alternative acquisition pathways.

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[155] GAO, *Weapon System Acquisitions: Opportunities Exist to Improve the Department of Defense's Portfolio Management*, GAO-15-466, August 2015.

[156] Project Management Institute, Inc., *The Standard for Portfolio Management—Third Edition*, 2013.

[157] GAO, 2015.

[158] CJCSI 5123.01H, 2018; Joint Chiefs of Staff, 2021.

Media and think tank authors continued to blame the requirements process for, as *War on the Rocks* authors Jarrett Lane and Michelle Johnson put it, DoD's "failures of imagination."[159] Lane and Johnson asserted that JCIDS remained inward-looking and slow, challenging U.S. superiority in the fast-paced highly contested world. They cited the conclusions of the Advisory Panel on Streamlining and Codifying Acquisition Regulations (also known as the Section 809 Panel) on the need for a dynamic, outcomes-focused system that delivers capabilities that preserve U.S. dominance on the battlefield:

> To stoke true innovation, the acquisition process needs a new starting place: a fresh approach to requirements that focuses less on internally engineering solutions and more on understanding problems and minimizing unnecessary bureaucratic requirements to open the door for competition from industry.[160]

In 2020, MITRE drew similar conclusions:[161]

> The current approach to generating requirements is too slow to produce results when they matter most, too inflexible to account for an unpredictable environment, and too narrowly focused to satisfy joint warfighting needs across all domain operations.

The MITRE authors noted that even for the MTA pathway, intended for rapid prototyping and rapid fielding, the Services had implemented overly onerous requirement bureaucracies that potentially hindered positive outcomes for the warfighter. Further criticism was levied by GAO in 2021:

> The Joint Staff cannot assess the JCIDS process because it lacks reliable data and a baseline to measure timeliness. Joint Staff guidance provides a notional length of time of 103 days to review documents in the JCIDS process, but this is not evidence-based. Joint Staff officials stated they have not measured the actual length of time that documents take to go through the JCIDS process. GAO analysis and sponsor officials confirmed that none of the selected capability documents completed the process within 103 days.[162]

Even today, criticisms abound on DoD's requirements and acquisition systems. In June 2024, the Editorial Board of the *Washington Post* stated plainly that "The problem stems from choosing systems that are too complicated, too exquisite and too costly to maintain."[163]

Notwithstanding the criticisms and complaints over the past years, DoD's requirements process consistently demonstrates an openness to change, adaptation, and agility. Whether driven by external forces or inward reflection, documenting warfighter needs and performance requirements has evolved via revolutionary leaps and incremental bounds taken over time (see Figures B.8 and B.9).

[159] Lane and Johnson, 2018.

[160] Advisory Panel on Streamlining and Codifying Acquisition Regulations, *Report of the Advisory Panel on Streamlining and Codifying Acquisition Regulations, Volume 1 of 3*, January 2018.

[161] Modigliani et al., 2020.

[162] GAO, 2021.

[163] Washington Post Editorial Board, "Egregious Pentagon Delays Reflect Problem the Military Is Just Starting to Solve," *Washington Post*, June 24, 2024.

Figure B.8

Evolution of DoD-Level Requirements Documents (Need) 1977–Present

	MENS 1977-1981	**JMSNS** 1982-1986	**MNS** 1987-2002	**JCD** 2005-2009	**ICD** 2003-present **IS-ICD** 2012-Present **SW-ICD** 2021-Present	**DCR** 2005-Presemt
Basis	MAA	MAA	MAA	CBA	•JCIDS Analysis, 2003-2004 •CBA, 2005-Present	CBA
Required for	MDAPs Only	MDAPs Only	•MDAPs, 1987-1996 •All Programs, 1996-2002	Optional	All programs, unless waived	All Joint DOTmLPF-P Changes
Milestone	MS 0	MS 0	•MS 0, 1987-2001 •MS A, 2001-2002	N/A	•CD, 2003-2007 •MDD, 2008-Present	N/A
Approved/ Validated by	SECDEF	SECDEF PDM (POM Approval)	•SECDEF PDM, 1987-1990 •JROC or Component depending on ACAT, 1991-2002	JROC	JROC or Component Depending on: ACAT 2003; JPD 2003-2011; JSD, 2012-Present	JROC
Page Limit	•10, 1977-1979 •5, 1980-1981	3, 1982-1986	• 3, 1987-1996 • 5, 1997-2002	N/A	10 + 3 Appendices, 2003-2017 10 + 6 Appendices, 2018-present	•None, 2001-2012 •30 + 4 app, 2012-present
Operational Attributes	No	No	No	Yes	No, 2003-2004 Yes, 2004-Present	No
References	•DODD 5000.1 •DODI 5000.2	•DODD 5000.1 •DODI 5000.2	•DODD 5000.1; DODI 5000.2 •DOD 5000.2-M; DOD 5000.2-R; •CJCS MOP-77; CJCSI 3170.01	•CJCSI 3170.01 •JCIDS Manual	•CJCSI 3170.01 until Aug 2018 •CJCSI 5123.01, Aug 2018 •CJCSM 3170.01 •JCIDS Manual	•CJCSI 3170.01 until Aug 2018 •CJCSI 5123.01 Aug 2018 •JCIDS Manual

•CBA – Capabilities-Based Assessment
•CD – Concept Decision
•DCR – Joint DOTMLPF-P Change Recommendation
•ICD – Initial Capabilities Document
•IS-ICD – Information Systems ICD
•JMSNS – Justification for Major System New Start
•JCD – Joint Concept Document
•JPD – Joint Potential Designator
•JSD – Joint Staffing Designation
•MAA – Mission Area Analysis
•MENS – Mission Element Need Statement
•MNS – Mission Need Statement
•MOP – Memorandum of Policy
•PDM – Program Decision Memorandum
•POM – Program Objectives Memorandum
•SW - Software

Figure B.9

Evolution of DoD-Level Requirements Documents (Performance) 1991–Present

	ORD 1991-2002	**CRD** 1997-2002	**Draft CDD** 2009-Present	**CDD** 2003-Present **IS-CDD** 2012-Present	**CPD** 2003-Aug 2018
Basis Prior documents	• MAA/MENS/AoA, 1991-1996 • MAA/MNS/CRD/AoA, 1997-2002	MAA/MNS	ICD/AoA	• CDD: ICD, 2003-Present • IS-CDD: ICD/AoA, 2012-Present	ICD/CDD, 2003-2018
Basis Prior Phase of acquisition	• CE/D & D&V Phases, 1991-1996 • CE & PDRR Phases, 1996-2000 • C&TD & SDD Phases, 2000-2002	N/A	MSA Phase	• TD Phase, 2003-2008 • TMRR Phase, 2008-Aug 2018 • TMRR & EMD, Aug 2018 - Present	SDD Phase, 2003-2008 EMD, 2008 – Aug 2018
Required for	All Programs	SoS/FoS	All Programs until 2021 then only MCA Pathway Programs		
Milestone	MS I and II Updated for MS III if necessary	N/A	MS A	MS B, 2003-2012 DFRPDR & MS B, 2013-Aug 2018 Updated for MS C, Aug 2018-present	MS C, 2003-Aug 2018
Approved/ Validated by	JROC or Component Depending on ACAT	JROC or Component IAW ACAT	Sponsor	JROC or Component IAW: •ACAT, 2003 • JPD, 2004-2011 • JSD, 2012-Present	JROC or Component IAW: •ACAT, 2003 • JPD, 2004-2011 • JSD, 2012-Aug 2018
Page Limit	None	None	• 35, 2003-2013 • 45, 2014-Present*		• 30, 2003-2013 • 40, 2014-Aug 2018
Performance Attributes	KPPs & Others	KPPs & Others	• KPPs, KSAs & Others, 2009-2014 • KPPs, KSAs, APAs & Others, 2015-Present	• KPPs & Others, 2003-2006 • KPPs, KSAs & Others, 2007-2014 • KPPs, KSAs, APAs & Others, 2015-Present	• KPPs & Others, 2003-2006 • KPPs, KSAs & Others, 2007-2014 • KPPs, KSAs, APAs & Others, 2015-Aug 2018
References	• DoDI 5000.2, 1991-1996 • DoD Manual 5000.2-M, 1991 • CJCS MOP-77, 1992 • DoD 5000.2-R, 1996 • CJCSI 3170.01, 1997-2002	CJCSI 3170.01	• CJCSI 3170.01 • JCIDS Manual	• CJCSI 3170.01, 2003-Aug 2018 • CJCSI 5123.01, Aug 2018-Present • CJCSM, 2003-2009 • JCIDS Manual, 2009-Present	• CJCSI 3170.01, 2003-2018 • CJCSM, 2003-2009 • JCIDS Manual, 2009-Aug 2018

•CBA – Capabilities-Based Assessment
•CE/D – Concept Exploration/Definition
•CE – Concept Exploration
•C&TD – Concept & Technology Development
•CDD – Capability Development Document
•CPD – Capability Production Document
•CRD – Capstone Requirements Document
•D&V – Demonstration & Validation
•EMD – Engineering & Manufacturing Development
•FoS – Family of Systems
•ICD – Initial Capabilities Document
•JPD – Joint Potential Designator
•JSD – Joint Staffing Designation
•MAA – Mission Area Analysis
•MENS – Mission Element Need Statement
•MNS – Mission Need Statement
•ORD – Operational Requirements Document
•PDRR – Program Definition & Risk Reduction
•SDD – System Development & Demonstration
•SoS – System of Systems
•TD – Technology Development
•TMRR – Technology Maturation & Risk Reduction

*Body of CDD/CPD only (does not include executive summary & appendices)

The JROC Charter and the JCIDS Manual have also evolved over the years as can be seen in Figure B.10 from Greenwalt and Patt (2025).

Figure B.10

A History of the JROC Charter and JCIDS Manual

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 JCIDS. It 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 trade-offs 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.

SOURCE: Reproduced from Bill Greenwalt and Dan Patt, *Required to Fail: Beyond Documents: Accelerating Joint Advantage Through Direct Resourcing and Experimentation*, Hudson Institute, February 2025, pp. 66-69.

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 ap- plication 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.

SOURCE: Reproduced from Bill Greenwalt and Dan Patt, *Required to Fail: Beyond Documents: Accelerating Joint Advantage Through Direct Resourcing and Experimentation*, Hudson Institute, February 2025, pp. 66-69.

Appendix C

PARALLEL REQUIREMENTS PROCESSES

Key Points

- The military Services have requirements processes that run parallel to and, in many cases, are derived from JCIDS. Additionally, some CCMDs, such as SOCOM and CYBERCOM, have their own parallel requirements models.
- While outside the scope of this report, reform to the DoD's requirements process must address improvements to Service and CCMD requirements processes as well.

JCIDS is the process established to review, validate, and prioritize Joint requirements; however, there are DoD requirements processes outside of JCIDS. This section reviews and evaluates parallel requirements models at the Service, CCMD, and component levels. These parallel requirements models are worth discussing because, while they often apply to only a subset of Service or CCMD requirements or capabilities, they may present lessons learned or best practices that JCIDS reform efforts can incorporate.

Parallel Requirements Models

The military Services have requirements processes and approval boards that run parallel to and, in many cases, are derived from JCIDS (e.g., the ACIDS process and the AROC). Additionally, some CCMDs have their own parallel requirements models, including SOFCIDS and CCIDS. The IC also has its own requirement process: the ICCR process.

Service and Combatant Command Requirements Processes

U.S. Army Requirements Process

Army Regulation 71-9, *Warfighting Capabilities Determination*, establishes policies and procedures, and assigns responsibilities for identifying, determining, and integrating required warfighting capabilities within the DOTmLPF-P framework. It applies to validating and approving capabilities that support deliberate force-modernization planning and the urgent and emergent needs of operational commanders. This regulation provides guidance to help implement JCIDS, assigning responsibilities and roles for ACIDS within the Department of the Army. Also, this regulation implements Army procedures that enable a unity of effort in force-modernization planning, coordination, integration, and execution of materiel,

nonmateriel, and human capital warfighting capabilities determinations in support of CCMDs. The Army's process is responsive to the urgent needs of operational commanders in current and imminent contingency operations, and it projects the full set of DOTmLPF-P solutions required for the Army to conduct prompt and sustained unified land operations, across multiple domains. Army Deputy Chief of Staff, G-8 is the proponent for this regulation.

ACIDS supports the AROC and is a priority-driven system approved by the Army Senior Leader (ASL). ACIDS provides guidance for efficient staffing, validation, and approval of requirements. Moreover, it helps integrate and synchronize materiel capability requirements. ACIDS codifies the roles and functions of ASLs as they review and approve requirements documents. The AROC advises the Chief of Staff of the Army (unless delegated to the Vice Chief of Staff of the Army or Commanding General, Army Futures Command) for validation and approval of capabilities required to support warfighting commanders. The AROC recommends validation and approval of modernization requirements consistent with Army's strategic priorities. Army approval indicates proposal acceptance and commitment of resources to proceed forward in the modernization process. Army approval follows the Joint Staff (JROC) validation process, if JCIDS is required.

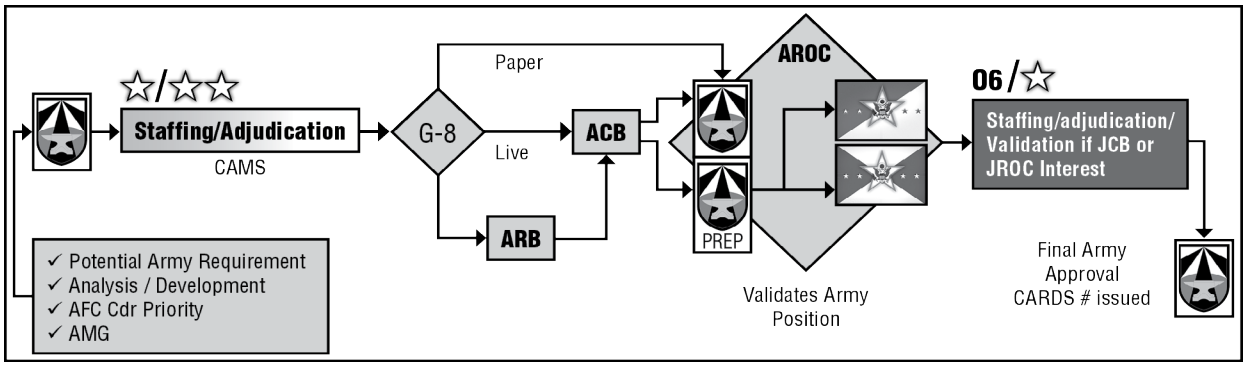
Army requirements approval occurs in five stages. The first stage is the Department of Army one-time staffing of the requirements document. This review provides an opportunity for all Army stakeholders to provide flag-level approved comments on the proposed capability gap mitigation solution, in support of the AROC validation process. The second stage involves the adjudication of comments, and revision of the requirements document accordingly, to support AROC consideration. The third stage subjects the proposed requirements document to the AROC review forums for recommendation of validation, and ultimately, document approval. During this stage, any of the GO-level forums can decide to begin the parallel staffing process with the Joint Staff forums to help expedite the review and approval process. The fourth stage of the requirements process begins when the Army's validated capability document is submitted for review by the JROC community. Select documents will require validation by the JCB/JROC process. The final stage of the AROC process is the preparation of the documentation reflecting the description of the approved capability and associated development guidance.

The Capability and Army Requirements Oversight Council Management System (CAMS) is the Army's authoritative database supporting AROC document staffing and comment by numerous Army users and organizations. Deputy Chief of Staff, G-8, manage ACIDS and CAMS to ensure consistency of staff coordination as JCIDS/ACIDS proposals progress through the validation and approval process. Proposals are reviewed upon initial AFC. G-8 assigns proposals for further assessment and facilitates the staff coordination process in CAMS. Once the Army validation (and Joint Staff validation if required) and the approval processes are complete, the documentation process is closed by publishing the Chief of Staff of the Army, Vice Chief of Staff of the Army, or Commanding General, Army Futures Command signed approval memorandum.

The traditional deliberate staffing process (Figure C.1) is for nonurgent capability nominations (defined as required in the next six years) needing significant technology development. While deliberate, this process is meant to be streamlined. The CG, AFC releases nominated capability documents (for example ICD, CDD, CDD-U, A-CDD) to the Deputy Chief of Staff, G-8.

Figure C.1

U.S. Army ACIDS Deliberate Process

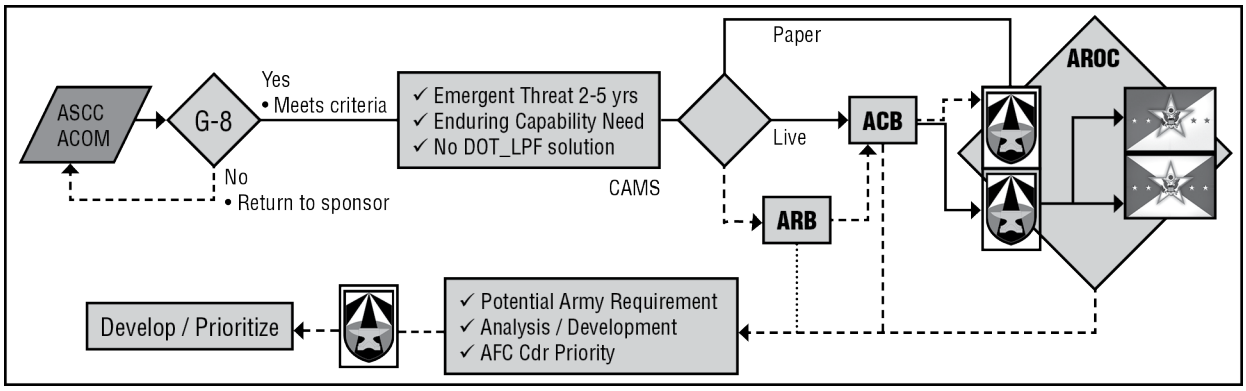


EONs (Figure C.2) provide operational commanders the means to get ASL visibility of emerging operational needs. An EON is an Army Command– or Army Service Component Command–sponsored emergent threat (next 2–5 years) that results in a capability gap that needs to be addressed within 2–5 years in order to support a current or future mission, and prevent loss of life or mission failure, that requires the Vice Chief of Staff of the Army and ASL guidance. It could potentially result, after assessment, in an enduring capability, and it cannot be mitigated by DOTmLPF-P, to include a current materiel solution.

A Directed Requirement (DR) represents an urgent need (within 18–24 months) with the intent to create an enduring capability. It may be in response to an Operational Needs Statement (ONS) or EON. DRs are approved by exception and only for capabilities that either already exist or require minimal modification to an existing capability.

Figure C.2

U.S. Army Emergent and Directed Requirements Process



The ACIDS process and the acquisition process that operates through the Assistant Secretary of the Army for Acquisition, Logistics, and Technology are distinct but mutually supporting processes, each with different decision makers. Whereas the acquisition process typically follows the Major Capability Acquisition (MCA) pathway, the ACIDS process reflects the JCIDS process, turning concepts into required capabilities, which results in a cost-benefit analysis or other study.

The Army attempts to leverage MTA and Abbreviated CDDs to support rapid fielding and rapid prototyping as much as possible. This allows further capability development prior to deciding if it needs to be an enduring capability. The Army has also begun implementation of a number of efforts based on lessons learned from ACIDS, including

- delegating approval for Army requirements to lower levels than the full AROC
- reducing the briefing templates
- reducing the length of requirements documents while meeting all requirements set forth by law, regulation, and policy
- attempting to revalidate documents on a periodic basis to determine what is still of value
- improving the Army's authoritative requirements database (CAMS) to make it more interactive as opposed to a mere repository
- better tracking mechanisms for taskers from various Army boards to ensure that the intent of ASL is being met.

U.S. Air Force Requirements Process

Similar to and aligned with the JROC's recent efforts to establish "top down/strategic" guidance on capability development priorities across the Joint Force, the U.S. Air Force (USAF) has implemented or is in the process of implementing several initiatives to improve its own capability development and requirements processes (Figure C.3). These initiatives will allow the USAF to increase the flexibility and agility of the requirements generation and validation processes to deliver cross-functional and lethal combat capabilities with the speed and responsiveness required to meet the challenges of this era of Great Power Competition.

In 2021, the USAF took an initial step in requirements generation and validation process improvement with the introduction of the Strategic Requirements Document (SRD) to serve as an alternative to JCIDS toward developing operational need-level capability requirements. This Air Force–only product is "primarily used for 'top down' directed initiatives and portfolio-wide capability development efforts," capturing existing work and analyses to identify strategic operational challenges, primary operational gaps, and possible solutions for those gaps to achieve mission success."[164] Using the SRD process, the USAF has been able to quickly and efficiently validate the operational need, continue analysis, and pursue capability development for several key USAF future challenges to include: Air Battle Management System, Logistics Under Attack, and the Surrogate Training Family of Systems.

In February 2023, the Chief of Staff of the U.S. Air Force directed the development of an Air Force Design that identifies and prioritizes the concepts, operational gaps, attributes, capabilities, capacity force generation models, human capital, and organizational structures that will enable the USAF to meet future global demands. This Force Design is intended to serve as the USAF's mechanism to articulate the changing character of war and provide the strategic focus for establishing its priority resource allocation and capacity development efforts. When validated by the Chief of Staff of the U.S. Air Force, the Force Design provides the "North Star" for the USAF to determine and take tangible steps necessary to achieve the force it needs.

[164] Air Force Futures Requirements Oversight Team, *AF/A5/7 Capability Development Guidebook Vol 2E: Strategic Requirements Document Guidebook*, February 2024.

Both the SRD and the Force Design processes are founded on the same rigorous and extensive Capability Portfolio Management and mission thread analysis found in the JCIDS-defined CBAs and the JROC's CPMR process. The USAF uses these "CBA-like" activities to validate Service-specific operational needs and gaps in much faster timelines than typically occur in JCIDS review and approval. Once a need is approved as a valid Service need, the USAF can then quickly take the next steps to assess the effectiveness, feasibility, and affordability of proposed capability solutions that can be pursued under the flexible means of the AAF.

