

SYM-AM-19-058



**PROCEEDINGS
OF THE
SIXTEENTH ANNUAL
ACQUISITION RESEARCH
SYMPOSIUM**

**WEDNESDAY SESSIONS
VOLUME I**

**Acquisition Research:
Creating Synergy for Informed Change**

May 8–9, 2019

Published: April 30, 2019

Approved for public release; distribution is unlimited.

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



ACQUISITION RESEARCH PROGRAM
GRADUATE SCHOOL OF BUSINESS & PUBLIC POLICY
NAVAL POSTGRADUATE SCHOOL

Identification and Characterization of Data for Acquisition Category (ACAT) II–IV Programs

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Abstract

Acquisition data lay the foundation for decision-making, management, insight, and oversight of the Department of Defense’s (DoD’s) acquisition program portfolio. A large amount of information—based on statutory and regulatory reporting requirements and used for program execution, oversight, insight, and analysis—is collected on the higher cost major defense acquisition programs (MDAPs; referred to as Acquisition Category [ACAT] I programs). However, the DoD also makes additional smaller investments that are categorized as ACAT II–IV acquisition programs, pre-MDAPs, and Defense Business Systems, and the current program data environment features varying definitions, policy, collection methods, and use cases across the DoD. RAND researchers documented the DoD status quo for identifying, collecting, and storing acquisition data from different programs, performed an initial gap analysis, and developed recommendations that build on what the OSD and Service acquisition information managers have accomplished to date and that move the DoD toward a common framework for data governance and management.

Introduction

Acquisition data lay the foundation for decision-making, management, and oversight of the Department of Defense’s (DoD’s) weapon system acquisition portfolio. This information is collected to meet statutory and regulatory reporting requirements and to support program execution, insight, oversight, and analysis. The DoD groups its acquisition programs into categories. Acquisition categories (ACATs) refer to dollar values of the investment,¹ and ACAT I programs cost the most (DoD, 2017).² According to the U.S. Government Accountability Office (GAO, 2015, p. 1),

¹ At the time of this writing (October 2018), there was some debate within the DoD over whether Middle Tier acquisition programs have ACAT levels. Middle Tier programs are new, so the specifics are still being worked out.

² According to DoD (2017, p. 28), Dollar value for all increments of the [ACAT I] program: estimated by the [Defense Acquisition Executive] DAE to require an eventual total expenditure for research, development, and test and evaluation (RDT&E) of more than \$480 million in Fiscal Year (FY) 2014 constant dollars or, for procurement, of more than \$2.79 billion in FY 2014 constant dollars.



In Fiscal Year 2014, DoD requested \$168 billion to develop, test, and acquire weapon systems and other products and equipment. About 40 percent of that total was for major defense acquisition programs (MDAP) or Acquisition Category (ACAT) I programs. The remaining approximately 60 percent of the budget request included, among other investments, funding for DoD's non-major ACAT II and III programs.

The GAO has documented the challenges of gaining insight into ACAT II–IV in a 2015 report (GAO, 2015).

The Office of the Secretary of Defense asked the RAND Corporation National Defense Research Institute to document the DoD's status quo for identifying, collecting, and storing ACAT II–IV acquisition programs, then perform an initial gap analysis and recommend actions that could move the DoD toward a common framework for acquisition program data. This analysis builds on four earlier studies on *Issues with Access to Acquisition Data and Information in the Department of Defense* (Riposo et al., 2015; McKernan et al., 2016; McKernan et al., 2017; McKernan et al., 2018). This report should be of interest to government acquisition professionals, oversight organizations, and, especially, the analytic community. This research was sponsored by the Office of the Secretary of Defense³ and conducted within the Acquisition and Technology Policy Center of the RAND National Defense Research Institute, a federally funded research and development center sponsored by the Office of the Secretary of Defense, the Joint Staff, the Unified Combatant Commands, the Navy, the Marine Corps, the defense agencies, and the defense Intelligence Community. For more information on the RAND Acquisition and Technology Policy Center, see <http://www.rand.org/nsrd/about/atp.html> or contact the director (contact information is provided on the webpage).

The DoD Lacks Visibility Into ACAT II–IV Acquisition Programs

In response to a GAO question, DoD senior leadership asked staff to examine the performance of ACAT II–IV programs. The program data required to perform this analysis was not readily available. As one step in meeting this information need, the Acquisition Data office within the Office of the Under Secretary of Defense for Acquisition and Sustainment has been working with the Services over the past few years to track and collect ACAT II–IV program information more efficiently.⁴ Challenges include the scarcity of data on lower ACAT programs; the inconsistency of the ACAT II–IV data that are collected at the Office of the Secretary of Defense (OSD) and Component Acquisition Executive (CAE) levels; and the question of what kind of oversight makes sense for ACAT II–IV programs to ensure that proper management oversight, portfolio analyses, and other assistance is available while minimizing the burden on program managers (PMs). The challenges of gaining insight into ACAT II and III programs are described in the 2015 GAO report, which concludes that the DoD cannot provide reliable data on the number, cost, or performance of ACAT II and III programs (GAO, 2015, p. 6).

The current program data environment as described here features varying definitions, policy, collection methods, and use cases across the Components and the OSD. The result is that basic questions (e.g., How many programs are in each Component?) cannot be easily and consistently answered, and the DoD lacks the ability to understand trends and program execution

These thresholds are for ACAT I programs but are not applicable for ACAT IA programs.

³ This study was commissioned by Mark Krzysko, Director, Acquisition Data, within the Office of the Under Secretary of Defense for Acquisition and Sustainment.

⁴ The prior name of this organization was Acquisition Resources and Analysis, Enterprise Information within the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics.



status at an aggregate level for these portfolios. The program data environment also has little coordination across Components and the OSD except through largely ad hoc interactions of acquisition information managers in each organization. However, some level of basic agreement exists on a core set of data, particularly at the ACAT I level, and the need for quality data suitable for a variety of use cases remains constant, along with a colloquially expressed data management goal to “enter once, use many.”

Congressional interest in this area has increased over the past several years. Recent NDAs recognize the potential benefits of a common data framework and environment. As of late 2018, the DoD does not know exactly how far away it is from a common acquisition data framework; however, the organization does have an understanding of some of the actions that need to occur and has taken definitive steps to move toward a common data framework for acquisition program data. The Office of the Under Secretary of Defense asked the RAND Corporation to identify how the OSD and the Components go about collecting program data, then perform an initial gap analysis and recommend actions that could move the DoD toward a common framework for acquisition program data.

Our approach for this study included analyzing current policy in the OSD and the Services and holding discussions with subject-matter experts throughout the DoD to understand the policy and data frameworks for ACAT I–IV programs. We also collected information on ACAT I as a benchmark for comparison because ACAT I programs have a well-established data framework, developed through use over several decades and reflecting agreement between the OSD and the Services.

Key Findings

The OSD and the Services have created procedures that in effect align the collection and transmission of data with OSD and congressional information requirements, and use formal communication mechanisms (e.g., the Acquisition Visibility Working Group [AVWG] and the Acquisition Visibility Steering Group [AVSG]) as instruments to help standardize and talk through information management challenges. The OSD and the Services have also recently created an Acquisition Program List (APL) that consolidates Service-level lists of ACAT programs in one location in the OSD’s Defense Acquisition Visibility Environment (DAVE). The U.S. Navy and the U.S. Air Force (USAF) currently use mixed methods in which some data are digitally pushed to DAMIR and other data are input manually. The Army manually inputs program data directly into DAMIR.

Overall, we found that the OSD and Service policy and data environments for ACAT programs are very similar. Based largely on ACAT I program statutory, regulatory, and policy information requirements, there appears to be a shared recognition that program data are required to support multiple use cases and a general agreement that program data include the same core information related to cost, schedule, performance, and risk.

Additionally, there appears to be a shared understanding of the definitions of those program data even as the specific metrics used and preferred by leadership in the OSD and the Services differ somewhat. Furthermore, the Services have created procedures that in effect align the collection and transmission of data with OSD information requirements. Within the past decade, the USAF and the Navy have intentionally aligned their centralized program information systems—Project Management Resource Tools (PMRT)⁵ and Research, Development, and Acquisition

⁵ PMRT’s predecessor, the System Metric and Reporting Tool, was also used as part of the alignment.