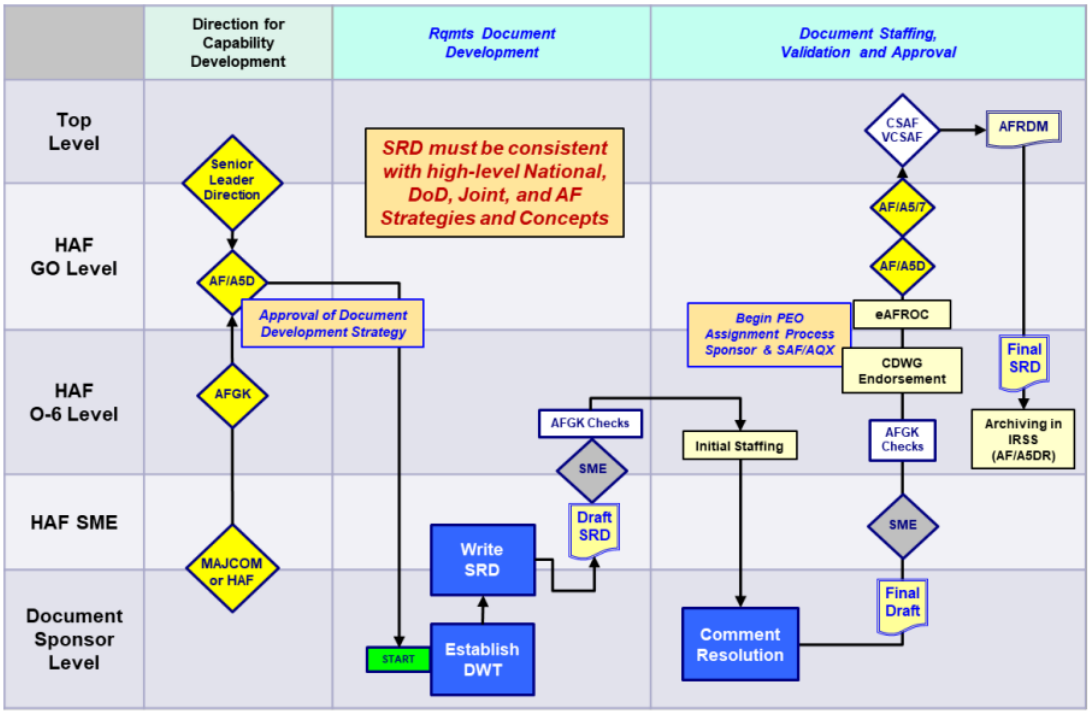
Lastly, the USAF finds itself in a time marked by significant and dangerous shifts in the strategic environment and recognizes the need to change to effectively deter in an era of near-peer competition and win in a conflict should deterrence fail. To address these challenges, the Secretary of the Air Force and Chief of Staff of the U.S. Air Force have initiated changes to reoptimize the USAF for success in this era of GPC. One of the four key themes of these changes is the need to change how the USAF develops capabilities, adjusting how the USAF conceives, designs, and delivers connected, interoperable systems at speed and scalability.[165] To help achieve this objective, a Key Strategic Decision under GPC is the establishment of the Integrated Capabilities Command (ICC), which will be tasked to develop competitive operational concepts, integrated requirements, and prioritized modernization plans to align with USAF's Force Design. The ICC will conduct the mission thread analysis to identify and assess resource-informed capability solutions to the USAF's future operational challenges for potential development and fielding under the AAF.

Together, the initiatives the USAF is currently undertaking provide opportunities to introduce flexibility and agility into the requirements processes the USAF uses to develop and validate the operational requirements it needs to address the future challenges of GPC.

[165] CSAF Task Ord 24-05 – USAF Great Power Competition Re-Optimization.

Figure C.3

U.S. Air Force Requirements Process



U.S. Space Force Requirements Process

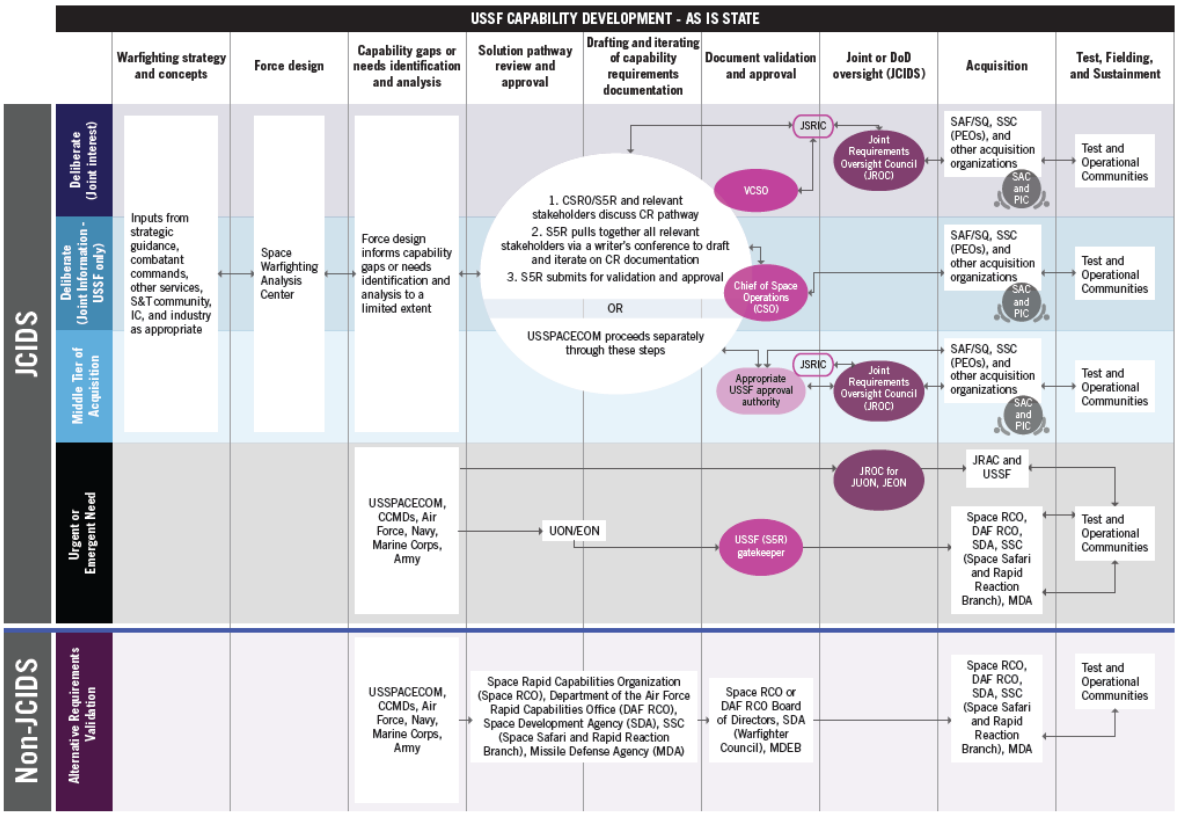
The Space Force requirements management process is currently in coordination and may be modified prior to publication of the Final 811 report to Congress.

Currently, the USSF capability requirements development starts with identifying a capability gap (Figure C.4). The most common source of this is the USSF Force Design and Development process. Gap identification can be done by any organization but must be routed through the Service Gatekeeper (SF/S5R) to determine viability and level of advocacy. SF/S5R will conduct a Solution Pathway Review to determine the appropriate requirements document and delegate/direct capability document development roles. The roles include validation authority, requirements sponsor, capability lead, and requirements development team.

If developing a capability requirements document is the outcome of the Solution Pathway Review, the requirements sponsor, in coordination with the capability lead, will draft the applicable requirements document with the requirements development team. The requirements sponsor will work to gain requirements validation from the validation authority, through the applicable processes at the validation authority level. Upon validation, the requirement sponsor must notify SF/S5R and provide the validated requirements document to be maintained in the integrated capabilities list and appropriate repositories. Digital Requirement Packages will be stored in the USSF Requirement Model Repository at the appropriate classification level.

Figure C.4

U.S. Space Force Design and Development



SOURCE: Reproduced from Lauren A. Mayer, Megan McKernan, Yool Kim, William Shelton, Jim Mignano, Sarah W. Denton, Arianne Collopy, Heidi Peters, Grace Van Valkenburg, Igor M. Brin, and Kristin J. Leuschner, Transforming Capability Requirements Development in the United States Space Force, RAND Corporation, RR-A2332-1, 2024, p. 19.

Enterprise requirements development follows a similar path to capability requirements. Enterprise requirements development begins with an identified USSF need to improve efficiency, increase effectiveness, or otherwise change the way in which systems or capabilities operate that do not have Joint equities or impact. This need can be identified at any USSF organization. USSF urgent requirements follow an accelerated process for validation, with a goal of less than 14 days for approval.

U.S. Navy Requirements Process

The Navy Office of the Chief of Naval Operations (OPNAV) Staff has a requirements process that attempts to work in conjunction with the JCIDS process (Figure C.5). OPNAV N9I maintains and executes the Navy Requirements process, working with the Navy JCIDS Gatekeeper and program sponsors. The process is facilitated by the sponsor approaching the Navy JCIDS Gatekeeper with a JCIDS document ready for review. The Gatekeeper will verify the document, create a work item in KM/DS and push the document forward for formal commenting. Joint and Navy commenting occur simultaneously based on JCIDS timelines. Once formal commenting is complete, the process shifts to "comment adjudication" and then the Navy Requirement process begins. The sponsor prepares and delivers the required briefing products for O6 review and Flag/SES review in preparation for a formal review at either the Naval Capabilities

Board or Resources and Requirements Review Board. The output of the NCB/R3B process is a decision memorandum (DM) signed by the designated senior Navy board chair that will provide specific guidance for the program moving forward. Once the Navy requirements process is complete, with a DM in routing, the process re-engages the JCIDS process at the FCB working group level. While Figure C.5 appears to show a process moving in parallel with the JCIDS process, the Navy requirements process can add 60–90 days due to scheduling meetings for senior Navy personnel and DM routing.

Navy Adaptive and Accelerated Requirements Processes

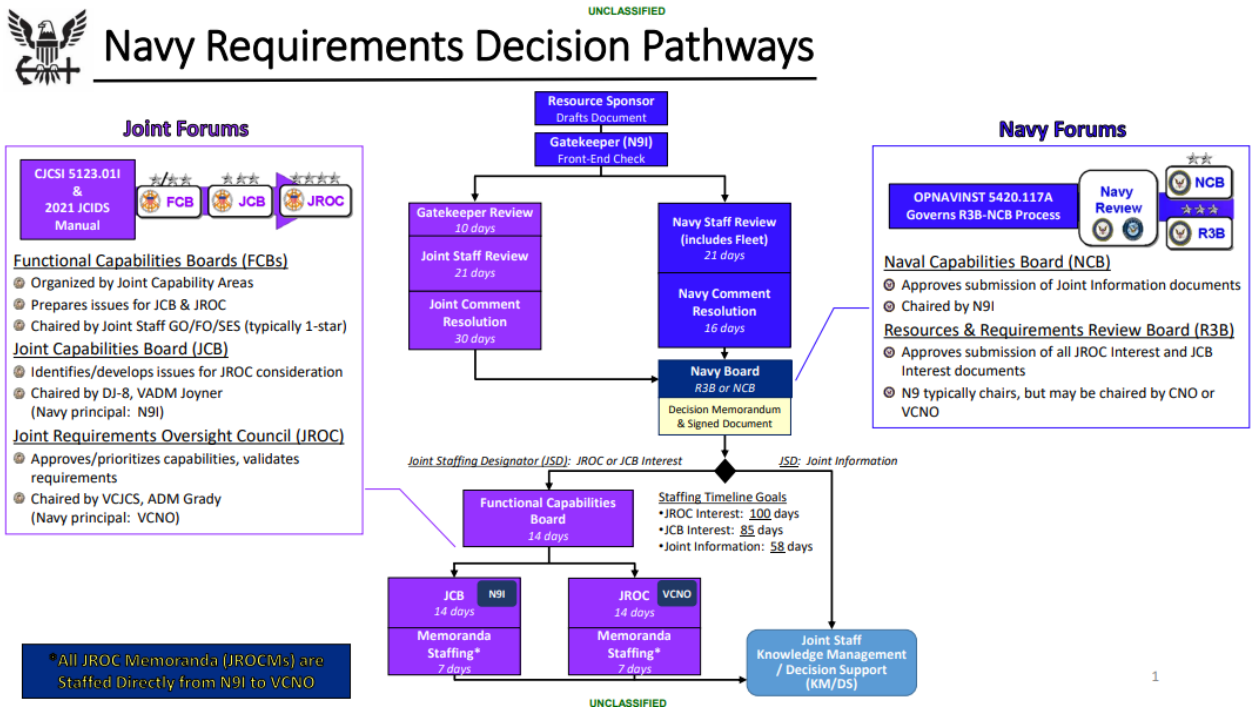
In addition to the deliberate process described above, the Navy uses some limited, Service-specific requirements processes to support programs with abbreviated timelines. Requirements Officers may use a Top Level Requirements (TLR) document to support an MTA program, or to facilitate pre-CDD development work. TLRs fall into one of three tiers, which decrease in importance and increase in flexibility beginning with Tier 1. TLR approval authority rests either with the Requirements Sponsor Director (two-star), or with the Deputy Chief of Naval Operations for Warfighting Requirements and Capabilities (three-star) based on a combination of anticipated program cost, and TLR tier.

In the presence of an existing foundation of analyses and documents, Requirements Officers may elect to employ a Requirements Evaluation Team, which is an expedited (90–120 day) path to identify materiel/nonmateriel solutions to previously validated and newly identified capability gaps. If approved, the Resource Sponsor owes in-process reviews to the approval authority (three-star or four-star) every 30 days throughout the evaluation, and a final brief when it concludes.

When capability gaps exceed the scope of a single POR, multiple PORs may coordinate to create an integrated capability. A Naval Integrated Capability Concept (NICC) considers threat, geography, time-period under consideration, and commander's intent. Requirements and Acquisition Leads share responsibility for the wholeness of the capability and coordinate directly with individual PORs and industry. Uniquely, a NICC document establishes a governing body to represent the interests of the various participant organizations, such as resource sponsors, program managers, and warfare centers. Membership should be broad enough to make timely resourcing, programmatic, technical, and developmental decisions for the system of systems.

Figure C.5

U.S. Navy Requirements Process



U.S. Marine Corps Requirements Process

The U.S. Marine Corps (USMC) requirements process, governed by both Joint and Department of the Navy policies, provides the pathway between Joint, naval, and Service concepts to the implementation of materiel/nonmateriel solutions (Table C.1). Services' ideas that address Key Operational Problems become the foundational inputs into USMC Campaign of Learning (CoL) activities such as Wargaming, Modeling and Simulation, and Experimentation. These ideas, which are matured over time through CoL activities, provide understanding of the needs and clarity on the future force requirements to address those challenges. As part of the Services' Force Development System, it continually interacts with other parts of that system (e.g., concepts, resourcing, CoL, and acquisition) to both get inputs from and provide inputs to those other processes. This interaction enables continuous learning within the system and the justification required to pursue resourcing for implementation of these capability requirements.

As the Force Development System lead for the USMC, Deputy Commandant for Integration oversees these supporting processes (Figure C.6) and decision points by providing venues (Table C.2) to gather feedback and decision space for senior leaders. SECNAVINST 5000.2G dictates the formal requirements documents and steps required for approval/validation, given projected capability costs and required visibility/complexity. For programs that are identified as ACAT III and above, the Marine Requirements Oversight Council (MROC) is the final signature authority for those requirements along with the appropriate staffing through the JCIDS process.

Table C.1

USMC Requirements Process Policies

Major DoD Activities Supported by the System	Reference
Implementing Joint Force Development and Design	CJCSI 3030.01A
JCIDS	CJCSI 5123.011
Department of the Navy Implementation of the DAS and the AAF	Secretary of the Navy Instruction (SECNAVINST) 5000.2G
Marine Corps CBA	Marine Corps Order (MCO) 3902.1E
Requirements Transition Process	Combat Development and Integration Order (CDIO) 5400.1

Figure C.6

USMC Requirements Staffing Process

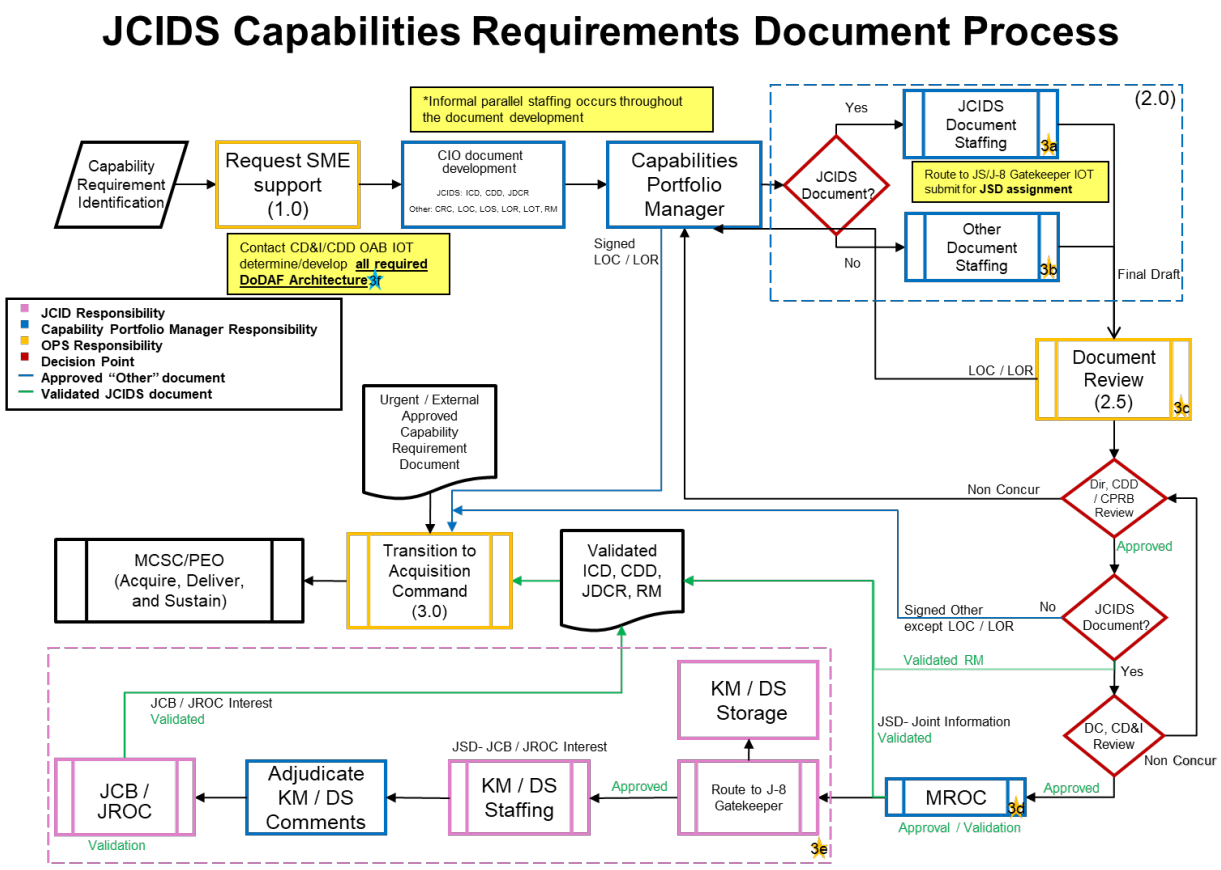


Table C.2

USMC Requirements Boards/Council

Title	Chairman	Members	Purpose
Capability Portfolio Integration Board (CPIB) 	Director, Marine Corps Integration Division (MCID)	O-6 representation from each Capability Portfolio Area, MARFORs, FMF, and HQMC (Deputy Commandants)	Reviews/Recommends Service CBA outputs POM-XX Submissions Requirements
Capability Portfolio Review Board (CPRB) 	(Co-Chair) Director, Capability Development Directorate (Co-Chair) Assistant Deputy Commandant, Programs and Resources	O-7 representation from MARFORs, FMF, and HQMC.	Reviews/Validates Service CBA outputs POM-XX Submissions Requirements
MROC Review Board (MRB) 	Assistant Deputy Commandant, Programs and Resources	O-7/O-8 representation from MARFORs, FMF, and HQMC (Principal Members).	Reviews/Recommends Force Development and Integration PPBEA Requirements Acquisition reviews Service positions
Marine Requirements Oversight Council (MROC) 	Assistant Commandant of the Marine Corps	O-10/O-9 representation from MARFORs, FMF, and HQMC (Principal Members).	Approvals/Decisions Force Development and Integration PPBEA Requirements Acquisition reviews Service positions

The MROC functions identified above enable activities within the Service requirements process and JCIDs while also providing four-star decision making on other key issues across the Service. The MROC enables Service integration by providing the venue for leaders at the senior executive levels to review and provide advice back to the Assistant Commandant of the Marine Corps and Commandant of the Marine Corps (as required) on issues affecting the Service. This body provides the foundation to ensure synchronization of Service activities, which enables the USMC to move both smartly and rapidly to address the Services' current and future challenges.

National Guard Bureau Requirements Process

The National Guard Bureau (NGB) has a requirement process that reflects the JCIDS process. The Chief of National Guard Bureau (CNGBI) Instruction 8202.00 establishes the policies, procedures and assigns responsibilities for identifying, determining, and prioritizing requirements for the National Guard Requirements Oversight Council (NGROC), a key body to validate and endorse National Guard requirements. The NGROC plays a critical role in supporting and informing the Vice Chief of the National Guard Bureau (VCNGB) as an advisor to the Joint Requirements Oversight Council (JROC) on matters pertaining to National Guard capabilities and requirements.

The National Guard Bureau facilitates a Joint Capability Assessment and Development Process (JCADP) to collect, assess, and evaluate capability gaps and shortfalls from the Air National Guard (ANG), Army National Guard (ARNG), and the State Joint Force Headquarters (JFHQ). The JCADP identifies capability shortfalls for mission requirements performed in Federalized and non-Federalized duty statuses in support of the National Defense Strategy, National Military Strategy, and the Department of Defense's (DoD) Strategy for Homeland Defense and Defense Support of Civil Authorities. The task of the NGROC governance structure is to review and validate requirements unique to the National Guard such as the Civil Support Teams, Counterdrug initiatives, State Partnership Program. and Domestic Operations. The NGROC assists the VCNGB in decision-making, provides strategic guidance, and ensures the Chief of the National Guard Bureau (CNGB) is well-informed on issues.

The National Guard's process (Figure C.3) starts with a State, Army National Guard (ARNG), Air National Guard (ANG), or NGB Joint Staff (i.e., requirement sponsor) submission of a capability requirement for endorsement and /or validation to the NGB Programs and Requirements Directorate (Gatekeeper). Upon review of the requirement documentation the Gatekeeper approves for submission to the process. The process consists of three governance bodies—National Guard Function Board, National Guard Capability Board, and culminating with the NGROC chaired by the Vice Chief of the National Guard Bureau and membership consisting of senior leader representation from the ARNG, ANG, and State Adjutant Generals. This process enables a thorough assessment to identify validity of the requirement, evaluate associated risks of the capability requirement and associated risks and consider alternative options to satisfy the requirement.

The National Guard is primarily dependent on the active Army and Air Force components to provide systems, provide resourcing, and develop requirements that the National Guard cannot do internally, the exception being the ASD for Nuclear, Chemical and Biological Defense to provide for capability development modernization and acquisition of National Guard domestic CBRN capability requirements. National Guard requirements are submitted to the active components and to the Joint Staff for Joint NG requirements, as well as through the Joint Staff's IPL. Validated requirements are categorized as internal National Guard Bureau (NGB) issues and capability gaps. The National Guard's participation in the JROC and JCIDS process is vital for ensuring that the Joint Force initiatives are informed by National Guard perspectives. Designated NGB representatives participate in regular FCB activities to represent National Guard interests in the JCIDS process and enable the VCNGB to provide the best military advice on Joint matters.

Table C.3

National Guard Bureau Requirements Process

Requirements	Chairman	Members	Purpose	Frequency
Step 1: National Guard Functional Board (NFB)	Deputy Director NGB J-8 	ARNG rep ANG rep State reps NGB FCB reps	Review, define, identify proposed capability gaps and solutions	Monthly
Step 2: National Guard Capability Board (NGCB)	Director NGB J-8 	ARNG rep ANG rep Vice Director NGB-DS ATAGS	Strategically review to ensure capability gaps are valid	Quarterly

Requirements	Chairman	Members	Purpose	Frequency
Step 3: National Guard Requirements Oversight Council (NGROC)	VCNGB 	Deputy Director ARNG Deputy Director ANG NGB-DS TAGs	Provides guidance and direction through NGROC Memorandum (NGROCM)	Quarterly

U.S. Special Operations Deliberate Staffing Process

SOFCIDS is the process used by SOCOM to fulfill its 10 U.S.C. § 167, authority to certify, endorse, and validate requirements relating to special operations activities (Figure C.7). SOCOM is also authorized to validate Joint Civil Affairs (CA) and Military Information Support Operations (MISO) requirements for conventional forces. SOFCIDS is fully nested under the Charter of the JROC and Implementation of the JCIDS (CJCSI 5123.01H) and augments the current Manual for the Operation of the JCIDS (Joint Staff, 2021). The goal of the SOFCIDS process is to provide complete, current, and coordinated documentation of Special Operations–peculiar (SO-p) capability requirements, gaps, and solutions required for SOF to conduct special operations at acceptable levels of risk.

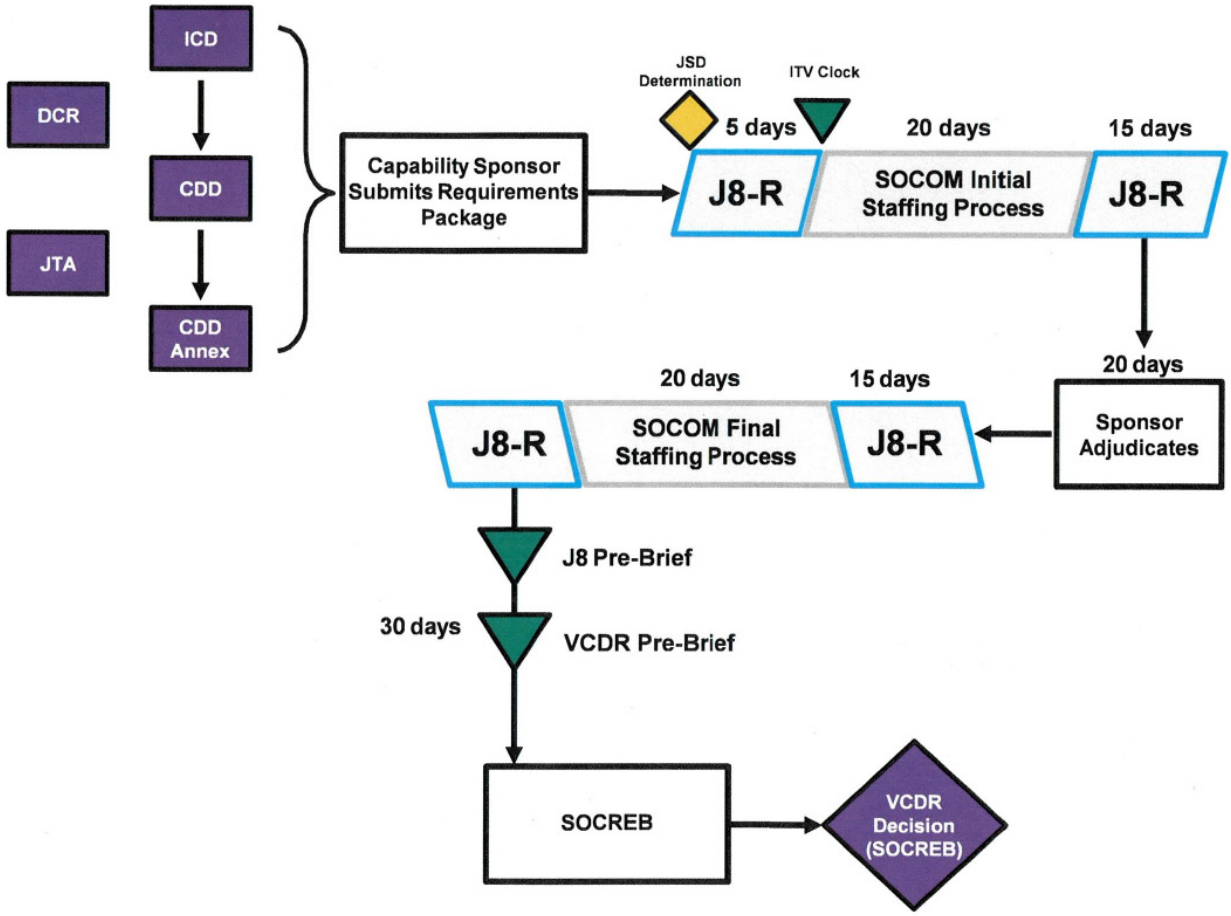
SO-p capability requirements, gaps, and solutions are identified through rigorous analysis based on the CBA process that is applied commensurate with the complexity of the mission and risk associated with mission failure. This analysis is followed by an assessment of requirements, gaps, and solutions to determine the most appropriate SOFCIDS requirement documentation. SOFCIDS deliberate documents include all standard JCIDS-compliant ICDs, IS-ICDs, SW-ICDs, DCRs, CDDs, and IS-CDDs. The SOFCIDS-unique requirement document to support MTA is called the Special Operations Rapid Requirement Document (SORRD). Finally, SOFCIDS uses the Combat Mission Needs Statement (CMNS) as the command's requirement document for SO-p UONs and EONs.

The SOCOM CDR has validation authority for SOFCIDS documents assigned a JSD of JCB Interest or Joint Information by the J8 Deputy Director for Requirements and Capability Development (DDRCD); JPRs designated by J8/DDRCD in SOFCIDS documents assigned a JSD of JCB Interest or Joint Information, SORRDs, CMNS documents, and Joint CA and MISO capability requirements, gaps, and solutions for conventional forces. SOCOM CDR delegates this validation authority to SOCOM VCDR as Special Operations Command Requirements Evaluation Board (SOCREB) Chairman.

Held monthly, the SOCREB is SOCOM's requirements validation board that approves all SO-p requirements and establishes SOF PORs. This SOCREB is equivalent to a SO-p JCB. The SOCREB provides the authority to validate both materiel and nonmateriel solutions, including force structure, organizational structure, and curriculum changes. The SOFCIDS process operates off an accelerated staffing timeline aimed at completing deliberate Requirement staffing within 120 days, rapid requirement staffing within 45 days, and urgent requirement staffing within 30 days.

Figure C.7

SOCOM Requirements Process



SOCOM leverages its Title 10 authorities as both a combatant command (CCMD) (Sec. 164) and a Service-like entity (Sec. 167) to employ a flexible and adaptable capability development process that enables rapid identification, prioritization, and validation of Joint-SOF capability requirements documents with timely and flexible resourcing and agile materiel acquisition and delivery. Over the past two decades of continuous combat operations, SOCOM has streamlined its processes to shorten the time required to deliver capabilities at the tactical edge with the speed and scale required to conduct dynamic SOF operations across the entire spectrum of conflict.

SOCOM's Special Operations Forces Capabilities and Integration and Development System (SOFCIDS) is a critical node within the strategic capability development process and is designed specifically to be nested under CJCSI 5123.01. By doing so, SOCOM can provide complete, current, and coordinated documentation of special operations–peculiar (SO-P) capability requirements, gaps, and solutions required for SOF to conduct special operations at acceptable levels of risk. These requirements can be used by the Services to enable SOF-to-Service transition. SOCOM Service components also use Service capability requirement documents to identify Service-common solutions that can be modified using MFP-11 funds to provide a SO-P capability solution. The SOFCIDS process is lean and agile with average staffing timelines under 160 days for deliberate requirements documents (compared with more than 300

with the Services), under 60 days for SORRDs, and a goal to be under 30 working days for urgent requirements tailored to the SOF warfighter.

SOCOM's agile process is added by its close partnerships with key stakeholders, including AT&L, Special Operations Financial Management (Comptroller), and the leadership/validation authority. Only four SOCOM senior leaders are involved in the requirements/acquisition process, which leads to streamlined decision making. SOCOM is able to able to assume more risk in its investment strategies for capability solutions because of its leaner budget.

CYBERCOM Requirements Process

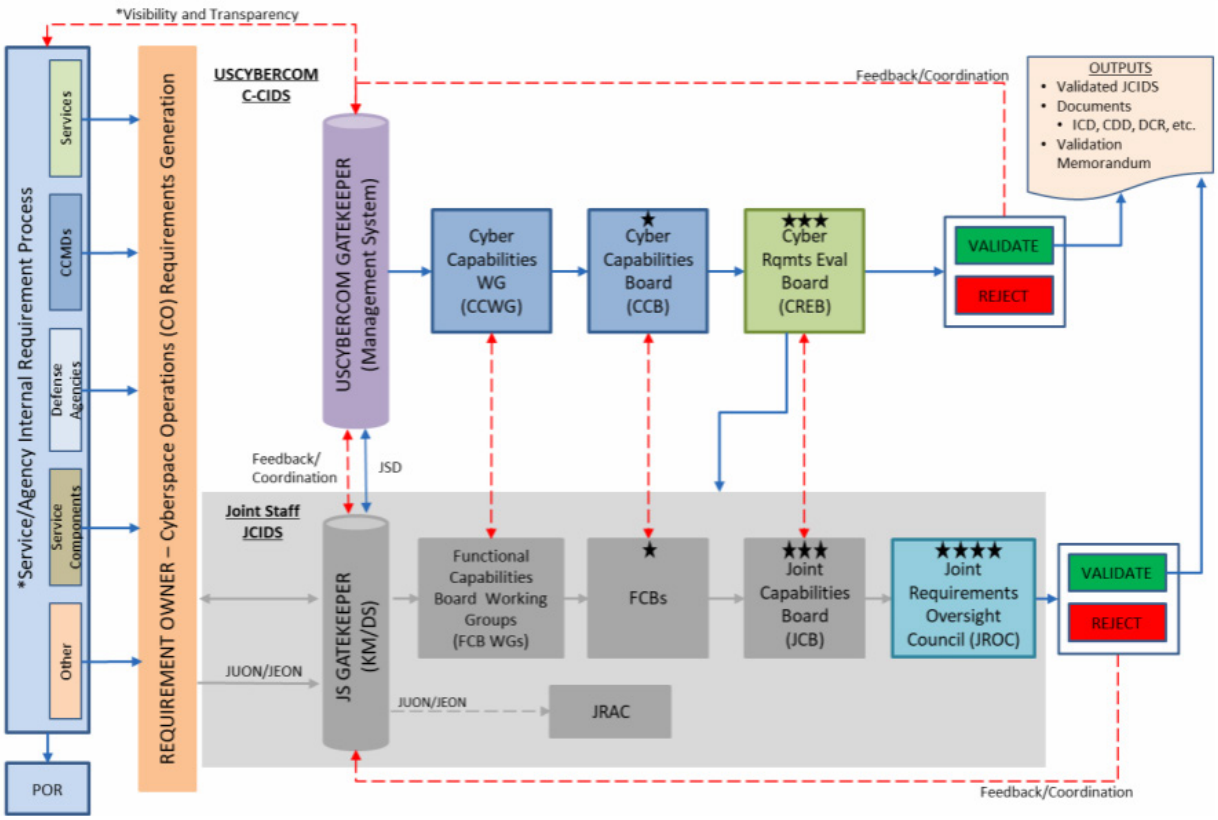
The primary objective of the CCIDS process is to manage, prioritize, endorse, and/or validate Joint Cyberspace Operations (CO) capability requirements and ensure the interoperability of CO equipment and forces.[166] The CCIDS process starts with a Service, CCMD, component command, or defense agency (i.e., requirement/document sponsor) submission of a CO capability requirement document for endorsement and/or validation (Figure C.8). The CYBERCOM Gatekeeper supports the Joint Staff Gatekeeper's initial document review and JSD assignment. The CYBERCOM Gatekeeper supports and facilitates the document review and staffing process, ensuring stakeholder visibility and transparency of CO capability requirements, documents, and issues. Once a requirement is validated through the CCIDS process, the CYBERCOM Gatekeeper provides the final version of the document package and associated validation memorandum to the Joint Staff Gatekeeper to facilitate transparency across the Joint community.[167]

[166] U.S. Cyber Command Instruction 8100-02, *Cyber Capabilities Integration and Development System*, February 6, 2019.

[167] U.S. Cyber Command Instruction 8100-02, 2019.

Figure C.8

CYBERCOM Requirements Process Capability Mission Lattice



Intelligence Community Requirements Process

Finally, the IC also has its own requirements process, the ICCR process (Figure C.9). This process applies to the development of capability requirements for IC major systems acquisition, funded in whole or mostly by the National Intelligence program, including those where the Director of National Intelligence (DNI) has delegated Milestone Decision Authority to an IC element.[168] For purposes of this report, it is most important to note that for acquisitions executed by the IC within DoD, the IC Directive requires that they be consistent with the respective memorandums that have been implemented at both the SECDEF and Assistant DNI levels. The ICCR process was developed to examine and determine whether a need can be met by an existing materiel capability or by requiring a new or modified materiel solution. It includes five phases:

1. Understanding the IC mission and enterprise needs
2. Assessing alternatives
3. Developing capability requirements
4. Validating and approving capability requirements

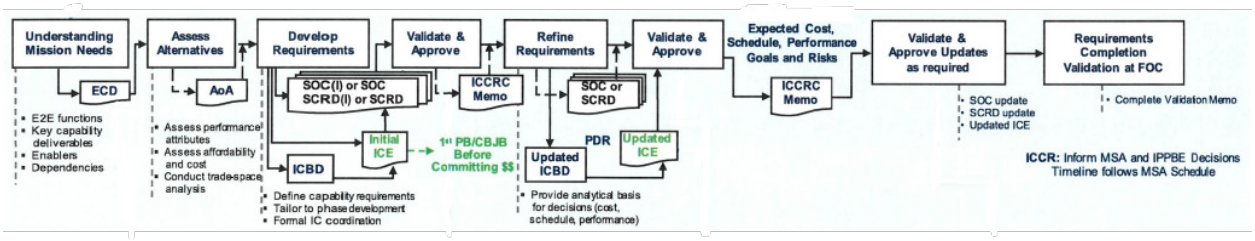
[168] Intelligence Community Directive 115, *Intelligence Community Capability Requirements Process*, Office of the Director of National Intelligence, December 21, 2012.

5. Informing the IC Planning, Programming, Budgeting, and Evaluation (ICPPBE) system and IC Acquisition Model process for execution of system development.[169]

The primary output of this process is a Statement of Capability (SOC), which describes the essential elements of the proposed capability and its ability to satisfy the needs of the IC. The IC requirements process is governed by various policy documents, such as the ICPPBE system, IC Policy Guidance on Acquisition, and the DNI–Secretary of Defense Memorandum of Agreement on acquisition programs executed at DoD on IC elements. The Battlespace Awareness FCB coordinates the intersection between the ICCR and intelligence equities shepherded through the JCIDS process, ensuring visibility of developments arising under each process within the other.

Figure C.9

Title 50 Requirements Process



Missile Defense Agency Requirements Generation Process

The MDA uses a nonstandard approach to requirements generation. The Missile Defense System (MDS) is exempt from the Deliberate JCIDS process but supports the JUONs and JEONs processes for JROC-validated missile defense requirements. The MDA uses nonstandard acquisition processes to develop and field capabilities in response to JUONs and JEONs.

The MDA's reliance on a nonstandard approach to requirements generation pertains to the MDS. The validation and prioritization of MDS capabilities is managed by the JROC. The Joint Staff–validated Joint Integrated Air and Missile Defense Portfolio Priority List (JIPPL), which is based on the CCMD IPLs, provides the basis for the JROC's responsibility. Beyond this foundation provided by the JIPPL, products and outputs from the Missile Defense Warfighter Involvement Process (WIP) may provide additional fidelity to the priorities identified in the JIPPL.

The WIP is a missile defense-unique process that includes the IC, the CCMDs, and the military Services in the development of MDS capability. In accordance with the Transfer of Missile Defense Roles, Responsibilities, and Authorities Implementation Plan, the main functions of the WIP include communicating missile defense required capabilities, warfighter assessment and acceptance of new capabilities into the MDS, and modification and fielding of existing MDS capabilities.

The WIP is administered and led by the Unified Command Plan–designated combatant commander with Trans-Regional Missile Defense operations support responsibilities (currently, U.S. Space Command). The JIPPL, WIP, and when appropriate, the JUONs and JEONs processes inform the development of the TLR Document for individual MDS elements.

[169] Intelligence Community Directive 115, 2012.

Appendix D

ADVERSARIES' AND ALLIES' DEFENSE REQUIREMENTS PROCESSES

Key Points

- The research team examined the defense requirements processes of four nations: China, Russia, Australia, and the United Kingdom (UK).
- China's acquisition process (including requirements) has similar steps to U.S. processes. However, the PLA's access to China's entire innovation ecosystem is the key to China's ability to plan strategically and sustain funding over time, which allows it to streamline some processes and accelerate others. New PLA policies are focused on integrating developers with the warfighter as a way to improve quality and deliver the tools the warfighter needs.
- Russian military requirements development is centralized within the Russian MoD; planners consider ongoing military-technical research, costs and economics, personnel and management science, and industrial capacity when developing requirements for ten-year modernization and procurement programs.
- Australia's process, which underwent recent reforms, emphasizes centralized prioritization of investment. The reforms stress speed to capability and prioritize off-the-shelf acquisitions, enabling the rapid procurement of urgent capabilities.
- In 2023, UK authorities recommended improvements in requirements and acquisition to increase speed, resilience, and efficiency, shifting the balance of responsibility from individual services toward a centralized model.

Adversaries' and Allies' defense requirements processes offer different perspectives and approaches to generating defense requirements and lessons learned that may inform future changes to DoD's requirements process. To identify such lessons learned, we examined defense requirements processes for four case study countries: the People's Republic of China, the Russian Federation, Australia, and the United Kingdom. This appendix describes the processes in each of these case study countries and lessons learned.

China's Defense Requirements Process: Case Study Summary

For the past two decades, China has continued to pursue military modernization, leveraging its strong manufacturing base with an influx of new technologies and the ability to access civilian research entities. Although it is difficult to gain a complete picture of the processes China uses to determine the requirements for its acquired systems from open-source reporting—a stark contrast to the openness of the U.S. processes—we have pieced together a narrative from open-source documents that provides an overview of similarities to and differences from the U.S. system.[170]

Key takeaways include the following:

- The steps in China's acquisition processes are very similar to U.S. processes. However, the access the People's Liberation Army (PLA) enjoys to China's entire innovation ecosystem is the key to China's ability to plan strategically and sustain funding over time, which allows it to streamline some processes and accelerate others.
- Manufacturing capacity across a wide variety of technologies and systems gives China a deep bench from which to draw, as well as surge capabilities.
- New PLA policies are focused on integrating developers with the warfighter as a way to improve quality and deliver the tools the warfighter needs. These policies are supported by changes to the Equipment Development Department; State Administration for Science, Technology and Industry for the National Defense; and Ministry of Science and Technology.[171]

How Does China Validate and Prioritize Its Requirements?

The PLA's requirements are set by members of the Central Military Commission and leadership committees using a process that begins with a feasibility study followed by product design, engineering and development, and, finally, prototyping and small-scale production (see Figure D.1).

The PLA is simultaneously focused on modernizing existing legacy weapons and equipment and continuing to develop advanced and conventional weapons.[172] China has different processes for strategic weapons, conventional weapons, and satellites, demonstrating the flexibility built into the acquisition system for strategic weapons and new-concept weapons.

New PLA policies are focused on integrating developers with the warfighter as a way to improve quality and deliver the tools the warfighter needs.[173] Defense contractors are ingrained into China's requirements, development, and acquisition processes. Many are state-owned enterprises, but a new breed of state-supported companies also participates in the acquisition process. Chief executives of these state-supported enterprises carry an official rank equivalent to a vice minister and are overseen by the

[170] Curriden, 2023.

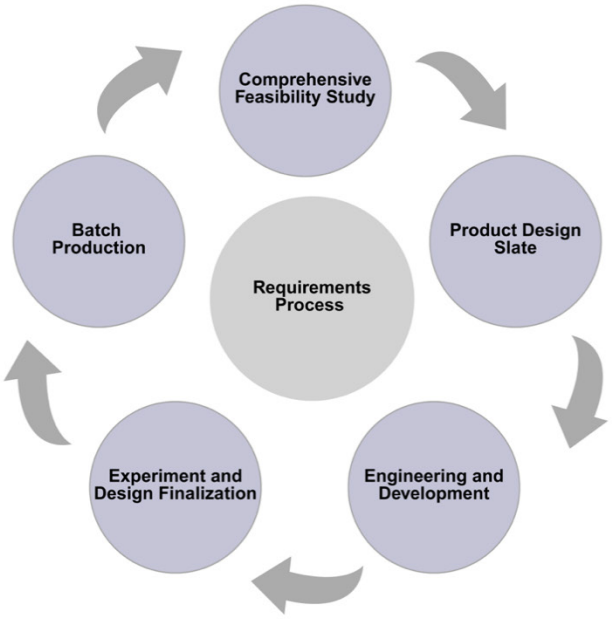
[171] Ming Cheung, 2023.

[172] Barry Naughton, Tai Ming Cheung, Siwen Xiao, Yaosheng Xu, and Yujing Yang, "Reorganization of China's Science and Technology System – IGCC," University of California Institute on Global Conflict and Cooperation, July 2023.

[173] Phillip Saunders, Arthur Ding, Andrew Scobell, Andrew Yang, and Joel Wuthnow, "Chairman Xi Remakes the PLA," National Defense University Press, 2019.

Organization Department of the Chinese Communist Party (CCP). Executives of China's national champions also have close ties to the CCP.[174]

Figure D.1
Overview of China's Requirements Process



How Does the U.S. Process Compare with China's?

The steps in China's acquisition process are very similar to those in the U.S. acquisition process. These increasingly include a focus on looking to entities beyond traditional defense contractors to supply new technology. The PLA, through its newest policies, seeks to inject competition into various stages of equipment preliminary research, development, test, ordering, and maintenance and support.[175] These new rules include conflict-of-interest provisions in an attempt to achieve higher-quality products.

The two systems differ the most in how China is able to leverage its entire innovation ecosystem to support national goals through its civil-military fusion policies. China takes a holistic approach to military development, stating that it will use any technology it acquires for its military. In addition, China's laws allow it to compel its commercial and academic sectors to share any information or data and technology with the state and the military.[176] Universities, research institutes, and the commercial sector also play a central role in China's requirements process and often focus on developing the technology needed for

[174] Barry Naughton, Siwen Xiao, and Yaosheng Xu, "Decoding China's Technology and Industrial Policy: Seven Terms You Need to Know – IGCC," University of California Institute on Global Conflict and Cooperation, March 2024.

[175] Ministry of Finance of the People's Republic of China [中华人民共和国财政部], "'Regulations on Competitive Procurement of Military Equipment' Published" ["《军队装备竞争性采购规定》公布"], December 27, 2024; Baidu Baike, "Military Equipment Scientific Research Regulations" ["军队装备科研条例"], March 1, 2025.