Information System (RDAIS)—to the OSD’s program information system, DAMIR. The Services have also moved toward closer collaboration with the OSD. The USAF and the Navy currently use a mixed method in which some data are digitally pushed to DAMIR by PMRT and RDAIS and other data are input manually. Currently, the Army manually inputs ACAT I program data directly into DAMIR in the absence of a centralized program information system within the Army. The movement of both the USAF and the Navy toward the use of “pushing” and “pulling” information between information systems is driven in part by the need to reduce the burden on program offices through sharing common information across a broad range of information requirements (i.e., enter once, use many) and also to achieve some efficiencies by taking advantage of improvements in technology. The convergence by the Services and the OSD on the limited common data framework as described has taken a considerable amount of effort, collaboration, and time (likely more than 10 years).

Our summary assessment of key attributes of the program data policy and management practice environment appears in the following list and in Table 1.

- **Information governance.** The policy environment for ACAT I program information is well established; the OSD and the Services have similar acquisition policy frameworks, including information governance for program data. The Services are responsible for promulgating policy for ACAT II–IV. For the most part, information governance for ACAT II–IV programs is similar to that of ACAT I.
- **Roles, responsibilities, and authorities.** Policy generally specifies acquisition-related roles, responsibilities, and authorities (RRA) for ACATs. Nevertheless, RRA are fairly consistent across the Services for ACAT programs of all levels with centralized authority (the Defense Acquisition Executive [DAE] or Service Acquisition Executive [SAE]) and decentralized responsibility for execution (program executive officers [PEOs] and PMs). Across program types and organizations, the program is responsible for collecting and reporting most program-level data.
- **Use cases.** Use cases are the demand signal for acquisition program data and often identify the data required, both explicitly and implicitly. The use cases for acquisition program data—program management and execution, oversight, statutory and regulatory reporting, and portfolio analyses—appear to be largely similar across the OSD and the Services and across ACAT levels.
- **Processes.** The milestone, event-driven acquisition process is well defined in policy and is fairly consistent in its attributes across organizations and ACAT levels. The process both generates program data through program execution and consumes program data in milestone decisions and technical reviews.
- **Authoritative data and definitions.** Best practices in data management assume that each unique data element (or data field) is identified and associated with a precise meaning or content. The OSD, the USAF, and the Navy have authoritative data fields defined in their information systems for ACAT I programs; the Air Force and the Navy carry those definitions down to the smaller ACAT II–IV programs. The OSD, the USAF, and the Navy also have data dictionaries available to system users. The Army inputs ACAT I program data manually into DAMIR, and ACAT II–III program data are captured in briefings that appear to follow a standard template. The Army also tracks basic information on ACAT II–III program data in the Army Acquisition Program Master List (AAPML), which resides in DAVE within the OSD. The AAPML provides basic counts of programs by level, phase, or Milestone Decision Authority (MDA). Apparent differences in specific data elements reported and the definitions of those data elements across the OSD, the Army, the Navy, and the USAF largely occur because the specific data elements and metrics reported are tailored to a particular organization’s culture, its



historical precedents, and the preferences of that organization's current senior leadership (i.e., how the current leadership wishes to view the information for decision-making). The underlying data—the cost, schedule, performance, and risk information captured and reported at the program level—tend to be similar or the same. This consistency is partly because some data elements are defined in statute (e.g., unit cost).