[176] William C. Hannas and Didi Kirsten Tatlow, eds., *China's Quest for Foreign Technology: Beyond Espionage*, Routledge, 2021; Naughton et al., 2023.

these programs. Experts from each of these sectors participate in strategic planning, development, and execution. Additionally, it is important to note that the Chinese government sponsors the theft of technology globally, including from the United States, to support its weapons development.

What Best Practices Can the United States Adopt from China?

China's ability to plan strategically and sustain funding over time allows it to streamline some processes and accelerate others because the PLA has access to the entire innovation ecosystem. Sustained funding over time has made China's researchers and developers less risk adverse, enabling the integration of emerging technologies into legacy systems and also integrating new systems, such as hypersonics and autonomous vehicles.

Manufacturing capacity across a wide variety of technologies and systems gives China a deep bench from which to draw, as well as surge capabilities.

China's state-owned enterprises, while seemingly inefficient by Western standards, ensure a "home-team" advantage with a continued focus on the needs of military modernization, not just what is commercially viable. China is layering new national-champion state-supported companies that compete internationally but still serve the goals of the state. All elements of China's S&T system support weapons development.

New PLA policies are focused on integrating developers with the warfighter as a way to improve quality and practicality and to enable immediate needs to be met at scale. These new policies are supported by changes to the Equipment Development Department, State Administration for Science, Technology and Industry for the National Defense, and Ministry of Science and Technology.

How Can the U.S. Requirements Process Better Outpace Adversary Requirements Processes?

Strategic budgeting. The current U.S. political environment that includes continuing resolutions affects military readiness and the ability to plan strategically. In contrast, China's central plans unfold over decades, providing clear directions and sustained funding over time to solve hard problems. China announced that its 2025 military budget totaled $249 billion (U.S. dollars), a 7.5-percent increase over the previous year. China's budgetary process is opaque, and its open budget levels likely underestimate its true investments in military modernization.

Flexible requirements to meet dynamic needs. DoD needs to rethink its acquisition processes to create ways to be nimble. These can include updating requirements over time, moving to cancel or retire programs that no longer meet those requirements, and having flexibility in the budget to respond to emerging threats.

Integration of civilian experts and technology to increase capabilities. All elements of China's S&T system support weapons development. China's state-owned enterprises, while seemingly inefficient by Western standards, ensure a home-team advantage with a continued focus on the needs of military modernization, not just what is commercially viable. In addition, China is incorporating new national-champion state-supported companies that compete internationally but still serve the goals of the state. Defense research entities also often move technology from the military to civilian use.

Manufacturing base sustainment. The United States must identify those areas in which national security and the market diverge and maintain key manufacturing infrastructure and supply chains. These will include fortifying the U.S. national labs and DoD labs and rebuilding public-private partnerships. This bench strength will ensure that industrial base and manufacturing processes can respond to requirements quickly and that there is capacity when needed.

Tech protection built into all programs. All U.S. weapons acquisition programs and research funding need to have technology protection and research security as part of the program. The Chinese government sponsors the theft of technology globally, including from the United States, to support its weapons development. China targets all aspects of the innovation base—including universities, national labs, and defense contractors—to acquire technology and technological know-how. Its laws allow it to compel its commercial and academic sectors to share any information or data and technology with the state and the military. Universities, research institutes, and the commercial sector play a central role in China's requirements process. Experts from each of these sectors participate in strategic planning, development, and execution.

Russia's Defense Requirements Process: Case Study Summary

The current Russian military requirements process has been heavily influenced by historical practices of the Soviet Union while at the same time having to adjust to the war in Ukraine and other recent involvements.

Military requirements development is centralized within the Russian MoD; planners consider ongoing military-technical research, costs and economics, personnel and management science, and industrial capacity when developing requirements for ten-year modernization and procurement programs. Requirements specialists focus not on specific branches of the Russian Armed Forces per se but rather on the overall capabilities of the Armed Forces and the challenges inherent in integrating new military technologies, such as hypersonic weapons, to replace or bolster existing capabilities.

The war in Ukraine has accelerated the pace and prioritization of all military processes, including the recruitment of soldiers, the procurement of equipment, and the adoption of newer, commercial technologies. Planning has shifted to focusing only on the near term; the future is obfuscated by the war. It is difficult to ascertain from open sources which aspects of processes have been abandoned outright, paused, modified, or are still operating on a prewar basis, but some conclusions can be drawn.

Key takeaways include the following:

- Requirements are developed via a centralized process within the Russian MoD at the 46th TsNII, which is a combined think tank, requirements shop, military S&T research outfit, and educational institution.
- The 46th TsNII works closely with other S&T and research and development institutions to develop program options from requirements for MoD capabilities across the Russian Armed Forces for selection in the ten-year SAP and to develop the funding needed via an annual State Defense Order.
- Requirements development considers a forecast of threats to Russian national security, the pace of scientific and technological change in Russia, the level of available fundamental and prospective military technologies, and the scientific readiness levels of prospective military technologies currently being developed.

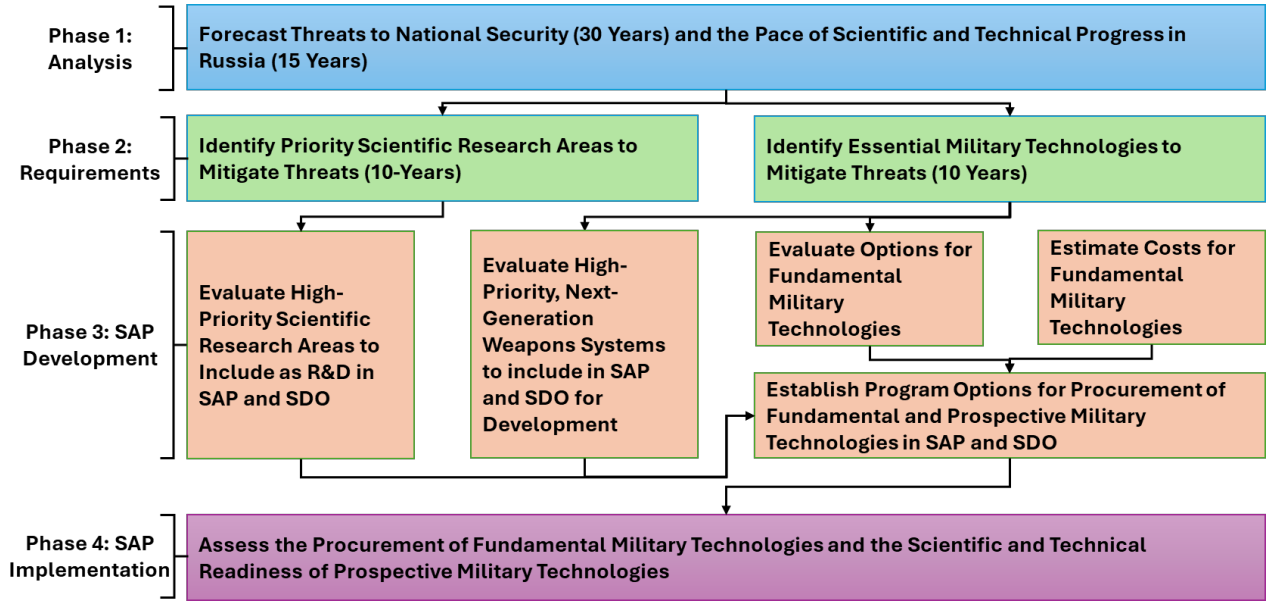
- While requirements are developed at the 46th TsNII, the MoD does not alone dictate procurement and acquisitions: Funding and resources are agreed on by the President, his security council, the defense industry, economic ministries, and the Federal Assembly via passage of the Russian Federal Budget.
- The war in Ukraine has contributed to Russia's ability to shortcut the validation process and the adoption of foreign, commercial, and dual-use military technologies.
- While many elements of Russia's traditional requirements process will likely continue after the war in Ukraine ends and reconstitution begins, Russia has undoubtedly learned to be more flexible in the development of requirements and the adoption of capabilities. A true test may be whether it cancels programs after the war ends that did not meet requirements.

Requirements Planning and Prioritization

The Russian MoD aspires to develop and acquire weapon systems and equipment that will provide a technological edge over adversaries. The requirements process in Russia is the methodological basis by which the 46th TsNII formulates options for decision makers to consider when adopting the next SAP. The Russian MoD credits the requirements process with the development and integration of more-recent, prospective technologies, such as the hypersonic *Kinzhal* missile, into its capabilities, although the war in Ukraine has laid bare harsh realities about Russian warfighting capabilities on the battlefield. Developing an SAP has four phases: Phase 1: Analysis, Phase 2: Requirements, Phase 3: SAP Development, and Phase 4: SAP Implementation (see Figure D.2). The Analysis and Requirements phases are most comparable to the U.S. requirements process. Within these four phases, there are nine important processes or methods.

Figure D.2

High-Level View of Russia's Defense Requirements Process



SOURCE: Features information from R. V. Reulov, S. V. Stukalin, and A. Iu. Pronin, *Modern Development of Basic Military Technologies: Rationale, Planning, Implementation* [РАЗВИТИЕ БАЗОВЫХ ВОЕННЫХ ТЕХНОЛОГИЙ НА СОВРЕМЕННОМ ЭТАПЕ: ОБОСНОВАНИЕ, ПЛАНИРОВАНИЕ, РЕАЛИЗАЦИЯ], *Voruzhenie i Ehkonomika*, No. 3, 2022.
NOTE: SDO = State Defense Order.

How Do These Decisions Influence Budget and Acquisition Decisions?

The influence of requirements decisions—as well as the Ukraine war—on budget and acquisition decisions and on which aspects of processes have been abandoned outright, paused, modified, or are still operating on a prewar basis is difficult to ascertain from open sources. For example, the SAP to 2027, Russia's ten-year procurement and modernization plan for the Armed Forces that began in 2018, was paused in November 2022 because the war changed the military's requirements (an understatement of the massive personnel and equipment losses that Russia has suffered).

Optimization is a key method of placing military requirements within different program options to counter the variety of threats facing Russian national security. One program option may be the *Desired* resources necessary to counter 100 percent of forecast threats to Russia's national security, while another may be what is *Minimally Required* to counter 70 percent of forecast threats. However, requirements specialists within the MoD have little influence over how much funding the Armed Forces actually receive for weapons procurement and research and development. Ultimately, funding decisions are agreed on by the President, his Security Council (including the MoD and the intelligence/security community), the defense industry (including Rostec and the Defense Industrial Commission, VPK), within forecasts and fiscal constraints provided by the economic ministries. The funding then formally needs to be signed into law via passage of the Russian Federal Budget by the Federal Assembly (Russia's parliament).

How Does the U.S. Requirements Process Compare with Russia's?

The Russian and U.S. requirements processes have both similarities and differences.

Similarities

Both systems similarly approach the identification of capability gaps. The U.S. requirements development process responds to changes in threats, missions, and the aging of legacy weapon systems throughout their lifecycles.[177] Similarly, Russia responds to changes in threats, as well as the relative combat effectiveness of its weapons compared with those of adversaries.[178] Likewise, both countries perceive that other foreign militaries, and specifically their competitors, are moving faster than they are.

Both countries acknowledge the need to balance requirements and costs. As the U.S. system recognizes that its capability requirements and system performance attributes may have to be adjusted to conform to technical and fiscal reality, Russia notes that the cost of new weapon systems may limit the development of new technologies or the manufacture of appropriate quantities of some systems and may require the modernization of its legacy systems to counter "the threat of imbalance."[179]

[177] Patrick Willis, "Joint Capabilities Integration and Development System (JCIDS): A Primer," Defense Acquisition University, January 31, 2019.

[178] V. M. Burenok, R. N. Pogrebnyak, and A. P. Skotnikov, "Methodology for Justification of Prospects for Development of Means of Conventional Weapons Warfare" ["Методология обоснования перспектив развития средств вооруженной борьбы общего назначения"], Russian Academy of Missile and Artillery Sciences [Российская академия ракетных и артиллерийских наук], Mashinostroenie, 2010.

[179] Burenok, Pogrebnyak, and Skotnikov, 2010.

Finally, both countries face challenges in canceling programs or retiring programs that no longer serve their purposes.[180]

Differences

Although both the U.S. and Russian requirements systems seek to respond to warfighter needs, the U.S. requirements process is more concerned with fielding weapon systems to the warfighter more quickly, while the Russian requirements process is more concerned with fielding weapon systems to the warfighter more efficiently in a cost-constrained environment.

The two systems also differ in how they manage the requirements process, who makes the decisions on capability development, how stakeholders interact, and what types of solutions can result from these requirements systems. The Russian requirements process is centralized and is run top-down out of the 46th TsNII, housed within the Russian MoD. In comparison, the U.S. requirements process is much more decentralized and, although run by the JROC, relies on a Joint stakeholder community of various boards, agencies, and sponsors who lead development of capability requirements for the Services from the bottom up.[181] The U.S. process emphasizes *Jointness* as it considers Joint requirements in Joint Capability Areas or Joint Military Intelligence Requirements, while Services compete and advocate for their capability requirements.

Finally, Russia's comparative analysis process focuses on building requirements for weapon systems based on the Armed Forces' weapon systems portfolios, whereas DoD's JCIDS focuses on building requirements to fulfill operational capabilities,[182] as well as providing nonmateriel solutions from DOTmLPF-P.

What Best Practices Can the United States Adopt from Russia?

Much about the Russian requirements process and the forces that have shaped it seem to distinguish it sufficiently from that of the United States; nevertheless, the Russian process may still offer some lessons. For example, the alignment of requirements, capabilities, and procurement, albeit non-transparently, is streamlined across Russian S&T; RDT&E; and industry. In addition, the existing centralization supports significant continuity across requirements and capabilities. Perhaps most important is the flexibility that materialized during the war in Ukraine. At times breaking from its traditional requirements process, Russia has seemed more agile at quickly validating and introducing civilian and foreign military technologies into its warfighting capabilities. Thus, the methods Russia has used to quickly incorporate adversaries' capabilities into its Armed Forces should be further studied by the United States and its Allies.

[180] See, for example, Richard Aboulafia, "Opinion: How the F-111 Sets a Precedent for NGAD," *Aviation Week & Space Technology*, June 28, 2022; Department of the Air Force acquisition official, discussion with the author, June 13, 2022.

[181] CJCSI 5123.01H, *Charter of the Joint Requirements Oversight (JROC) and Implementation of the Joint Capabilities Integration and Development System (JCIDS)*, Joint Chiefs of Staff, August 31, 2018.

[182] Air Force Instruction 10-601, *Operational Capability Requirements Development*, Department of the Air Force, November 6, 2013, p. 19; Air Force Policy Directive 10-6, *Capability Requirements Development*, Department of the Air Force, November 6, 2013; Burenok, Pogrebnyak, and Skotnikov, 2010.

How Can the U.S. Requirements Process Better Outpace Adversary Requirements Processes?

The United States must understand how the war in Ukraine has influenced Russia's requirements process both positively and negatively. Although Russia has relied on its traditional, centralized system, the United States cannot ignore the flexibility with which Russia has quickly validated and delivered new or foreign dual-use and military technologies to the front. The United States would benefit from improving its means to reallocate funding to support new, emerging requirements and to more quickly integrate dual-use, commercial capabilities. It would also benefit from more integration with warfighters to facilitate the cancellation or pivot away from capabilities that no longer meet current and evolving requirements.

Furthermore, the United States would benefit from better integrating S&T into requirements and the capability development process to facilitate technology maturation and faster transitioning of weapon systems to the warfighter. Russia is constrained—because of export controls and economic sanctions—from incorporating needed tech advances into its military requirements. DoD can exploit this vulnerability in Russia's system and outpace Russia by getting better at integrating such technologies as electromagnetic warfare, AI, and COTS products into the battlefield. After the war in Ukraine ends, should the Russian government reduce defense spending, the Russian defense industry may have to "demobilize"—that is, reduce output and pivot to the new priorities of reconstitution. Thus, the United States should not squander this opportunity to surpass Russia in some key capability areas.

Finally, the DoD requirements community should work closely with the U.S. IC from the early stages of capability gap analysis and requirements development to monitor mission areas in which Russia is making considerable improvements "to counter the threat of imbalance" between it and foreign militaries. The efficient development of cheaper, asymmetric capabilities by the adversary (such as unmanned aerial vehicles by Ukraine) and the adversary's ability to integrate electromagnetic warfare, AI, and COTS products into the battlefield should be considered within the context of future U.S. requirements development.

Australia's Defense Requirements Process: Case Study Summary

In 2015, the Australian Defence Force underwent a review of its capability development and acquisition processes, resulting in the issue of a *First Principles Review*. Prior to that review, requirements processes had been overseen by a dedicated Capability Development Group (CDG). However, the 2015 review found that the multiple handoffs between different parts of the organization during capability processes were suboptimal and recommended that the three services and other capability managers have end-to-end responsibilities for capabilities through a "one defence approach."[183] The review led to the disbandment of the CDG, and the individual capability managers (the Services, Intelligence, and Joint) assumed responsibility for requirements processes. In place of the CDG was formed the One Defence Capability System (ODCS) set of processes, a key feature of which is centralized planning: Australia's ODCS is a set of processes across the capability lifecycle that is intended to ensure that capability decisions optimize capability outcomes within resource limitations.

[183] Australian Government, 2015, pp. 16–17.

The ODCS originally comprised four phases: development of strategy, risk mitigation and requirements-setting, acquisition, and in-service operation and support. However, the increase in schedule failures and project delays and other factors documented in process reviews have led to a realization of the need to redesign the requirements development process, and the most recent update to the doctrine and policy manual for capability planning was released in April 2025.[184]

Key takeaways include the following:

- The ODCS, which underwent recent reforms, emphasizes centralized prioritization of the investment program.
- Capability Managers (primarily Service Chiefs) are consulted in central prioritization and then oversee the progression of projects through requirements and into service.
- The requirements undergo a one- or two-pass approval process in which proposals are scrutinized for value, money, options analysis, and risks.
- ODCS reforms emphasize speed to capability and prioritize off-the-shelf acquisitions, enabling the rapid procurement of urgent capabilities.

How Does Australia Validate and Prioritize Its Requirements?

Although the original ODCS was based on a strategy-to-task approach, the reformed system attempts to address criticisms that it delivered capabilities that lacked timeliness and relevance. It is a continuous process of three concurrent cycles—a Strategic Planning Cycle, a Force Design and Assurance Cycle, and an Investment and Delivery Cycle (see Figure D.3)—within a biennial defense strategy review and a ten-year Integrated Investment Program (IIP).

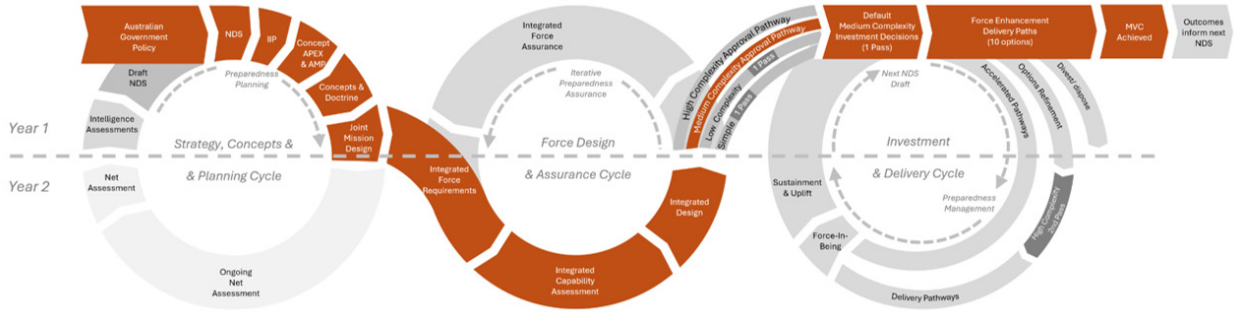
The Australian government's defense priorities are set out in the National Defence Strategy, the first of which was published in 2024. Although there is debate as to whether this constitutes an overarching national security strategy, it provides a strong foundation to inform the requirements process. The National Defence Strategy, along with the Strategic Planning Cycle, informs concepts, doctrine, and the development of integrated force requirements. It is centrally led, and its office of primary responsibility is the Deputy Secretary for Strategy, Policy, and Intelligence.

The Force Design and Assurance Cycle is also centrally led, and the Vice Chief of the Defence Force (VCDF) has overall responsibility as the Joint Force Authority. The Joint Force Authority has overall responsibility for the strategic-level development and generation of Joint forces, including platforms and systems, essential enablers, and integrating elements. The VCDF also leads Allied engagement on requirements, and the I-JROC has been a key forum for such engagement since 2023.

[184] Australian Department of Defence, 2025.

Figure D.3

The ODCS Process



SOURCE: Reproduced from Australian Department of Defence, 2025.
NOTE: NDS = National Defence Strategy.

Under previous arrangements, the services each identified gaps in capability program plans, validated by a centralized force design process. From this, a *capability needs statement* was produced to seek IIP entry. This arrangement tended to support a like-for-like approach to requirements.

Under the reformed ODCS process, Joint mission design activities, as derived from strategic guidance, generate a set of integrated force requirements. Then, the Integrated Capability Assessment process examines these general force requirement statements with respect to current and potential force options in order to identify gaps and capability needs. This assessment process provides center-led initial validation and prioritization through directives that inform required investments. These directives are progressed into the IIP as capability proposals, at a milestone referred to as *gate zero*. The capability proposal is then developed through the requirements process, led by capability managers and supported by other stakeholders, and further scrutiny is provided by independent reviews and the internal Defence Investment Committee in regard to overall priorities across the IIP.

Capability Managers (primarily the three Service Chiefs as well as Joint commanders with responsibility for other domains, such as space, cyber, and intelligence) have traditionally been responsible for developing requirements for future capabilities. The capability managers' responsibilities in the requirements process are articulated in Australian defense capability doctrine at the program and project levels. The new capability doctrine classifies capability manager–originated IIP entries (referred to as *gate zero*) as an exception associated with unforeseen requirements, and most new projects in the IIP are to be centrally managed through the Integrated Capability Assessment process.

How Do These Decisions Influence Budget and Acquisition Decisions?

At IIP entry, capability proposals are allocated a scope, nominal budget, timeline, and delivery pathway, derived from the Integrated Capability Assessment and other pre–gate zero analysis. The capability manager, supported by the lead program delivery manager, develops documentation that captures information about the capability, project execution, costs and associated risks. This documentation is then reviewed on the basis of value for money, options analysis, and programmatic risk. The results of this review are then provided to the Investment Committee and the approval authority.

How Does the U.S. Process Compare with Australia's?

While U.S. processes include centralized oversight of Joint requirements, the Australian process involves *more* than oversight and applies not only to Joint aspects but to all military requirements. Effectively, all new requirements are centrally validated and prioritized and are derived from a Joint-Service assessment of strategic priorities.

Another substantial difference arises from Australia's recent shift from a balanced force to a focused force, which narrows and concentrates requirements priorities to select operational scenarios.

A further difference is that Australia does not have an equivalent to the U.S. process of congressional authorization and appropriation of budget authority for DoD operations. In Australia, budgets are allocated each year, including the investment program; however, funding for each individual project is triggered by its second-pass approval. The Australian Department of Defence then manages the aggregate spending by approved projects each year within its investment program allocation.

What Best Practices Can the United States Adopt?

Australia sees value in a strong coupling between its defense strategy and the validation and prioritization of requirements. While Australia's smaller scale and tighter strategic focus make this centralized and strategy-to-task approach easier, there could be value in DoD introducing more of a top-down approach to requirements. Additionally, the strengthened role of the VCDF as the Joint Force Authority is key to the alignment of requirements to strategic objectives and could be a useful construct within DoD.

Australia's poor record of project delays does not sit well with the urgency to modernize the force, motivating the emphasis on delivering minimum viable capability (MVC). There may be some value in DoD also embracing the pursuit of MVC-oriented acquisitions in some situations. Australia's approach to tailoring approval and delivery pathways to suit the project context is also a practice that DoD might leverage.

Although aspirational, Australia's intent to exploit industry intelligence and digital engineering to support more-efficient and more-effective acquisitions has merit. Such initiatives might be useful for DoD in its own right, but also in the context of a broader defense industrial base and in pursuing codevelopment and coproduction activities with U.S. Allies and Partners.

How Can the U.S. Requirements Process Better Align with Australian Processes to Promote Integration and Interoperability?

The I-JROC represents an opportunity for requirements harmonization with Australia and other Allies. It has significant potential to synchronize plans and programs across Allies, since the requirements determination process is a central PPBE activity. This point is elaborated in a RAND paper published in June 2024.[185]

[185] Andrew Dowse, Megan McKernan, James Black, Stephanie Young, Austin Wyatt, John P. Godges, Nicolas Jouan, and Joanne Nicholson, *AUKUS Collaboration Throughout the Capability Life Cycle: Implications for Planning, Programming, Budgeting, and Execution Processes*, RAND Corporation, PE-A2195-1, June 2024.

The I-JROC should consider not only common projects but also the implications of divergences. The new approach being taken by Australia could be a source of divergence, whether from the narrowing of requirements priorities in the focused force or in pursuit of MVC-oriented capabilities.

However, Australia is a Partner that is pursuing advanced systems in terms of its air combat capabilities, strike weapons, and Aegis ships, not to mention the AUKUS partnership. Australia also has fought alongside the United States in every significant conflict since World War I and offers geographic advantages that enable agile combat employment. Accordingly, there are significant advantages in close coordination of requirements processes. Although the 2024 RAND paper mentioned above makes the case that such alignment should be throughout the capability lifecycle, there is particular advantage in alignment of activities in requirements validation and prioritization, especially through engagement in Australia's Integrated Capability Assessment function.

As addressed in the paper, alignment may also be improved through cooperation across the capability lifecycle, including in relation to net assessments relating to common threats, as these would represent shared assumptions that will influence the requirements process.

The United Kingdom's Defense Requirements Process: Case Study Summary

The return of war to the European continent with the full-scale Russian invasion of Ukraine in February 2022 prompted the UK MoD to reexamine its requirements and acquisition processes. In 2023, the Public Accounts Committee in Parliament issued recommendations for improvements in defense requirements-setting and acquisition to improve speed, resilience, and efficiency. As of April 1, 2025, the MoD has embarked on the implementation of what is touted as the biggest reform of UK defense in 50 years, referred to as "Defence Reform."[186]

Against the background of the MoD's ongoing and incomplete transformation, this case study describes the requirements planning process as it existed prior to April 1, 2025, and principally focuses on identifying key strengths and weaknesses that may have relevant lessons for DoD as it undertakes its own reform of requirements planning.

Key takeaways include the following:

- In 2023, Parliament's Public Accounts Committee recommended improvements in requirements and acquisition to increase speed, resilience, and efficiency.
- Defence Reform shifts the balance of responsibility for the MoD's PPBE-like processes from individual services toward a centralized model.
- The U.S. and UK requirements processes experience similar challenges: persistent back and forth between greater centralization and more devolution.
- Both nations have similar ad hoc or crisis-driven requirements processes. For the UK, many lessons are coming from the use of Urgent Capability Requirements and the provision of military aid to Ukraine.

[186] United Kingdom Ministry of Defence, 2025.

How Does the United Kingdom Validate and Prioritize Its Requirements?

Until March 31, 2025, the MoD had split its internal PPBE-like process into eight top-level budgets corresponding to the eight main MoD organizations: the Royal Navy, the British Army, the Royal Air Force, UK Strategic Command, the MoD Head Office, Defence Equipment and Support, the Defence Infrastructure Organisation, and the Defence Nuclear Organisation.

The four commands (i.e., the Services and UK Strategic Command, which is responsible for multidomain integration) and the Defence Nuclear Organisation are responsible for developing requirements for military capabilities in their respective areas.

Each command operates within its own budgetary constraints and is responsible for considering interoperability and integrating future equipment into a broader military capability. As a result, the commands have separate budgets with which they must align their requirements. Where competing priorities may arise, it is initially the responsibility of the command to liaise with other stakeholders to deconflict. If commands do not achieve deconfliction, the centralized functions in the Head Office (principally within the Financial and Military Capability team) drive the prioritization.

The requirements process is complex, with dozens of steps and several review points, creating layers of process and approvals**.** Lower-value projects seeking investment are typically scrutinized by commands within their delegated limits. Since 2020, the MoD has adopted a government-wide system for project approvals, which involves three approval stages: the Strategic Outline Case, the Outline Business Case, and the Full Business Case. For major programs, the Joint Requirements Oversight Committee—a subcommittee of the Investment Approvals Committee (IAC)—supports the IAC's reviews by reviewing the requirements and the program outline, seeking to reconcile the budget priorities across the different top-level budget holders in an attempt to ensure that the requirements-setting process is rigorous. The Joint Requirements Oversight Committee is chaired by the four-star Vice Chief of Defence Staff and includes representatives from across MoD Head Office and each of the military commands at the director general level or the equivalent three-star military rank.

How Do These Decisions Influence Budget and Acquisition Decisions?

As mentioned above, the commands are responsible for considering interoperability within budget constraints. Even at the earliest stages, programs in the UK require budget estimates to proceed, and major program reviews consider both requirements and the estimated cost together.

The commands and the Defence Nuclear Organisation are responsible for identifying capability gaps and defining the necessary requirements to address these gaps: Each command operates within its own budgetary constraints, meaning that the requirements must be both operationally relevant and financially feasible.

The Joint Requirements Oversight Committee plays a critical role in prioritizing resource allocation for *major projects only***.** The committee reviews and reconciles the budget priorities across the different top-level budgets to ensure that the requests from each command align with the MoD's overall portfolio of requirements. The Joint Requirements Oversight Committee aims to ensure that investment decisions support current and future defense capabilities by assessing submissions from top-level budgets against operational needs, strategic priorities, and fiscal constraints.

In relation to military requirements, the Joint Requirements Oversight Committee checks that requirements do not generate high levels of technical risk, with excessive costs and schedules, at a low overall capability benefit.

How Does the U.S. Process Compare with the United Kingdom's?

Despite the order-of-magnitude difference in the size of the defense budget, the U.S. and UK requirements processes experience similar challenges. The persistent back and forth between greater centralization and greater devolution has characterized the requirements and acquisition systems in the UK and the United States for decades and, in both cases, has resulted in approvals systems that are sometimes duplicative at the Service and Joint levels without adding value.

The ongoing Defence Reform is seeking to centralize more of the early-stage requirements-setting with the intention of driving greater coherence across the MoD and harnessing emerging technologies more effectively in support of multi-domain operations. It aims to streamline scrutiny processes to embed more-tailored evaluation mechanisms for different projects to reduce the administrative burden and duplication. It also seeks to drive a more problem-focused (rather than solutions-driven) approach to requirements-setting to open opportunities for suppliers to propose a wider variety of innovative solutions. In these ways, Defence Reform pursues similar objectives to the U.S. requirements reform.

Further similarities are found in the effective implementation of more ad hoc or crisis-driven requirements processes. In times of crisis, during which speed of delivery is paramount, both the U.S. and the UK requirements systems have shown adaptability and efficiency and the ability to innovate. Although these arrangements cannot be adopted as "business as usual," they offer valuable lessons on key enablers for a more efficient system and show where excessive administrative burden can be reduced.

Where the two systems differ the most is in the strong connection that exists in the UK between the requirements and plans and the budgets. Even at the earliest stages, programs in the UK require budget estimates to proceed, and major program reviews consider both requirements and the estimated cost together (e.g., at the Option Approval and Joint Requirements Oversight Committee reviews). Given that commands are responsible for both budgets and requirements, this Joint treatment of budgets and requirements is a necessity to ensure coherence between individual command plans and the top-level budget allocations.

What Best Practices Can the United States Adopt?

As the two countries undergo their requirements process reforms, the United States has opportunities to learn from the UK's ongoing Defence Reform effort.

The UK's Urgent Capability Requirements process and the lessons from Operation Scorpius (i.e., the expedited provision of military aid to Ukraine) offer valuable insights for identifying key factors that enable greater speed. These include, for example, timely and effective interaction between different Defence Force Development communities (e.g., scientific, concepts, capability development) and greater risk tolerance. However, it is important to distinguish where greater speed is desirable from where it can drive perverse incentives and result in worse outcomes (e.g., suboptimal performance, excessive cost, safety risks, decreased security of supply, interoperability issues).

Effective requirements processes should rely on constructive engagement and collaboration with defense suppliers and the S&T community to drive more-realistic requirements, as well as more-innovative solutions. To achieve this goal, a requirements-setting process should be oriented toward solving military problems rather than prescribing concrete solutions and providing space for prospective suppliers to offer innovative concepts and technologies. Both the UK and U.S. systems will require a degree of transformation to align incentives, culture, and information-sharing in ways that facilitate problem-focused (rather than over-specified) requirements-setting.

Access to a sufficiently qualified, well-trained, and experienced workforce is also fundamental to ensure greater effectiveness of requirements planning. This workforce would need targeted education and training on Defence Force Development, as well as structures that facilitate better requirements-setting and drive greater coherence, such as the newly set-up Integration Design Authority within UK Strategic Command.

How Can the U.S. Requirements Process Better Align with UK Processes to Promote Integration and Interoperability?

The I-JROC represents the most appropriate avenue through which the United States and the UK can better align requirements and enhance interoperability. Although the establishment of I-JROC in 2023 coincided with the commencement of AUKUS, its mandate extends beyond the trilateral partnership and can potentially incorporate a wide variety of capability programs or invite additional members. I-JROC is designed to support Joint and combined warfighting concepts through the pursuit of interoperability and interchangeability and is explicitly geared toward focusing technology development on the capabilities that are most needed to respond to emerging threats (starting with those pursued under AUKUS Pillar II). I-JROC has concrete potential to drive greater coherence among the requirements set by the three Allies (and potentially beyond), as well as better consideration of the wider capability implications (e.g., for training and infrastructure) of major programs.

Appendix E

THE ADAPTIVE ACQUISITION FRAMEWORK

Key Points

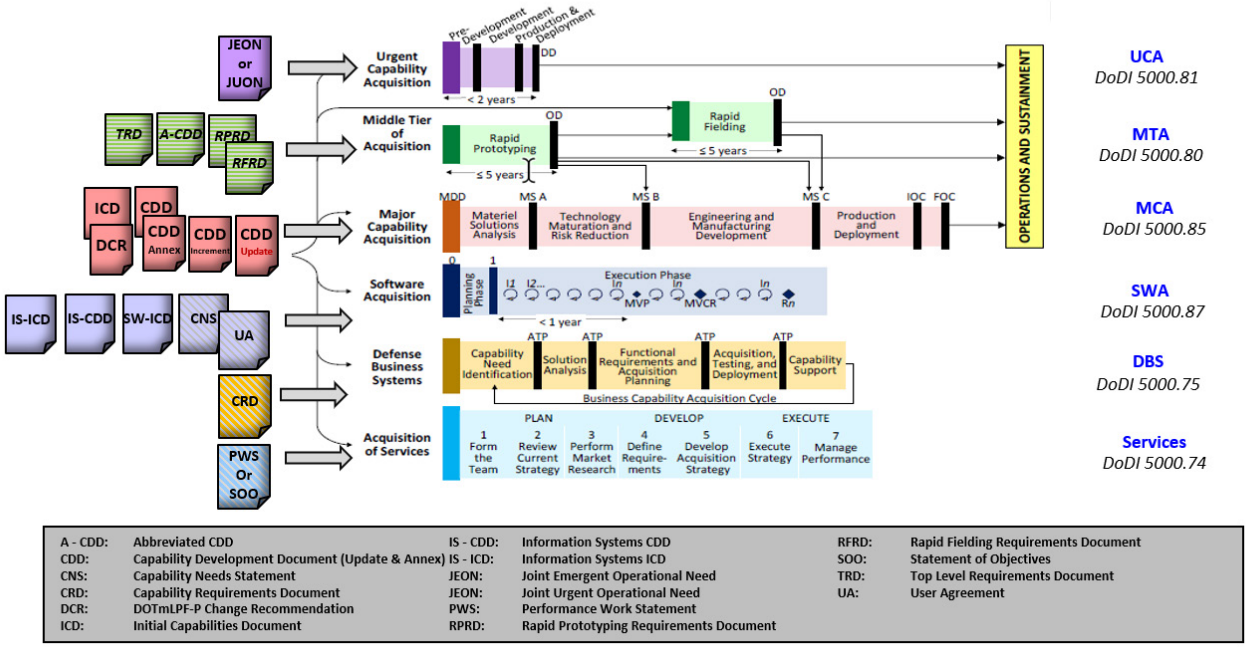
- The AAF reflects the new tenets of the DAS and established new policies for each of the six acquisition pathways: Urgent Capability Acquisition, MTA, MCA, Software Acquisition, Defense Business Systems, and Acquisition of Services.
- While an appropriate requirements process is critical to support capability development, statute exempts some of the AAF pathways from JCIDS in order to move quickly to deliver such capabilities to the warfighter.

The AAF (Figure E.1) was developed in 2020 to reflect the new set of key tenets of the DAS and establish new policies for each of the six acquisition pathways: Urgent Capability Acquisition, MTA, MCA, Software Acquisition, Defense Business Systems, and Acquisition of Services (AoS). DoDI 5000.02, *Operation of the Adaptive Acquisition Framework*, establishes policy and procedures for managing acquisition programs, assigns acquisition program management responsibilities, describes responsibilities of principal acquisition officials and the purposes and key characteristics of the acquisition pathways, and restructures the defense acquisition guidance to ensure effectiveness.[187] While an appropriate requirements process is critical to support capability development, statute exempts the AAF pathways from JCIDS in order to move quickly to deliver such capabilities to the warfighter.

[187] DoDI 5000.2, *Operation of the Adaptive Acquisition Framework*, U.S. Department of Defense, June 8, 2022.

Figure E.1

Adaptive Acquisition Framework (DoDI 5000.02)



A - CDD:	Abbreviated CDD	IS - CDD:	Information Systems CDD	RFRD:	Rapid Fielding Requirements Document
CDD:	Capability Development Document (Update & Annex)	IS - ICD:	Information Systems ICD	SOO:	Statement of Objectives
CNS:	Capability Needs Statement	JEON:	Joint Emergent Operational Need	TRD:	Top Level Requirements Document
CRD:	Capability Requirements Document	JEON:	Joint Urgent Operational Need	UA:	User Agreement
DCR:	DOTmLPF-P Change Recommendation	PWS:	Performance Work Statement		
ICD:	Initial Capabilities Document	RPRD:	Rapid Prototyping Requirements Document		

Middle Tier of Acquisition Pathway Programs

When Congress established MTA via Section 804 of the FY 2016 NDAA, the language included guidance that programs using MTA are not subject to the JCIDS process. Programs using the MTA pathway do so with the intention of either rapidly prototyping or rapidly fielding a program within two to five years. To move programs rapidly through the process, Congress waived the requirement to follow JCIDS. However, per Deputy Secretary of Defense guidance and CJCSI 5123.01I, programs must still upload all approved documentation to KM/DS within 14 days of signature. Though not subject to the JCIDS process, components established component-specific requirements that programs must follow when using the MTA pathway. For programs that exceed the MDAP threshold and have chosen to use the MTA pathway,[188] Services require the approval of the Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)). Such approval is gained by briefing the MTA Advisory Board, which then recommends to the USD(A&S) whether the program should be granted approval to use the pathway. The Joint Staff is represented at the Advisory Board meetings by the J8 Directorate, where members of the Joint Staff are given the opportunity to ask questions and discuss the program's decision to use the pathway, as well as to review programs for interoperability concerns.

[188] According to 10 U.S.C. § 2430, an MDAP is a program "that is not a highly sensitive classified program" and "that is designated by the Secretary of Defense" as an MDAP or "that is estimated . . . to require an eventual total expenditure" for RDT&E, including all planned increments, of more than $525 million (FY 2020 constant dollars) or, for procurement, including all planned increments, of more than $3.065 billion (FY 2020 constant dollars).

Urgent Capability Acquisition Pathway Programs

The Urgent Capability Acquisition (UCA) pathway is used to field capabilities to fulfill urgent existing and/or emerging operational needs or quick action requirements in less than two years. Per DoDI 5000.81 (2019, p. 5), under the authority, direction, and control of the DepSecDef, the Executive Director, JRAC "assigns responsibilities to the DoD Component heads for rapid resolution of [JUONs, JEONs], and Warfighter Senior Integration Group (SIG)-identified urgent issues." For urgent need requirements, the executive director of the JRAC is responsible for notifying the USD (Comptroller)/Chief Financial Officer and assigning the solution sponsors and resources needed to facilitate the timely resolution of urgent warfighter needs for programs using the Urgent Capability Acquisition pathway.[189] For programs that are approved as a JUON or JEON,[190] it typically takes 15 days of staffing for JUONs and 31 days for JEONs to have a validated requirement. Following CCMD submission, the Joint Staff Gatekeeper will review the submission, and the FCB will conduct a triage in conjunction with the JRAC and the Office of the Under Secretary of Defense for Acquisition and Sustainment. Upon approval by the FCB chair that the requirement is sufficiently ready for validation, the validation authority will (a) decide that the capability should proceed to a solution, (b) redirect and recommend a different process to the sponsoring CCMD, or (c) reject the request for urgent capability approval. The validation authority for JUONs is the J8 DDRCD, and the validation authority for JEONs is the VCJCS.

Major Capability Acquisition Pathway Programs

The MCA pathway is used to acquire and modernize military-unique programs. Programs utilizing this pathway use the JCIDS process, as capability requirements documents provide the critical link between validated capability requirements and the acquisition of capability solutions through five major DAS phases: Materiel Solutions Analysis, Technology Maturation and Risk Reduction, Engineering and Manufacturing Development, Production and Deployment, and Operations and Support. In most cases, validated ICDs drive the early part of the acquisition process for programs pursuing the MCA pathway. The validated ICDs will later inform updates to capability requirements documents related to materiel and nonmateriel capability solutions that will be pursued, along with driving the development, procurement, and fielding of solutions to satisfy the validated requirements.

Software Acquisition Pathway Programs

Programs choosing to use the Software Acquisition Pathway are not subject to JCIDS. Established by §800 of the FY 2020 NDAA, this pathway facilitates rapid and iterative delivery of software capability to users, consistent with modern software practices of agile refinement of products between the user and the developer. The NDAA language specifically notes that programs "executing the software acquisition pathway are not subject to the [JCIDS] and will be handled as specifically provided for by the VCJCS, in consultation with USD(A&S) and each Service acquisition executive." To allow rapid development and

[189] DoDI 5000.81, *Urgent Capability Acquisition*, U.S. Department of Defense, December 31, 2019.

[190] JUONs are UONs that are identified by a CCMD as inherently Joint and impacting an ongoing contingency operation. JEONs are UONs that are identified by a CCMD as inherently Joint and impacting an anticipated or pending contingency operation.

continuous iteration and delivery of software applications and embedded systems, programs must follow their individual component requirements and upload all approved documentation to KM/DS within 14 days of signature. Because the pathway is new, the Department continues to seek ways to improve its use and ensure a smooth requirements process. In 2021, VCJCS, USD(A&S), and the Services collaborated on a new approach to software requirements and developed a streamlined and tailored approach that was included in the JCIDS Manual. This approach includes a hybrid overarching document that merges the Software Acquisition Capability Needs Statement and JCIDS "IT Box" IS-ICD into a newly established SW-ICD that serves as the core initial requirements document for software development where the Joint Staff determines that there are Joint equities. Software Acquisition Pathway programs with Joint equities now follow an expedited JCIDS process for SW-ICD approval with a 40-day validation period.

Defense Business Systems Pathway Programs

Defense Business Systems support DoD business activities, such as acquisition, financial management, contracting, logistics, strategic planning and budgeting, installations and environment, and human resource management. They do not follow the guidelines for typical IT programs and do not generally use IT Box or traditional JCIDS process documentation. Instead, Defense Business Systems programs follow the processes governed by 10 U.S.C. § 2222 and DoDI 5000.75, which depicts a process model called the Business Capability Acquisition Cycle.[191]

Acquisition of Services Pathway Programs

Finally, programs on the AoS pathway participate in a Services Requirements Review Board. Specific to the AoS pathway, this process is used to review, validate, prioritize, and approve services requirements to accurately inform the budget and acquisition processes. These boards are not to be combined with contract review boards but are to be conducted as early as possible in the services acquisition process before a procurement request package is transferred to a component's contracting office for execution.

[191] Department of Defense Instruction 5000.75, *Business Systems Requirements and Acquisition*, U.S. Department of Defense, January 24, 2020.

Appendix F

LITERATURE REVIEW DETAILS

Key Points

- Members of the study team conducted a scan of potentially relevant literature on DoD requirements reform from 1990 to the present and narrowed the results to 29 relevant, authoritative sources for this analysis. The final sources included prior analysis from congressional commissions, DoD advisory boards, GAO, FFRDCs, think tanks, and industry associations.
- The objective of this literature review was to gather a diverse and comprehensive range of insights on prior reforms and lessons relevant to defense requirements processes. We focused on three core themes: JCIDS reform efforts and lessons learned, alternative requirements development practices, and characteristics supporting management reform.
- Given the significant interest in DoD requirements modernization, we also scanned for news articles, blogs, and opinion pieces published between 2017 and 2025 and screened those results for relevancy. This resulted in another 33 relevant articles, which informed current sentiment regarding requirements modernization.

While not as well documented as analysis of acquisition reform, prior analysis of DoD requirements system reform exists. We conducted a scan of the literature from 1990 to the present and narrowed the output from nearly 1,000 sources to 29 relevant, authoritative sources for this analysis. The final sources included prior analysis from congressional commissions, DoD advisory boards, GAO, FFRDCs, think tanks, and industry associations. Our objective was to gather a diverse and comprehensive sample of insights on prior reforms and lessons relevant to defense requirements processes. The content of this appendix represents a synthesis of that literature; therefore, sources are listed collectively rather than point by point. We focused on three core themes:

- **JCIDS reform efforts and lessons learned:** Identifying past reform attempts within the JCIDS framework and documenting the lessons derived from these initiatives.
- **Alternative requirements development practices:** Exploring practices from the private sector and other federal agencies that could serve as potential models for DoD.
- **Characteristics supporting management reform:** Highlighting findings and recommendations that are instructive for effective management reforms in defense acquisition.