- **Data, business, and system rules.** The Services have created procedures at the ACAT I level that, in effect, align the collection and transmission of data with the OSD requirements for program data and other acquisition information. In general, the rules underlying data definitions are present in data dictionaries for the OSD, the USAF, and the Navy (the organizations that have such dictionaries). However, rules underlying business processes and information systems are not explicitly stated in guidance or user manuals we reviewed except for the USAF's Monthly Acquisition Report (MAR).
- **Access, security, and dissemination.** Access and security appear to be largely the same across program types and organizations. Access to data is largely determined by the owner of those data, and rules about granting access to users are designed into the information systems hosting the data. Information security policy is set predominantly by the chief information officer (CIO), chief management officer (CMO), or chief data officer (CDO) of an organization; these policies are reflected in certification procedures and data access and dissemination rules.
- **Quality and completeness.** Data quality—accuracy, validity—is not explicitly dealt with in policy or data management practice, but data quality could be addressed during the approval processes within the Services. Completeness, in contrast, is explicitly addressed in data management policy and practices across ACAT levels and organizations. Completeness in this context means whether required data were submitted on time.



Table 1. Comparison of Framework Attributes for ACAT II–IV Acquisition Programs
(DoD, 2007)

Attributes	OSD	USAF	Army	Navy
Information governance	<ul style="list-style-type: none"> Responsible for DoDD 5000.01^a and DoDI 5000.02 policies (overall acquisition and statutory/regulatory information requirements) 	<ul style="list-style-type: none"> Aligned to OSD 		
	<ul style="list-style-type: none"> ACAT I acquisition process and information requirements clearly defined 	<ul style="list-style-type: none"> Aligned to OSD 		
	<ul style="list-style-type: none"> Minimal ACAT II–III discussion except defines all ACAT levels and statutory and regulatory information requirements ACAT IV level not defined 	<ul style="list-style-type: none"> USAF ACAT II–III information governance similar to ACAT I governance Detailed USAF ACAT I–III acquisition information framework defined in policy 	<ul style="list-style-type: none"> Limited Army ACAT II–IV information framework 	<ul style="list-style-type: none"> Navy ACAT II–IV information governance similar to ACAT I governance Detailed Navy ACAT I–IV acquisition information framework defined in policy
Roles, responsibilities, and authorities	<ul style="list-style-type: none"> Generally specified in policy for ACAT I–IV programs (except OSD does not define ACAT IV programs) 			
	<ul style="list-style-type: none"> Limited responsibilities for program information collection, storage, and dissemination 	<ul style="list-style-type: none"> Limited and decentralized responsibilities for program information collection, storage, and dissemination 		
	<ul style="list-style-type: none"> One main office responsible for management of various ACAT I program information 	<ul style="list-style-type: none"> Air Force Acquisition Executive organization dedicated to managing ACAT I–III data 	<ul style="list-style-type: none"> Army PEOs and PMs are entirely responsible for managing ACAT I–IV data 	<ul style="list-style-type: none"> Navy Acquisition Executive organization dedicated to managing ACAT I–IV data Position includes governance and management
	<ul style="list-style-type: none"> PMs generate or collect the majority of program information 			
Use cases	<ul style="list-style-type: none"> Use cases for acquisition program data are largely similar across OSD and the Services and across ACAT levels 			



Table 1. Comparison of Framework Attributes for ACAT II–IV Acquisition Programs (Continued)

Attributes	OSD	USAF	Army	Navy
Processes	<ul style="list-style-type: none"> Milestone, event-driven acquisition process well defined in OSD policy 	<ul style="list-style-type: none"> Milestone, event-driven acquisition process well defined in USAF policy 	<ul style="list-style-type: none"> Milestone, event-driven acquisition process well defined in Army policy for ACAT I programs but less defined for ACAT II–IV programs 	<ul style="list-style-type: none"> Milestone, event-driven acquisition process well defined in Navy policy
	<ul style="list-style-type: none"> Process both generates program data through program execution and consumes program data in milestone decisions and technical reviews 			
Authoritative data and definitions	<ul style="list-style-type: none"> Authoritative data fields defined in DAMIR/DAVE information systems for ACAT I programs 	<ul style="list-style-type: none"> Authoritative data fields defined in USAF PMRT information system for ACAT I–III programs 	<ul style="list-style-type: none"> Army uses OSD’s authoritative data fields and definitions for ACAT I information Has authoritative source for limited ACAT II–IV 	<ul style="list-style-type: none"> Authoritative data fields defined in Navy RDAIS information system for ACAT I–IV programs
	<ul style="list-style-type: none"> Core data elements appear largely the same (e.g., cost, schedule, performance) but are presented differently across OSD and Services 			
	<ul style="list-style-type: none"> Specific data elements and metrics tailored to organization’s culture, historical precedents, and preferences of the current senior leadership 			
Data, business, and system rules	<ul style="list-style-type: none"> At the ACAT I level, OSD has worked with USAF and the Navy to electronically align collection and transmission of OSD-required data 		<ul style="list-style-type: none"> Army uses OSD data, business, and system rules because it manually inputs ACAT I information 	<ul style="list-style-type: none"> ACAT I electronically aligned with OSD (see first comparison to the left)
	<ul style="list-style-type: none"> Does not manage business rules for ACAT II–IV programs; documented some for ACAT I programs 	<ul style="list-style-type: none"> Business rules for ACAT II–III program information are documented for MAR 	<ul style="list-style-type: none"> Army uses OSD information system for limited ACAT II–IV information 	<ul style="list-style-type: none"> Business rules for ACAT II–IV program information are minimally documented