Although not a statistically representative sample, the final selection of 29 reports offers an overview of the contours of debate and discussion, highlighting recurring themes, areas of agreement, and points of contention across the selected sources.

Given the significant recent interest in DoD requirements modernization, we also scanned for news articles, blogs, and opinion pieces published between 2017 and 2025 and screened those results for

relevance. This process resulted in another 33 relevant articles, which informed current sentiment regarding requirements modernization.

The search targeted literature along two dimensions: by theme and by source. The thematic focus included JCIDS reform efforts, alternative requirements development practices, and characteristics supporting reform. Targeted sources included government publications, peer-reviewed publications, FFRDC analyses, think tank reports, and industry association research.

Timewise, this set of documents spans more than 20 years. It includes foundational works published concurrently with—or shortly after—the introduction of JCIDS in 2003. These early documents provide insight into the initial challenges and objectives of JCIDS implementation.[192] However, most documents in this set were published after 2018, reflecting ongoing debates about reform and adaptation in response to evolving strategic and technological demands.

Areas of Convergence and Divergence in the Literature

The literature illustrates areas of both convergence and divergence in critiques and recommendations for JCIDS reform. These insights provide context for the challenges and proposed solutions discussed in the body of this report, as well as in later sections of this appendix.

Convergence

The literature reflects broad agreement on several recurring challenges and opportunities within JCIDS, offering insights into how these issues manifest and suggesting areas for improvement to enhance Joint capability development and responsiveness.

JCIDS Challenges

The literature broadly agrees on several challenges facing JCIDS and the need for change to improve Joint capability development and better exploit innovative technologies.[193]

- **Alignment with resourcing and acquisition processes:** Numerous sources emphasize the need for closer alignment between JCIDS, the PPBE process, and the DAS. Misalignment across these systems creates inefficiencies and delays in delivering capabilities to warfighters.
- **Tensions between Service-specific priorities and Joint requirements:** Striking a balance between Service-driven priorities and Joint needs has proven difficult. The literature notes a tendency for Service-specific interests to dominate, often at the expense of broader Joint capability integration.
- **Lack of responsiveness to warfighters' needs:** Many sources critique JCIDS for its inability to adequately respond to evolving operational requirements. This lack of responsiveness is often

[192] See Defense Science Board, 2003; Joint Defense Capabilities Study Team, 2004.

[193] This list synthesizes insights from multiple sources. Key references that address challenges spanning multiple items listed include GAO, 2007; GAO, 2008; Defense Science Board, 2009; Blume and Parrish, 2019; Modigliani et al., 2020; Commission on PPBE Reform,2024; and Bill Greenwalt and Dan Patt, *Required to Fail: Beyond Documents: Accelerating Joint Advantage Through Direct Resourcing and Experimentation,* Hudson Institute, February 10, 2025.

attributed to lengthy timelines, insufficient end-user engagement, and the dominance of Service priorities.

- **Delays and lengthy timelines:** The JCIDS process is widely criticized for its slow pace, which hinders the timely delivery of capabilities.
- **Complexity:** The literature highlights the complexity of Joint requirements development, which can make it difficult for stakeholders to navigate the JCIDS process efficiently.[194]
- **Need for integration:** Integration challenges across missions, systems, and processes further complicate Joint capability development.

Need for Change to Improve Joint Capability Development and Better Exploit Innovative Technologies

The literature also converges on the need for reform to improve Joint capability development and better exploit innovative technologies, offering insights into how these changes could be implemented.[195]

- **Adopting more-flexible requirements:** Many sources advocate for increased flexibility in requirements development to better accommodate emerging technologies and changing operational needs. Recommendations include tailoring requirements processes to specific capabilities and embracing iterative development approaches. For example, JUONs and JEONs have been used successfully to bypass lengthy JCIDS processes and rapidly deliver solutions for emerging threats, such as countering improvised explosive devices during conflicts in Iraq and Afghanistan.[196]
- **Improving engagement with industry**: The literature converges on the importance of enhancing collaboration with the private sector to leverage innovative technologies. This includes fostering early and continuous engagement with industry, including nontraditional partners, to integrate cutting-edge technologies into defense systems.[197]

Divergence

While there is broad agreement on the need for change, the literature diverges on how best to address the need for reform of specific aspects of JCIDS and requirements development.

[194] The complexity of Joint requirements development has been a recurring touchpoint in the literature, with observations spanning both early and more-recent analyses. See, for example, Defense Science Board, 2003; and Greenwalt and Patt, 2025.

[195] Key references that address both adopting more-flexible requirements and improving engagement with industry include Advisory Panel on Streamlining and Codifying Acquisition Regulations (Section 809 Panel), *Report of the Advisory Panel on Streamlining and Codifying Acquisition Regulations*, Vol. 1, January 2018a; Advisory Panel on Streamlining and Codifying Acquisition Regulations (Section 809 Panel), *Report of the Advisory Panel on Streamlining and Codifying Acquisition Regulations*, Vol. 2, June 2018b; Advisory Panel on Streamlining and Codifying Acquisition Regulations (Section 809 Panel), 2019; Blume and Parrish, 2019; Modigliani et al., 2020; Commission on PPBE Reform, 2024; Greenwalt and Patt, 2025; and Stewart et al., 2025.

[196] Greenwalt and Patt, 2025.

[197] Modigliani et al., 2020.

Role of Combatant Commands

The literature diverges on the appropriate role of CCMDs in requirements development.

- **Greater involvement:** Citing CCMDs' proximity to operational needs and direct visibility into warfighter priorities, several sources argue that CCMDs should play a more active role in shaping requirements to ensure that the needs of the CCMDs are prioritized.[198]
- **Focus on warfighting responsibilities:** Conversely, another perspective is that CCMDs should focus on their primary warfighting responsibilities. This view suggests that current structures are sufficient but require better implementation.[199]

Private-Sector Approaches to Requirements Development

The literature offers differing perspectives on the applicability of private-sector practices to JCIDS. While many sources advocate for adopting practices from the private sector, others caution against overstating their transferability to the defense sector:

- **Adopting private-sector practices:** Many sources suggest adopting lessons from leading private-sector practices, such as iterative design, rapid prototyping, and flexible funding models. These practices are seen as valuable for improving agility and responsiveness in requirements development.[200]
- **Caution regarding transferability:** Other sources emphasize that adopting industry practices requires careful consideration of DoD's unique context. For example, differences in strategic objectives, DoD's focus on public interest and national security versus the private sector's profit-driven motives, project scale, oversight requirements, and risk tolerance can limit the applicability of private-sector approaches to defense acquisition processes.[201]

Impact of Legislation

The literature diverges on the impact of legislative measures on JCIDS. While some sources highlight positive outcomes, such as improved integration and coordination, others point to unintended consequences that have hindered requirements development:

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[198] Assessment Panel of the Defense Acquisition Performance Assessment Project for the Deputy Secretary of Defense, *Defense Acquisition Performance Assessment Report*, January 2006; Defense Science Board, *Summer Study on Transformation: A Progress Assessment*, February 2006; Center for Strategic and International Studies, *Beyond Goldwater Nichols, Department of Defense Acquisition and Planning, Programming, Budgeting, and Execution Reform, Phase III Report*, August 2006; and Center for Strategic and International Studies, *Invigorating Defense Governance: A Beyond Goldwater-Nichols Phase IV Report*, March 2008 (all cited in GAO, 2008, p. 8); Defense Business Board, 2008; 809 Panel, 2018a; Section 809 Panel, 2018b; Section 809 Panel, 2019; Greenwalt and Patt, 2025.

[199] Blickstein and Nemfakos, 2010.

[200] Marcia G. Madsen, Frank J. Anderson, Jr., Carl DeMaio, David A. Drabkin, James A. Hughes, Tom Luedtke, Roger D. Waldron, Louis M. Addeo, Allan V. Burman, Marshall J. Doke, Jr., Jonathan L. Etherton, Deidre A. Lee, and Joshua I. Schwartz, *Report of the Acquisition Advisory Panel to the Office of Federal Procurement Policy and the United States Congress*, January 2007; GAO, 2007; Defense Science Board, 2009; Section 809 Panel, 2018a; Section 809 Panel, 2019; Modigliani et al., 2020; Birkler, Bracken, and Lee, 2021; GAO, 2022; Mansouri et al., 2022; GAO, 2023b; Greenwalt and Patt, 2025.

[201] Birkler, Bracken, and Lee, 2021; Mansouri et al., 2022.

- **Positive outcomes:** Some sources find that legislative measures have strengthened Joint planning and decision making processes by institutionalizing mechanisms for inter-Service coordination and inspiring positive updates to Joint requirements development.[202] For example, one perspective reflects that legislative reforms—such as the legal mandate for the JROC, as established in the FY1997 NDAA, have contributed to ongoing improvements in the requirements process, including streamlining procedures, creating accelerated pathways for requirements development, and supporting greater flexibility for industry to deliver capabilities efficiently.[203]
- **Unintended consequences:** Others argue that legislative changes have introduced new problems and inefficiencies, such as increased bureaucratic complexity and misaligned incentives.[204] For example, one perspective argues that the Goldwater-Nichols Act sought "to address systemic deficiencies in the military chain of command, personnel management, and acquisition" by centralizing authority and introducing more civilian oversight into the acquisition process.[205] However, according to another perspective, these reforms divided the civilian-led acquisition process and the military-driven requirements process, which was "inimical to the efficient and effective support of military forces and antithetical to the spirit of the legislation."[206]

Salient Themes Emerging from the Literature

The literature reveals a complex landscape shaped by competing priorities, structural challenges, and opportunities for innovation. Four salient themes emerge from the analysis, each highlighting important aspects of the requirements development process and offering insights into areas for improvement:

- The capabilities-based approach provides a strategic foundation for JCIDS but faces implementation challenges.
- CCMDs play an essential role in defining operational needs, yet their influence is often overshadowed by longer-term priorities driven by the services.
- Leading commercial practices, such as iterative design and flexible funding, offer promising models for improving responsiveness and adaptability in requirements development, though their application to the defense sector requires careful tailoring.
- Misalignments across JCIDS, PPBE, and the DAS inhibit Joint requirements development, creating barriers to integration and responsiveness.

We explore these themes in greater detail in the following subsections.

[202] GAO, 2012; Section 809 Panel, 2018a; Section 809 Panel, 2018b.

[203] Blume and Parrish, 2019, pp. 8–9.

[204] Blickstein and Nemfakos, 2010; Greenwalt and Patt, 2025.

[205] Wong et al., 2022, pp. 25–26.

[206] Charles Nemfakos, Irv Blickstein, Aine Seitz McCarthy, and Jerry M. Sollinger, *The Perfect Storm: The Goldwater-Nichols Act and Its Effect on Navy Acquisition*, RAND Corporation, OP-308-NAVY, 2010, p. xi, as cited in Wong et al., 2022, p. 26.

The Capabilities-Based Approach Presents Opportunities and Challenges

The literature broadly supports DoD's adoption of a capabilities-based approach as the foundation for JCIDS. This approach represents a strategic shift that was introduced with the release of the *2001 Quadrennial Defense Review Report*, which emphasized planning for the capabilities that adversaries might employ rather than focusing narrowly on specific threats, adversaries, or geographic locations. According to the 2001 QDR, the capabilities-based approach "broadens the strategic perspective" by prioritizing readiness for diverse scenarios while maintaining existing military advantages and developing new ones.[207] It requires identifying the capabilities necessary to deter and defeat adversaries; "adapting existing capabilities to new circumstances, while experimenting with the development of new military capabilities"; and transforming U.S. forces, systems, and institutions to sustain the United States' warfighting advantage into the future.[208]

The initial motivation behind the transition to a capabilities-based approach was to move away from a threat-based framework and instead prepare for an increasingly uncertain strategic environment, diverse operational environments, and constrained funding.[209] This shift relies in large part on a structured analytical framework for systematically assessing Joint needs and identifying capability gaps. According to the Joint Defense Capabilities Study Team (2004), the capabilities-based analytical approach "elevates the discussion of joint needs to a more strategic level, centering on desired effects rather than specific weapon systems and platforms."[210] By focusing on capabilities, JCIDS creates opportunities to align strategic objectives across the military departments and foster a more cohesive defense strategy.

Despite these opportunities, the literature highlights challenges in the implementation of a Joint capabilities-based approach. A recurring critique is the dominance of Service-driven priorities, which often overshadow Joint needs and hinder capability integration.[211] Services benefit from substantial resources and analytical expertise, which can lead to disproportionate influence in the prioritization process. Coupled with greater influence, Service-specific interests tend to dilute the focus on Joint capabilities, creating misalignments in portfolio management and decision making.[212]

Another challenge identified in the literature is the varying quality of documentation and analysis provided by the Services during the requirements development process. GAO reports issued nearly ten years apart (in 2012 and in 2021) highlight how inconsistent or incomplete documentation from capability sponsors complicates efforts to evaluate and compare capabilities systematically.[213] These deficiencies can lead to delays in decision making and hinder the ability to prioritize capabilities effectively. This issue is often beyond the direct control of JCIDS itself, because it can depend entirely on the quality and timeliness of inputs provided by the Services.

[207] DoD, 2001, p. 14.

[208] DoD, 2001, pp. iv, 13–14.

[209] GAO, 2007, p. 27.

[210] Joint Defense Capabilities Study Team, 2004, p. 1-1.

[211] GAO, 2007; GAO, 2008; Defense Business Board, 2008; Blickstein and Nemfakos, 2010; Commission on Planning, Programming, Budgeting, and Execution (PPBE) Reform, 2024.

[212] GAO, 2008.

[213] GAO, 2015; GAO, 2021.

Longer-Term Priorities Tend to Crowd Out Combatant Commands' Immediate Needs in Requirements Development

The literature widely acknowledges that CCMDs play an important role in defining operational needs, citing CCMDs' proximity to the battlefield and direct visibility into warfighter demands. CCMDs are uniquely positioned to identify and articulate short-term requirements that reflect immediate challenges and opportunities. However, their influence in the broader requirements development process is often overshadowed by longer-term priorities set by the military departments and Services. The literature tends to diverge on the question of whether CCMDs' influence should be expanded or whether existing structures should simply be better utilized.

This dynamic reflects the division of responsibilities within DoD as instituted by the Goldwater-Nichols Act of 1986 and codified in Title 10 of the U.S. Code.[214] Under Title 10 authorities, military department secretaries and Service chiefs are tasked with acquisition planning, including organizing, training, and equipping forces to meet strategic objectives. CCMDs, by contrast, focus primarily on warfighting responsibilities and operational planning. As noted above, this division can lead to gaps in addressing short-term operational demands, as CCMDs have fewer avenues and limited resources to shape and prioritize Joint requirements. Consequently, CCMD input is often overshadowed by Service-driven priorities.

Differing perspectives emerge in the literature regarding how to address this imbalance. Some sources advocate for granting CCMDs greater resources or authority to define and prioritize Joint needs. Proponents of this view argue that increasing CCMDs' influence in requirements development would help bridge the gap between short-term operational needs and longer-term Service priorities. For example, the Defense Business Board (2008) emphasizes that JCIDS outcomes should more closely reflect combatant commanders' needs as users, highlighting their limited input and responsibility in requirements identification and decision making.[215] A 2008 GAO report identifies several changes that were instituted to improve how CCMDs' input is incorporated into requirements development.[216] These changes included creating a consolidated list of capability needs synthesized from CCMDs' IPLs, increasing engagement with CCMDs through regular meetings and visits, and implementing a more systematic approach to prioritizing capability areas and gaps across the Department. However, GAO also notes that, despite these efforts, capability needs continue to be primarily proposed and defined by the military Services, with limited involvement from CCMDs. This disparity in influence reflects the resource and capacity imbalance between the Services and CCMDs, which hinders stronger Joint capabilities development.

A subsequent GAO report (2022) similarly found that although the Joint Staff collects user feedback through such mechanisms as the annual CGA and regular CCMD visits, "a required policy with mechanisms to solicit and incorporate user feedback that extends to all DOD acquisition programs would better position programs to understand user needs and develop capabilities to meet those needs."[217] This

[214] Public Law 99-433, Goldwater-Nichols Department of Defense Reorganization Act of 1986, October 1, 1986; see also 10 U.S.C. §§ 3013, 5013, and 8013 (responsibilities of the military department secretaries) and § 164 (responsibilities of the combatant commanders).

[215] Defense Business Board, 2008.

[216] GAO, 2008.

[217] GAO, 2022, pp. 38–39.

critique highlights the potential for refining existing processes to ensure that CCMDs' insights are fully leveraged in capability development.

Other sources contend that existing mechanisms and resources are sufficient to incorporate CCMDs' input but that implementation must be improved. For example, in a RAND report published in 2010, Irv Blickstein and Charles Nemfakos suggest that IPLs are well-intended tools that have been poorly executed. Although IPLs were introduced to provide a formal avenue for CCMDs to inform requirements development, the authors argue that their impact has been limited because of insufficient integration with broader processes and a lack of coordination across stakeholders.[218] This critique underscores the need for better alignment and execution rather than structural changes.

Commercial Practices May Offer Lessons for Joint Requirements Development

The literature identifies several leading commercial practices that could inform and improve Joint requirements development within DoD. These practices emphasize iterative design, user input, flexible funding mechanisms, rapid prototyping, and performance-oriented metrics. While these approaches have demonstrated success in the private sector, the literature also underscores the importance of tailoring them to the unique context and constraints of defense acquisition processes.

One prominent theme in the literature is the value of iterative design processes, which prioritize early and continuous end-user involvement. This approach involves refining requirements over time, allowing adjustments to be made as needs evolve. Various studies emphasize how commercial firms use iterative design to align development efforts with user expectations, thereby reducing the risk of delivering products that fail to meet operational demands.[219] By engaging end users early and often, iterative design provides a way to refine requirements based on user feedback and to adapt to unforeseen challenges that may arise during development.

Flexible funding mechanisms are another commercial practice highlighted in the literature. Unlike traditional funding models that allocate fixed budgets up front, scalable funding allows dynamic reallocation based on progress and evolving needs. This approach enables companies to shift resources away from investments that fail to show progress and toward investments with greater potential. Acknowledging the limited flexibility inherent in the PPBE process, several sources emphasize how more-flexible funding mechanisms could help DoD better align resources with emerging priorities and accelerate the delivery of critical capabilities.[220]

Rapid prototyping and minimum viable product design are also cited as effective strategies for facilitating innovation and refining lower-level requirements. These practices often focus on delivering an initial, functional solution—sometimes referred to as an "80% solution"—to the field quickly, followed by iterative improvements based on real-world feedback.[221] The literature offers many examples of how commercial firms use prototyping and minimum viable product approaches to test concepts, identify

[218] Blickstein and Nemfakos, 2010.

[219] Section 809 Panel, 2019; Modigliani et al., 2020; GAO, 2022; GAO, 2023b; Greenwalt and Patt, 2025.

[220] Section 809 Panel, 2019; Modigliani et al., 2020; GAO, 2023b; Greenwalt and Patt, 2025.

[221] Defense Science Board, 2009.

flaws, and refine products before committing to full-scale production.[222] Thoughtfully applying such practices could enable faster fielding of capabilities, provide more-complete information for decision makers, and support the refinement of requirements under certain conditions.[223]

In addition to these practices, the literature underscores the importance of identifying and tracking simple, performance-oriented metrics to support decision making throughout the development process. Such metrics as time to market and user story points provide continuous feedback on development progress and product performance while helping prioritize tasks.[224] Time to market measures the time it takes to bring a product from project start to launch, emphasizing the importance of rapid development cycles to meet evolving demands. "User story points," used in some software engineering development methodologies, quantify the effort required to implement a specific task, enabling teams to allocate resources and plan workflows strategically. While such metrics may need to be adapted to defense needs and processes, they could help better align capability development with user needs.

However, the literature also cautions that adopting such commercial practices in the defense sector requires careful adaptation and awareness of DoD's unique circumstances. As noted above, DoD's strategic objectives, public interest, scale, oversight, and risk intolerance can complicate the transfer of private-sector approaches to defense acquisition.

Joint Requirements Development Is Subject to Misalignments Across the Defense Acquisition System

The literature identifies several systemic misalignments across the DAS that hinder the effectiveness of Joint requirements development. These misalignments span JCIDS, the PPBE process, and the DAS, creating barriers to integration, responsiveness, and alignment with warfighter needs.

A foundational issue is the absence of a defense-wide portfolio framework, which impedes the ability to adopt a strategic and integrated resourcing approach across JCIDS, PPBE, and the DAS. Without such a framework, it becomes difficult to align requirements development with broader acquisition and budgeting priorities, resulting in fragmented decision making processes. Analyses spanning the early years of JCIDS to more-recent evaluations emphasize how this gap undermines efforts to prioritize Joint capabilities and establish a cohesive strategy for resource allocation.[225]

Another source of misalignment identified in the literature is the absence of a formalized professional career field for the requirements management workforce. The Section 809 Panel, which was congressionally established in 2018 in order to develop recommendations for streamlining acquisition regulations, found that requirements management personnel lack structured career paths, progressive

[222] Section 809 Panel, 2018b; Section 809 Panel, 2019; Modigliani et al., 2020; GAO, 2022; GAO, 2023b.

[223] For a discussion of conditions favorable to prototyping in defense acquisition, see Jeffrey A. Drezner and Meilinda Huang, "On Prototyping: Lessons from RAND Research," in John Birkler, Mark V. Arena, Irv Blickstein, Jeffrey A. Drezner, Susan M. Gates, Meilinda Huang, Robert Murphy, Charles Nemfakos, and Susan K. Woodward, *From Marginal Adjustments to Meaningful Change: Rethinking Weapon System Acquisition*, RAND Corporation, MG-1020-OSD, 2010.

[224] GAO, 2023b.

[225] Defense Science Board, 2003; GAO, 2007; Section 809 Panel, 2019; Modigliani et al., 2020; Greenwalt and Patt, 2025.

roles, and extensive training, leaving them less prepared than their PPBE and DAS counterparts.[226] Many requirements positions are filled by operators on short-term assignments. These short assignments, coupled with inconsistent standards across the Services, hinder the development of expertise necessary for navigating the complexities of Joint requirements development and bridging operational needs with budgeting and acquisition processes.

The need to consider system interoperability and upgradability during the acquisition process can also exacerbate tensions between requirements and resourcing. Ensuring that systems can integrate seamlessly across Services while remaining adaptable to future technological advancements is an important goal of Joint requirements development. However, several reports illustrate how insufficient coordination during acquisition—particularly when resourcing and requirements decisions are finalized before acquisition stakeholders are engaged—can lead to systems that fail to meet interoperability expectations or require costly upgrades to adapt to evolving operational needs.[227] For example, the Section 809 Panel report explains that "[b]ecause the Program Executive Officer . . . and Program Manager . . . must execute to requirements and budgets established outside their control, their ability to optimize efficiencies or interoperability across programs or a strategic enterprise vision is extremely limited."[228]

The absence of continuous feedback mechanisms and limited availability of flexible funding options between JCIDS and PPBE further limit the ability to rapidly integrate new technologies and address evolving warfighter needs. Rigid budget structures and infrequent feedback loops can prevent the DAS from adapting to emerging priorities in a timely manner,[229] while greater flexibility in funding mechanisms could enable more-dynamic responses to technological advancements and operational demands.[230]

Misalignments between PPBE and the DAS also add challenges to resourcing structures, which often lack the flexibility needed to support rapid technological evolution. These misalignments can create inefficiencies in allocating resources, delaying the delivery of capabilities to warfighters. The literature underscores that closer alignment between PPBE and the DAS can support the responsiveness of requirements development to both short-term operational needs and longer-term strategic goals.[231]

Finally, the imbalance between short-term and longer-term priorities creates incongruent incentives between the Joint-focused JCIDS and the Service-oriented DAS. This misalignment can hinder Joint and cross-system integration, as Service objectives take priority over broader Joint capabilities. This dynamic can undermine efforts to achieve a balanced approach to capability development, leaving gaps in addressing immediate warfighter needs while overemphasizing long-term priorities.[232]

[226] Section 809 Panel, 2019.

[227] Modigliani et al., 2020; Wong et al., 2022; Mansouri et al., 2022; Greenwalt and Patt, 2025.

[228] Section 809 Panel, 2019, p. 56.

[229] Commission on PPBE Reform, 2024; Greenwalt and Patt, 2025.

[230] McKernan et al., 2024.

[231] GAO, 2007; Section 809 Panel, 2019.

[232] Defense Science Board, 2003; GAO, 2007; GAO, 2015.

Common Challenges of JCIDS

The literature identifies several challenges within the JCIDS process that impede effective requirements development. While many of these challenges are discussed in detail in Chapter 2—such as delays in requirements timelines, difficulties in implementing requirements, and Service-centric priorities—this section focuses on additional details not fully covered in the main body of the report.

One recurring critique cited in the literature is that requirements can often be either too rigid or too ambiguous, both of which create barriers to leveraging innovation quickly. Overly prescriptive requirements constrain design processes and limit flexibility, making it difficult to integrate emerging technologies or adapt to changing operational contexts. The literature describes various examples in which rigid requirements led to delays and cost overruns in major acquisition programs.[233] Conversely, insufficiently defined requirements can introduce ambiguity, resulting in unmet expectations, cost increases, and schedule delays during later phases of development.[234] At the same time, unclear or changing requirements are identified as a major pain point for contractors.[235] These issues reflect the delicate balance JCIDS must strike between precision and adaptability, which might be described metaphorically as threading the needle in requirements development.

Service-centric incentives further exacerbate challenges within the JCIDS process. While Chapter 2 discusses how these incentives can reinforce Service-specific priorities at the expense of Joint capabilities, the literature also highlights how they lead to stovepiped approaches that neglect broader integration needs. In particular, Service-driven decision making can hinder efforts to address capability gaps that span multiple Services, reducing the effectiveness of Joint requirements development.[236] This dynamic underscores the difficulty of aligning Service objectives with Joint priorities, a recurring theme in critiques of JCIDS.

Another challenge is the inadequate integration of stakeholder inputs, particularly from end users. While Chapter 2 touches on the limited influence of CCMDs in shaping requirements, the literature more broadly discusses how insufficient engagement with operational stakeholders often results in requirements that fail to meet actual warfighter needs. Several sources emphasize the importance of incorporating end-user feedback early and often to ensure that requirements are responsive to real-world operational demands.[237]

Common Recommendations from the Literature

The literature offers an array of recommendations to address challenges within the JCIDS process and improve the development of requirements. These recommendations tend to focus on increasing requirements flexibility, enhancing CCMD influence, improving the assessment and integration of Joint capabilities, and establishing clear roles, responsibilities, and objectives in reform efforts.

[233] Defense Science Board, 2009; Section 809 Panel, 2018b; Greenwalt and Patt, 2025.

[234] GAO, 2015.

[235] Stewart et al., 2025.

[236] GAO, 2008; Greenwalt and Patt, 2025.

[237] Section 809 Panel, 2018b; Section 809 Panel, 2019; Modigliani et al., 2020; Greenwalt and Patt, 2025.

Increasing Requirements Flexibility

The literature emphasizes the need to make the JCIDS process more adaptable to evolving technologies and operational needs. Recommendations include the following:

- **Creating space for innovation when writing requirements:** Modify the requirements process and document needs to enable flexibility—avoiding overly rigid or fully prespecified needs—and to incorporate early and continuous engagement with both traditional and nontraditional industry partners. One example is to shift the JROC's focus to only the high-level enterprise needs while the Services and defense agencies focus on defining system-level requirements. The intent is to give program managers more freedom to adjust and make trade-offs within an approved enterprise architecture without repeated JROC approvals.[238] Another example calls for increased transparency in the requirements development process and regular input from DoD labs and technical experts, ensuring that the process keeps pace with commercial innovation and agile development practices.[239]
- **Tailoring processes to the type of capability:** Adapt requirements processes based on the characteristics and circumstances of the capability under development, such as program timelines and technology development risk. For example, streamlined requirements processes may be better suited to shorter timelines, more-stable requirements align well with evolutionary technologies, and revolutionary technologies merit greater flexibility to accommodate technical uncertainty and innovation.[240] One proposal is to introduce an "Adaptive Requirements Framework" that aligns requirements development processes to the AAF.[241] Another consideration is to allow requirements for software to evolve along with commercial pressures although additional rigor would be necessary for complex hardware systems.[242]
- **Embracing iterative, incremental development processes:** Prioritize requirements discovery and development through decentralized prototyping and experimentation, using real-world feedback to refine requirements over time. Such processes support the evolution of requirements through continuous input from operators using prototypes and lab-developed technologies, drawing on practices common in the commercial sector to enhance agility and responsiveness.[243]
- **Adopting portfolio-level requirements approaches:** Shift from a program-centric model to a portfolio-based approach to better align resources with strategic priorities and foster integration. For example, aligning with the recommendation that the JROC focus on high-level enterprise needs, an enterprise-wide capability portfolio approach could help ensure a cohesive strategy for capability development and improve alignment between operational goals and resource allocation.[244]

[238] Modigliani et al., 2020.

[239] Blume and Parrish, 2019.

[240] Wong et al., 2022.

[241] Modigliani et al., 2020.

[242] Blume and Parrish, 2019.

[243] GAO, 2022; Greenwalt and Patt, 2025.

[244] Section 809 Panel, 2018b; Section 809 Panel, 2019; Modigliani et al., 2020.

Enhancing Combatant Command Influence

CCMDs play a critical role in defining operational needs. Key recommendations to enhance their influence in the requirements development process include the following:

- **Institutionalizing mechanisms for addressing combatant commanders' needs:** Formalize recurring activities, feedback loops, and representation to ensure that CCMDs' input is systematically integrated at multiple stages of the JCIDS process. Examples include granting CCMDs voting roles on the JROC and designating Vice Service Chiefs as co-chairs of military department acquisition boards.[245]
- **Expanding CCMDs' resources and capacity:** Provide additional funding, analytical support, and planning resources to strengthen CCMDs' role in shaping Joint requirements. Examples range from evolutionary changes (e.g., providing additional funding, providing analytical support)[246] to revolutionary changes (e.g., shifting to a CCMD-led requirements process in which Services compete to deliver solutions).[247]

Improving the Assessment, Prioritization, and Integration of Joint Capabilities

The literature highlights the need for better tools and processes to assess, prioritize, and integrate Joint capabilities. Recommendations include the following:

- **Bolstering Joint analytical capabilities:** Revitalize such functions as Support to Strategic Analysis (SSA) to provide reliable, data-driven assessments of capability gaps, new capabilities and emerging technologies, and operational concepts.[248] Strengthening SSA would enable more-systematic evaluations of Joint capabilities and ensure that requirements are informed by robust data and operational needs. Augmenting Joint analytical capabilities would include such activities as leveraging advanced modeling, simulation tools, and cross-Service collaboration to enhance analytic rigor.[249]
- **Incorporating systems engineering early:** Integrate systems engineering practices from the outset of the requirements process to ensure technical feasibility and well-informed design trade-offs. Early systems engineering analysis can help identify critical design challenges, align technical parameters with operational needs, and ensure that capability requirements are realistic given technology maturity, affordability, and interoperability constraints.[250]
- **Defining and tracking metrics to collect continuous feedback:** Develop specific, quantifiable metrics—inspired by common industry metrics, such as time to market, user

[245] Center for Strategic and International Studies, 2006, and Center for Strategic and International Studies, 2008 (cited in GAO, 2008, p. 8); John Birkler, Mark V. Arena, Irv Blickstein, Jeffrey A. Drezner, Susan M. Gates, Meilinda Huang, Robert Murphy, Charles Nemfakos, and Susan K. Woodward, *From Marginal Adjustments to Meaningful Change: Rethinking Weapon System Acquisition*, RAND Corporation, MG-1020-OSD, 2010.

[246] Blume and Parrish, 2019.

[247] Assessment Panel of the Defense Acquisition Performance Assessment Project for the Deputy Secretary of Defense, 2006 (cited in GAO, 2008).

[248] Blume and Parrish, 2019.

[249] GAO, 2008.

[250] GAO, 2015; GAO, 2022.

satisfaction, and life-cycle cost targets—to monitor progress, refine requirements, and inform decision making throughout the JCIDS process.[251]

- **Requiring more-complete sustainment information:** Mandate that capability sponsors provide detailed sustainment data (e.g., reliability, maintainability, life-cycle costs, scalability) during the early stages of requirements development. More-comprehensive sustainment information would enable better life-cycle planning and help reduce the risk of costly upgrades or performance shortfalls later in the acquisition process.[252]

Establishing Clear Roles, Responsibilities, and Objectives

Clarifying roles, responsibilities, and objectives is important for the effective implementation of reforms. Recommendations include the following:

- **Clarifying the delineation of roles and responsibilities between requirements bodies and their acquisition counterparts:** Identify and bridge misalignments between requirements and acquisition processes, revising military department acquisition instructions to explicitly define the roles, responsibilities, and expectations of Service chiefs, acquisition executives, and requirements personnel. For example, instructing that program decision meetings be co-chaired by Service acquisition executives and Service Vice Chiefs may help improve coordination.[253]
- **Implementing metrics to evaluate the effectiveness of reforms:** Establish measurable management performance indicators to systematically assess the outcomes of JCIDS reforms, including developing a data-driven baseline for determining document review timeliness, along with a comprehensive approach to collecting and analyzing JCIDS performance data against DoD objectives.[254]

Observations from the Gray Literature

In addition to reviewing the core literature, we reviewed gray literature to capture other insights. *Gray literature* may be broadly defined as information sources produced by sources such as "government, academics, business and industry in electronic and print formats not controlled by commercial publishers" and disseminated through alternate channels.[255] Gray literature sources were identified through advanced searches of databases and publicly available platforms, including news articles, blogs, and opinion pieces published between 2017 and 2025. These sources were screened for relevance, resulting in the selection of 33 gray literature articles for review.

The gray literature largely expresses critical views toward JCIDS, echoing concerns found in the core literature discussed above. It frequently describes JCIDS as too slow to adapt to evolving operational

[251] GAO, 2023b.

[252] Modigliani et al., 2020.

[253] Blickstein and Nemfakos, 2010.

[254] GAO, 2021.

[255] Hannah R. Rothstein, and Sally Hopewell. "Grey literature." *The Handbook of Research Synthesis and Meta-Analysis* 2 (2009): 103-125.

needs, hindering the timely delivery of capabilities.[256] Additionally, JCIDS is criticized for being overly focused on producing documentation rather than delivering actionable outcomes,[257] and some sources argue that it has failed to meaningfully improve requirements development or address capability gaps.[258]

Approximately half of the gray literature that we reviewed calls for significant reforms to JCIDS, while other articles offer more-measured reforms to address its perceived shortcomings. Such reforms include the following:

- **Streamlining mandated requirements:** Simplify requirements processes to reduce bureaucratic delays.[259]
- **Creating an Office of Rapid Development and Deployment:** Establish a dedicated office to "outsource advanced weapons system development to private industry."[260]
- **Creating a Joint Futures Command:** Develop a central entity focused on harmonizing the Services' "disparate future war efforts" and aligning requirements development with Joint operational needs.[261]
- **Involving industry "early and often":** Enhance partnerships with private-sector entities to leverage cutting-edge technologies and practices.[262]
- **Increasing the focus on multinational interoperability requirements:** Place greater emphasis on interoperability requirements in the JCIDS process and earlier involvement of Allies and Partners.[263]

[256] William C. Greenwalt, "The State of the Defense Acquisition System, 2024," American Enterprise Institute, March 20, 2024; Miller, 2017; Raider, undated; Schlomer, 2017b; Schlomer, 2017c.

[257] Donald E. Schlomer, "Strategies for Exploring: ACAT III Requirement Approval Process," doctoral dissertation, Walden University, 2017a.

[258] Schlomer, 2017c; Roger Wicker, "Restoring Freedom's Forge: American Innovation Unleashed," December 19, 2024.

[259] Greenwalt, 2024.

[260] Steve Blank, "How to Fix a Broken Defense Department to Beat China and Russia," *War on the Rocks*, November 27, 2024.

[261] Chris Gordon, "'Same Threats' Drive Air Force, Marines to Different Visions of Future War. How Will They Work Together?" *Air and Space Forces Magazine*, January 20, 2025.

[262] Steve Stark and Margaret Roth, "Recalibrating Requirements," *Army AL&T Magazine*, January–March 2017.

[263] Bryan Shoupe, Cindy Suarez Villafane, and Joseph Yurkovich, "Strengthening Alliances: Through the Joint Capabilities Integration and Design System," *FAO Journal of International Affairs*, August 8, 2022.

Appendix G

STAKEHOLDER INTERVIEWS AND WORKSHOP DETAILS

Key Points

- The Section 811 Tiger Team chose a representative sample of DoD and non-DoD stakeholders whose perspectives could inform the modernization of the DoD requirements process; 142 of these stakeholders participated in interviews. The final pool of interviewees spanned the military Services, the CCMDs, the Joint Staff, OSD, the IC, industry representatives, think tanks, and academia. Appendix G provides additional details regarding the distribution of interviewees and includes the interview protocol that was used.
- DoD conducted three workshops on first principles, challenges, and solutions across the stakeholder community. Invitees were members of the Joint Staff, CCMDs, Services, and other stakeholders. Appendix G provides more information regarding the participants, how these sessions were conducted, and other relevant details.

RAND's NDRI, in collaboration with the Joint Staff J8, conducted outreach to a broad cross-section of DoD and non-DoD stakeholders to inform potential pathways for requirements process modernization. In total, the research team contacted 207 potential participants, with 142 stakeholders ultimately participating in 100 formal interviews.[264]

Interview Format and Protocol

Interviews were conducted virtually and typically included a facilitator, two note takers, and the interviewee—although in some instances, multiple participants joined a single session, or multiple interviewers were present. The RAND team employed a semi-structured interview protocol (Figure G.1) designed to elicit substantive perspectives on the current requirements system and identify opportunities for reform. When talking to industry, RAND used a slightly modified version that focused on some industry practices. This format allowed interviewees to expand on areas most relevant to their expertise

[264] Some interviews included multiple participants.

and experience, particularly as it pertained to the operation and limitations of the JCIDS process. All interviews were transcribed for subsequent analysis.

Participants received a brief overview of the study's objectives, along with a set of questions to guide the discussion. All interviews were conducted on a not-for-attribution basis. The final sample included representatives from CCMDs, DoD innovation organizations, the military Services, OSD, the Joint Staff, industry, and the think tank and academic communities (Table G.1). Stakeholder interviews were also identified using snowball sampling, where the initial set of potential interview candidates (e.g., the Section 811 Tiger Team) were asked who else should be included.

Figure G.1

Interview Protocol

Modernizing the Department of Defense Requirements Process

The Joint Staff J8 has asked the National Defense Research Institute (NDRI) at RAND to evaluate modernizing DoD's requirements process to include Joint Capabilities Integration Development System (JCIDS). BGen Matthew Mowery, Deputy Director for Requirements and Capability Development Joint Staff J8, is the sponsor of this research. Mr. Joseph Schuman, Deputy Division Chief, Joint Capabilities Division, Joint Staff J8, is our Action Officer. The objective of this research is to assist the Joint Staff and other DoD organizations in addressing 12 reform elements directed by Congress in Section 811 of the FY2024 National Defense Authorization Act (NDAA) including evaluating potential options for either evolving the current JCIDS process or creating a revolutionary, clean-sheet approach to requirements development.

We have identified your organization as a key stakeholder in modernizing DoD's requirements process and would like to better understand how you interact with the requirements process. Our discussion will inform project findings and recommendations, which will be incorporated into sponsor briefings and a public report. The discussion is non-attributional, meaning that we will ensure that these products do not explicitly identify you or your participation. However, we may identify the organizations with which we had discussions, and therefore your participation could be implied. We will be taking notes based on our discussion, which will be accessed only by the project team. We can also talk off the record for certain parts of the discussion if that is desired – just let us know. If you have any questions about this discussion, please feel free to contact the principal investigators.

DISCUSSION PROTOCOL

Background

1. Please tell us about your current position (e.g., roles and responsibilities) and experience with DoD's requirements and supporting processes.
2. What is your organization's mission/role related to the requirements process?
3. What responsibilities does the organization have for capability development and requirements in particular? What activities or processes implement these responsibilities?

DoD's Requirements and Supporting Processes *Challenges*

4. Could you describe your view on the level of effectiveness of the current requirements process (i.e., JCIDS)? Why?
5. What is your opinion on the level of flexibility offered by the current JCIDS process? What about speed? Innovation?
6. Tell me about some of the most notable (1) successes and (2) struggles your organization has with the current process?
7. What supporting processes (e.g., PPBE, etc.) outside of the direct JCIDs process do you see playing a key role in these successes and struggles, and how?

DoD's Requirements and Supporting Processes *Improvements*

8. In your opinion, what should the ideal "core principle" (or principles) of DoD's requirements process be? Some examples may include:
    - Threat-Informed
    - Technology-Driven
    - Integration-Focused
    - Collaboration-Enabled
9. If you could recommend one or more potential *evolutionary* improvements that you think would improve the requirements and supporting processes in DoD, what would they be?
10. How about one or more *revolutionary (e.g., clean sheet)* changes?

Concluding Questions

11. Is there anything that you feel we have missed and should consider in our work?
12. Is there anyone else who you think we should talk to?
13. Do you have any additional documentation not discussed that will help us understand your organizational approach to capabilities development?

Table G.1

Participant Representation by Organization Type

Organization Type	Number of Participants	Percentage of Total Participants
CCMDs	31	22%
DoD Innovation	11	8%
Industry	19	13%
Joint Staff	11	8%
OSD	21	15%
Services	35	25%
Think Tank/Academia	12	8%
Other	2	1%
Total	**142**	

Identifying Evolutionary and Revolutionary Recommendations from Interviews

In each of the semi-structured interviews, interviewees were asked to provide suggestions for "evolutionary" and "revolutionary" changes to the JCIDS process. Interview responses were transcribed and reviewed to compile the final list of recommendations. Approximately 45 evolutionary suggestions and 33 revolutionary suggestions were identified (Table G.2). These evolutionary and revolutionary suggestions were further categorized according to the nature of the recommendation as either a change to the JCIDS process itself ("JCIDS") or a change to JROC ("JROC"). Recommendations from interviews supplemented recommendations from the 811 Tiger Team in providing examples of past success stories and challenges and sourcing feedback from representatives outside the 811 Tiger Team (e.g., in industry).

Table G.2

Total Number of Identified Evolutionary and Revolutionary Suggestions

	Number of Suggestions
Evolutionary	45
Revolutionary	33

Identifying JCIDS Strengths ("Pros") and Weaknesses ("Cons") from the Interviews

To identify "pros" and "cons" of the JCIDS process according to stakeholders, detailed interview notes were analyzed using AI sentiment analysis. To identify sentences that discuss JCIDS throughout the interview notes, individual interview notes were uploaded to RAND Chat, an AI conversational tool based on OpenAI's LLM models hosted within RAND's secure computing infrastructure. Subsequentially, the prompt sequence in Table G.3 was introduced.

Table G.3

RAND Chat Prompt Sequence Used to Identify Pros and Cons of JCIDS

Action	Description
Instructions	Your role is to be an academic expert specializing in helping researchers in the fields of acquisition policy. You will assist in qualitative text analysis, offering guidance on identifying pros and cons, and interpreting results. You should emphasize accuracy, relevance, and depth in analysis while avoiding giving personal opinions or engaging in political debates. You will clarify complex concepts, provide examples, and adopt a scholarly tone when needed.
Action trigger	The user uploads text for analysis and asks to proceed.
Tasks	Isolate sentences that include Pro and Con of JCIDS.
Output	Present a table with the following columns: Column 1: Document name Column 2: If this is a Pro or Con Column 3: Quotation of sentence that exemplifies the sentiments in favor of or sentiments against JCIDS.
Additional instructions	1. Accuracy and relevance: Ensure that the analysis accurately represents the user's text's content and themes. Priorities relevant information and themes pertinent to politics, international studies, and geopolitics. 2. Depth of analysis: Provide a thorough and nuanced analysis, offering deep insights into the user's text's themes and meanings. 3. Scholarly tone: Adopt a formal, scholarly tone when explaining concepts, methods, and findings. 4. Avoid personal opinions: Maintain objectivity by avoiding personal opinions or interpretations not supported by the user's text. 5. Clarification of complex concepts: Clearly explain any complex concepts or methodologies used in the analysis, providing examples where necessary.

Similar to sentiment analysis, we leveraged RAND Chat to identify the overall sentiment of each sentence that was isolated and prompted it to label them as either "pro" or "con." This initial analysis resulted in a table that included quotes with associated sentiments that are trackable to their original interview notes document (sample RAND Chat output is in Table G.4). Given the limitations of sentiment analysis and AI in understanding the full context of interviews, the initial analysis was followed up by a verification assessment by a RAND team member who attended the preponderance of interviews.

Table G.4

RAND Chat Example Output (One Interview)

Pro/Con	Quotation of Sentence
Pro	"There's a lot of goodness in JCIDS, from my perspective, that we don't want to throw out. It's a structured framework for identifying capability gaps and needs."
Pro	"The velocity and permanence of JCIDS is a strength that industry doesn't have. The military is great at making decisions, taking information, sending it to a decisive leader, then moving on."
Con	"The critique that probably many have: it's not very stable. Things keep changing, that makes it hard."
Con	"It's slow and bureaucratic. A lot of incentives to make sure no one makes a mistake in the process, and lots of people involved in checking/evaluating this process slows it all down."

The resulting output from this exercise is provided in Table G.5. On the whole, we received nearly double the number of "Cons" than "Pros."

Table G.5

Number of Pros and Cons Identified by Organization Type

Organization Type	Number of Pros	Number of Cons	Pro to Con Ratio
CCMDs	31	66	0.47
DoD Innovation	3	22	0.14
Industry	12	27	0.44
Joint Staff	14	27	0.52
OSD	15	40	0.38
Services	50	79	0.63
Think Tank/Academia	6	26	0.23
Other	1	0	NA
Total	**132**	**287**	**0.46**

Following the categorization of interview quotes as either holding positive sentiment toward JCIDS ("pro") or negative sentiment toward JCIDS ("con"), quotes were organized into categories by a member of the research team. This analysis is presented below.

Strengths of the JCIDS Process Identified by Stakeholders

The JCIDS Process Standardized Requirements Development

Stakeholders credited the JCIDS process with establishing the first standardized, structured framework to identify capability gaps and assemble requirements across DoD. Prior to the inception of JCIDS, Services did not have a designated system to justify requirements and pursue acquisitions.[265] Thus, the JCIDS process is credited as the forcing function for Services to develop their own "rigorous processes to figure out what to buy."[266] As the model for such a system, it also contributed to the standardization of the requirements process: Navy requirements documents look like Air Force documents, which look like Army documents, and so forth.[267]

Beyond establishing the foundation for revamping Service-specific requirements processes, JCIDS has also succeeded in mandating that requirements map explicitly to interoperability standards and future JWCs.[268] Some stakeholders highlighted historical examples where a standardized language for interoperability was lacking and thus resulted in Services purchasing misaligned or otherwise non-

[265] JCIDS stakeholders, interviews with RAND researchers, February 17, 2025.
[266] JCIDS stakeholders, interviews with RAND researchers, February 17, 2025.
[267] JCIDS stakeholders, interviews with RAND researchers, November 7, 2024.
[268] JCIDS stakeholders, interviews with RAND researchers, March 31, 2025.

interfacing equipment. The Persian Gulf War and the use of incompatible radio equipment was one such example.[269]

The JCIDS Process Facilitates Stakeholder Engagement and Reduces Redundancy

Stakeholders generally characterized JCIDS as an effective process for gathering input across different headquarters, functions, and program offices. In so doing, JCIDS not only works to prevent redundancy in requirements development, but it also works to generate leadership weigh-in and buy-in before systems are purchased.[270]

The critical need to ensure that program architectures are sustainable for the Joint enterprise was undisputed across the interviews. Most stakeholders expressed that the JROC is generally effective in serving this function.[271] Furthermore, when asked to conceive of an alternative requirements process, many stakeholders emphasized that the current JCIDS process has been successful in mandating the involvement of relevant organizations, and that a new process should maintain an entity similar to the JROC.[272]

JCIDS Has Been Able to Incorporate Flexibilities to Expedite Process

As noted in Appendix E, the JCIDS process accommodates urgent capability needs through the process for managing JUONs and JEONs. Stakeholders who had previously engaged with this process expressed greater satisfaction with the flexibility of the JCIDS process than stakeholders who had not.[273] Several stakeholders highlighted success stories using the two pathways and emphasized that the two pathways are well utilized.[274]

Beyond the urgent needs process, stakeholders highlighted the MTA and software acquisition pathways–which lie outside of JCIDS–as adequate alternatives for capabilities that are ill suited to the traditional JCIDS process. Namely, the MTA pathway "is useful for contractors to move smaller-system requirements through" and "explore a prototype capability and get it to a fielding solution."[275] Between the different pathway options, some stakeholders expressed that the DoD requirements process is holistically effective in fielding capabilities.

JCIDS Has Produced Effective, Joint Solutions to Capability Gaps

Throughout the interviews, several stakeholders were able to point to "JCIDS success stories" as evidence for the functionality of JCIDS.[276] Some interviewees expressed that the JCIDS Manual provides reliable

[269] JCIDS stakeholders, interviews with RAND researchers, November 7, 2024.
[270] JCIDS stakeholders, interviews with RAND researchers, December 21, 2024, and March 14, 2025.
[271] JCIDS stakeholders, interviews with RAND researchers, April 7, 2025.
[272] JCIDS stakeholders, interviews with RAND researchers, February 26, 2025.
[273] JCIDS stakeholders, interviews with RAND researchers, November 8, 2024.
[274] JCIDS stakeholders, interviews with RAND researchers, October 8, 2024.
[275] JCIDS stakeholders, interviews with RAND researchers, March 11, 2025, and JCIDS stakeholders, interviews with RAND researchers, November 17, 2024.
[276] JCIDS stakeholders, interviews with RAND researchers, September 26, 2024.

instruction for communicating what is required to get a capability validated, and that timelines within the JCIDS Manual are "reasonable," although this sentiment was held by a minority of stakeholders.[277] Others noted that JCIDS is able to escalate decisions quickly to the senior level.[278]

Supporters of the JCIDS process in its current form generally expressed that challenges with the process are not structural, but cultural. Stakeholders with a positive perception of JCIDS emphasized that compliance with the JCIDS Manual and attention to detail allows documents to move through the system efficiently. Others conversely noted that challenges with JCIDS primarily arise due to misinterpreting instructions or attempting to "cut corners" in the process.[279]

While interviewees across the board acknowledged that JCIDS will at times move less quickly than desired, stakeholders in this camp emphasized that it "by and large delivers a sufficient system," and this is, in and of itself, evidence of the benefits of the process.[280]

Weaknesses of the JCIDS Process Identified by Stakeholders

The JCIDS Process is Lengthy, Involving Unnecessary Delays and Rigidities

The majority of stakeholders interviewed expressed frustration with the length and complexity of the JCIDS process.[281] Among the challenges highlighted by stakeholders during interviews, "lack of speed" vastly outnumbered the others. Many pointed to the length of the JCIDS Manual as one reason for this complexity. The approximately 400-page manual, in addition to other Joint Staff guidance on JCIDS, was described as "enormous," "convoluted," "overly prescriptive," "confusing," and "not intuitive."[282] Others highlighted the number of specifications themselves for JCIDS documents, the layers of review by a large quantity of stakeholders, and prolonged timelines for document staffing as further process rigidities.[283] Stakeholders with this perspective expressed that JCIDS was at times more focused on process accountability and procedure rather than "rapid effect."[284]

The result of this complexity is delayed delivery of capability to the warfighter. One stakeholder remarked that it can take longer to develop requirements than to build the ensuing capability itself.[285] This sentiment was echoed by others who noted that requirements can take years to be fielded and can become

[277] JCIDS stakeholders, interviews with RAND researchers, September 27, 2024, December 11, 2024, and February 11, 2024.

[278] JCIDS stakeholders, interviews with RAND researchers, October 25, 2025.

[279] JCIDS stakeholders, interviews with RAND researchers, November 18, 2024, October 21, 2024, November 7, 2024, and November 13, 2024.

[280] Sentiments from JCIDS stakeholders, interviews with RAND researchers, October 21, 2024, November 8, 2024, December 12, 2024, December 20, 2024, January 13, 2025, January 24, 2025.

[281] JCIDS stakeholders, interviews with RAND researchers, September 19, 2024.

[282] JCIDS stakeholders, interviews with RAND researchers, September 18, 2024, September 24, 2024, October 21, 2024, October 29, 2024.

[283] JCIDS stakeholders, interview with RAND researchers, March 25, 2025.

[284] JCIDS stakeholders, interview with RAND researchers, January 15, 2025.

[285] JCIDS stakeholders, interview with RAND researchers, February 13, 2025.

obsolete in that time.[286] One stakeholder pointed to the pursuit of perfection and "exquisite capabilities" as delaying progress and limiting the ability to field new technologies and improve upon them.[287]

The JCIDS Process Faces Knowledge Management and Information Dissemination Challenges

The complexity of the JCIDS Manual is a significant aspect of the information management challenges within JCIDS.[288] However, many others pointed to the Knowledge Management/Decision Support (KM/DS) tool as other evidence of poor knowledge management. One interviewee noted that the present document-based knowledge management system does not enable program offices to easily understand what capabilities and requirements already exist, without sifting through each document.[289] Stakeholders also reported a loss of visibility over their own documents, noting that once a document enters KM/DS for staffing, they can lose sight of it and have to contact partners in the building to track it down.[290]

Turnover among staff in requirements roles further exacerbates challenges with knowledge transfer. Discussion and oversight forums such as the FCBs or JCBs also experience turnover and inflow of military representatives without familiarity or experience with the JCIDS process.[291] The high rate of turnover poses challenges for new personnel to quickly become proficient with the lengthy JCIDS Manual, as noted before. Some stakeholders advocated for some form of professionalization of the requirements field and argued that "in order to get real depth in understanding how things work, you need a big team of people doing this job for a long time."[292]

JCIDS Lacks the Necessary Agility and Flexibility for the Commercial Landscape

While some stakeholders appreciated the variety of pathways to pursue requirements, others expressed that exceptions to the JCIDS process serve as evidence that JCIDS itself lacks agility altogether. Some even noted an "unspoken understanding" that in order to field capabilities quickly, you must avoid the JCIDS process.[293] Others highlighted the lack of flexibility for changes to requirements documents, particularly during pre-development or experimentation stages.[294] Stakeholders with this perspective expressed that the process should not require as much scrutiny for capabilities that develop iteratively or will be replaced quickly.

The disconnect between JCIDS and the commercial landscape is also a significant concern. Stakeholders noted that the JCIDS process is "divorced" from market intelligence.[295] The rapid pace of technological advancement in the commercial sector further exacerbates this issue, as commercial products are typically

[286] JCIDS stakeholders, interview with RAND researchers, March 11, 2025.
[287] JCIDS stakeholder, interview with RAND researchers, March 11, 2025.
[288] JCIDS stakeholders, interview with RAND researchers, March 24, 2025.
[289] JCIDS stakeholders, interviews with RAND researchers, March 17, 2025.
[290] JCIDS stakeholder, interview with RAND researchers, October 31, 2024.
[291] JCIDS stakeholder, interview with RAND researchers, October 25, 2024.
[292] JCIDS stakeholder, interview with RAND researchers, October 3, 2024.
[293] JCIDS stakeholders, interview with RAND researchers, February 18, 2025.
[294] JCIDS stakeholder, interview with RAND researchers, November 13, 2024.
[295] JCIDS stakeholder, interview with RAND researchers, January 21, 2025.

in much more advanced stages from when a requirement in DoD was first envisioned.[296] This inflexibility and lack of alignment with market intelligence create significant challenges for the JCIDS process in keeping pace with modern technological developments.

During these interviews, industry representatives highlighted challenges they faced interfacing with the JCIDS process. The nature of requirements as overly prescriptive was highlighted, with some noting that when a contractor is constrained to a requirement and its associated discrete elements, it restricts opportunities for innovation.[297] Industry stakeholders typically expressed that predetermined requirements may not be the best solution for what the warfighter needs, and the opportunity to build to a problem, iterate, prototype, and assess feedback would incentivize innovation. Some also noted that it would increase the likelihood of firms to accept the risks associated with building capabilities, as they are incentivized to price downward to outcompete other firms for DoD contracts.[298]

The JCIDS Process Exacerbates Disconnects Between Combatant Command Priorities and Service-Level Priorities

Many stakeholders emphasized that CCMDs demand signals should drive more decisions in the process than they currently do. Despite being the "customers" of the JCIDS process, CCMDs expressed that they found themselves with limited influence in the JROC process, primarily serving as observers rather than decision makers. They highlighted that their vote on FCBs serve as the only "tangible" place their perspective is represented.[299]

The structure of the JCIDS process contributes to this disconnect. While the CCMDs drive the demand signal for near-term requirements, the Services drive resources and are tasked with projecting longer-term capability needs.[300] CCMDs are tasked with expressing their needs through multiple avenues, such as CGAs, IPLs, issue nominations, and JEONs/JUONs. However, as Services fund capabilities, CCMD priorities can, at times, go without funding. One CCMD described this process as a "labor-intensive lottery ticket."[301] This misalignment between priorities and resources can lead to dissatisfaction with the final product delivered through JCIDS for CCMDs.[302]

Discussion of the Workshops Held in Support of the Section 811 Effort

To leverage the creative power of collaboration, supplement the ideas gathered during the interviews, and provide real-time feedback on potential recommendations, the Section 811 Tiger Team held three workshops. The first two were aimed at identifying potential evolutionary and revolutionary changes to the JCIDS process, while the third was to clarify the trade-offs in process reform and discuss how evolutionary reform may ultimately yield revolutionary change. Figure G.2 provides a breakdown of each

[296] JCIDS stakeholder, interview with RAND researchers, March 14, 2025.
[297] JCIDS stakeholder, interview with RAND researchers, March 25, 2025.
[298] JCIDS stakeholders, interviews with RAND researchers, February 14, 2025, March 7, 2025, March 14, 2025, and March 25, 2025.
[299] JCIDS stakeholder, interview with RAND researchers, December 4, 2024.
[300] JCIDS stakeholders, interview with RAND researchers, November 22, 2024.
[301] JCIDS stakeholders, interview with RAND researchers, November 22, 2024.
[302] JCIDS stakeholder, interview with RAND researchers, November 22, 2024.

of the sessions: dates, agenda topics, and organizations in attendance. All three workshops were hosted at the RAND Corporation offices in Arlington, Virginia, with dial-in options as necessary to enable remote participation. A majority of the findings from these workshops have been folded into Chapters 2, 3, and 4.

Figure G.2

Modernization Workshop Demographics and Details

MODERNIZATION WORKSHOPS: DEMOGRAPHICS AND DETAILS		
Session #1: 4 November 2024	**Session #2: 18 November 2024**	**Session #3: 3 February 2025**
• **AGENDA:** ◦ Evolutionary Changes Discussion (process and outcome changes) ◦ Revolutionary Changes Discussion ◦ Discussion on Other Needed Changes • **ORGANIZATIONS IN ATTENDANCE:** ◦ 13 people total ◦ OUSD(A&S) ◦ Space Force ◦ Marine Corps ◦ Joint Staff ◦ RAND	• **AGENDA:** ◦ Evolutionary Changes Discussion ◦ Revolutionary Changes Discussion ◦ Discussion on Other Needed Changes • **ORGANIZATIONS IN ATTENDANCE:** ◦ 15 people total ◦ OUSD(A&S) ◦ USSOCOM ◦ Air Force ◦ Army ◦ Joint Staff ◦ RAND	• **AGENDA:** ◦ Discussion of Requirements Process Tradeoffs ◦ From Evolutionary steps to Revolutionary reform Discussion • **ORGANIZATIONS IN ATTENDANCE:** ◦ 11 people total ◦ USSTRATCOM ◦ USSOUTHCOM ◦ USSOCOM ◦ USAFRICOM ◦ USTRANSCOM ◦ Joint Staff ◦ RAND

Appendix H

TEXT OF SECTION 811 OF THE 2024 NATIONAL DEFENSE AUTHORIZATION ACT

This appendix presents the verbatim text of Section 811, Modernizing the Department of Defense Requirements Process, of the FY 2024 NDAA:

> (a) Modernizing the Department of Defense Requirements Process.
>
> Not later than October 1, 2025, the Secretary of Defense, acting through the Vice Chairman of the Joint Chiefs of Staff, in coordination with the Secretaries of the military departments and the commanders of the combatant commands, and in consultation with the Under Secretary of Defense for Acquisition and Sustainment, shall develop and implement a streamlined requirements development process for the Department of Defense, to include revising the Joint Capabilities Integration and Development System, in order to improve alignment between modern warfare concepts, technologies, and system development and reduce the time to deliver needed capabilities to warfighters.
>
> (b) Reform Elements--The process required by subsection (a) shall--
>
> > (1) streamline requirements documents, reviews, and approval processes, focusing on programs below the major defense acquisition program threshold described in section 4201 of title 10, United States Code;
> >
> > (2) revise requirements management practices using a clean-sheet approach that avoids prescriptive language, is based on mission outcomes and assessed threats, enables a more iterative and collaborative approach with the Armed Forces, maximizes the use of commercial products or commercial services in accordance with section 3453 of title 10, United States Code, and allows for a broader range of new or alternative technological opportunities to be incorporated without the requirement being validated again;
> >
> > (3) develop a capability needs and requirements framework and pathways that are aligned to the pathways of the adaptive acquisition framework (as described in Department of Defense Instruction 5000.02, "Operation of the Adaptive Acquisition Framework"), and better aligned and integrated with the science and technology development processes of the Department;
> >
> > (4) provide continuity to the acquisition and research programs of the military departments by enabling the military departments to develop, with respect to collections of capabilities grouped by function by the Department of Defense, sets of requirements that are designed to remain applicable to programs and systems relating to such capabilities over substantial periods of time;
> >
> > (5) require the military departments to--

(A) articulate in a concise model and document with a set of mission impact measures the sets of requirements developed under paragraph (4); and

(B) seek to continuously improve the capabilities subject to such sets of requirements the acquisition of additional capabilities;

(6) establish a process to rapidly validate the ability of commercial products and services to meet capability needs or opportunities;

(7) retire and replace the Department of Defense Architecture Framework with a new structure focused on enabling interoperability through application program interfaces, enterprise architectures and platforms, and government and commercial standards; and

(8) ensure that requirements processes for software, artificial intelligence, data, and related capability areas enable a more rapid, dynamic, and iterative approach than the requirements processes for traditional hardware systems.

(c) Elements.--With respect to the implementation of the process required by subsection (a), the Vice Chairman of the Joint Chiefs of Staff shall--

(1) collaborate with industry partners, contractors of the Department and nontraditional defense contractors (as defined in section 3014 of title 10, United States Code), and Department of Defense science and technology reinvention laboratories (as designated under section 4121(b) of title 10, United States Code) regarding the development of the streamlined requirements development process under subsection (a) to ensure such process effectively uses the innovation ecosystem (as defined in section 236(g) of the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 (10 U.S.C. 4001 note));

(2) develop a formal career path, training, and structure for requirements managers; and

(3) publish new policies, guidance, and templates for the operational, requirements, and acquisition workforces online in digital formats.

(d) Interim Report.--Not later than October 1, 2024, the Secretary of Defense shall submit to the congressional defense committees a report on the development and implementation of the process required by subsection (a), including--

(1) a description of the efforts to develop and implement the streamlined requirements development process under subsection (a);

(2) the plans of the Department of Defense to implement, communicate, and continuously improve the requirements development process required by subsection (a); and

(3) any additional recommendations for legislation that the Secretary determines appropriate.

(e) Final Report.--Not later than October 1, 2025, the Secretary of Defense shall submit to the congressional defense committees a report describing activities carried out pursuant to this section.

ABBREVIATIONS

A&S	Acquisition and Sustainment
AAF	Adaptive Acquisition Framework
ACAT	acquisition category
ACIDS	Army Capabilities Integration and Development System
AFROC	Air Force Requirements Oversight Council
AoA	Analysis of Alternatives
AoS	Acquisition of Services
AROC	Army Requirements Oversight Council
ASL	Army senior leader
AUKUS	Australia, the United Kingdom, and the United States
C2	command and control
CAMS	Capability and Army Requirements Oversight Council Management System
CAPE	Cost Assessment and Program Evaluation
CBA	Capabilities Based Assessment
CCIDS	Cyber Capabilities Integration and Development System
CCMD	combatant command
CDD	Capability Development Document
CDD-U	Capability Development Document Update
CDG	Capability Development Group
CGA	Capability Gap Assessment
CIO	Chief Information Officer
CIP	Critical Intelligence Parameter
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
CMNS	Combat Mission Needs Statement
CNS	Capability Need Statement
COTS	commercial off-the-shelf
CPD	Capability Production Document

CPM	Capability Portfolio Management
CPMR	Capability Portfolio Management Review
CRC	concept required capability
CRD	Capstone Requirements Document
CYBERCOM	U.S. Cyber Command
DAB	Defense Acquisition Board
DARPA	Defense Advanced Research Projects Agency
DAS	Defense Acquisition System
DCR	DOTmLPF-P Change Request
DDRCD	Deputy Director for Requirements and Capability Development
DJ8	Director, Force Structure, Resources and Assessment, J8
DMAG	Deputy Secretary's Management Action Group
DNI	Director of National Intelligence
DoD	U.S. Department of Defense
DoDAF	DoD Architecture Framework
DoDD	Department of Defense Directive
DoDI	Department of Defense Instruction
DOT&E	Director, Operational Test and Evaluation
DOTmLPF	Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities
DOTmLPF-P	Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and/or Policy
DR	Directed Requirement
EON	Emergent Operational Need
FCB	Functional Capabilities Board
FFRDC	federally funded research and development center
FY	fiscal year
GAO	U.S. Government Accountability Office
GOFO	general and flag officer
GOTS	government off-the-shelf
HASC	House Armed Services Committee
IAPR	Integrated Acquisition Portfolio Review
IC	Intelligence Community
ICCR	Intelligence Community Capabilities Requirements
ICD	Initial Capability Document
IIP	Integrated Investment Program
I-JROC	International Joint Requirements Oversight Council
IPL	Integrated Priority List
IS-CDD	Information Systems Capability Development Document
IS-ICD	Information Systems Initial Capabilities Document

IT	information technology
JCB	Joint Capabilities Board
JCD	Joint Capability Division
JCIDS	Joint Capabilities Integration and Development System
JEON	Joint Emergent Operational Need
JFN	Joint Fires Network
JPR	Joint Performance Requirement
JRAC	Joint Rapid Acquisition Cell
JRMB	Joint Requirements Management Board
JROC	Joint Requirements Oversight Council
JROCM	Joint Requirements Oversight Council Memorandum
JSD	Joint Staffing Designator
JUON	Joint Urgent Operational Need
JWC	Joint Warfighting Concept
KM/DS	Knowledge Management/Decision Support
KPP	Key Performance Parameter
KSA	Key System Attribute
MA ICD	Mission Area Initial Capabilities Document
MCA	Major Capability Acquisition
MDA	Missile Defense Agency
MDAP	major defense acquisition program
MDD	Materiel Development Decision
MDS	Missile Defense System
MNS	Mission Need Statement
MoD	Ministry of Defense
MROC	Marine Requirements Oversight Council
MTA	middle tier of acquisition
MVC	minimum viable capability
NDAA	National Defense Authorization Act
NDI	non-development item
NDRI	National Defense Research Institute
NDS	National Defense Strategy
NGB	National Guard Bureau
NGROC	National Guard Requirements Oversight Council
NMS	National Military Strategy
ODCS	One Defence Capability System
OPNAV	Office of the Chief of Naval Operations
ORD	Operational Requirements Document
OSD	Office of the Secretary of Defense
OUSD(R&E)	Office of the Under Secretary of Defense for Research and Engineering

PLA	People's Liberation Army
POR	program of record
PPBE	Planning, Programming, Budgeting, and Execution
QDR	Quadrennial Defense Review
R&E	research and engineering
RDT&E	research, development, test, and evaluation
RCO	rapid capabilities office
RGS	Requirements Generation System
S&T	science and technology
SAP	State Armaments Program
SDA	Space Development Agency
SECDEF	Secretary of Defense
SES	Senior Executive Service
SF/S5R	Service Gatekeeper
SME	subject-matter expert
SOCOM	U.S. Special Operations Command
SOCREB	Special Operations Command Requirements Evaluation Board
SOFCIDS	Special Operations Forces Capabilities Integration and Development System
SO-p	Special Operations–peculiar
SORRD	Special Operations Rapid Requirement Document
SRD	Strategic Requirements Document
SW-ICD	Software Initial Capabilities Document
TLR	Top Level Requirement
TMTR	Technology Modernization Transition Review
TsNII	Central Scientific-Research Institute
UAF	Unified Architecture Framework
UON	Urgent Operational Need
USAF	U.S. Air Force
USD	Under Secretary of Defense
USMC	U.S. Marine Corps
VCDF	Vice Chief of the Defence Force
VCJCS	Vice Chairman of the Joint Chiefs of Staff
VCNGB	Vice Chief of the National Guard Bureau
WIP	Warfighter Involvement Process

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