Table 1. Comparison of Framework Attributes for ACAT II–IV Acquisition Programs (Continued)

Attributes	SD O	US AF	A rmy	Navy
Access, security, and dissemination	<ul style="list-style-type: none"> Access and security appear largely the same across program types and organizations 		<ul style="list-style-type: none"> Army does not have an information system for program information, uses OSD's security for ACAT I information The AAPML user guide describes how Army secures, provides access, and disseminates its limited ACAT II–IV information 	<ul style="list-style-type: none"> Aligned with OSD and USAF comparison to the left
	<ul style="list-style-type: none"> Access to data determined by owner of that data (often the originator of the data; e.g., a program office) 			
	<ul style="list-style-type: none"> A user's account is granted permissions for inputting, viewing, and using data appropriate to user's role in the acquisition process 			
	<ul style="list-style-type: none"> Information security policy is set predominantly by CIO, CMO, or CDO of an organization 			
Quality and completeness	<ul style="list-style-type: none"> Data quality—accuracy, validity—not explicitly addressed in policy or data management practice 			
	<ul style="list-style-type: none"> Completeness explicitly addressed in data management practices across ACAT levels and organizations; typically refers to whether required data was submitted 			



Alignment of OSD and Service data policy and management environments creates efficiencies and potential savings with respect to program data collection, storage, processing, and sharing. Adopting common definitions on acquisition program data enables the Services to interact more seamlessly with OSD data systems; they can still tailor their own Service-specific data systems, metrics, analyses, and visualizations to satisfy the preferences of senior leaders and Service-specific use cases.

Achieving a common data framework across both program types and all organizations is a complex task. It requires some degree of alignment of attributes of both the policy and data environment. At a minimum, there needs to be agreement on a core set of data to be recorded (defined in policy) and the definitions of associated data elements and data fields; information governance organizations and processes need to be established and aligned to manage and oversee data-related activities. Use cases defined in policy and practice do not need to align precisely, but the underlying data required by those use cases do. Technical parameters of the information systems also do not need to align perfectly, as long as it is possible to transfer data between them without introducing errors.

A major challenge in achieving a common data framework is overcoming cultural barriers that often prevent data-sharing and transparency. ACAT I programs have a common framework, but this framework is only partially reflected in current law, regulations, policy, and guidance. Services coordinate with the OSD in different ways for ACAT I programs; for ACAT II–IV, Services largely use the ACAT I data framework (data definitions), share program lists, and use the OSD APB module but do not share cost, schedule, and performance information with the OSD. Semantics (definitions, data elements, and business rules) for smaller programs are reflected in Service policies or user guides to varying degrees. In all cases, the Services are actively improving their data governance and management practices for both internal use and coordination with the OSD.

Options to Consider for Improving the Current DoD Program Data Environment

Acquisition program data managers in the DoD appear to agree that movement toward a common data framework or environment in some form would be beneficial across the entire DoD enterprise. More importantly, the Under Secretary of Defense for Acquisition and Sustainment and other DoD leadership cannot have insight into their missions without these data. Examples of potential benefits are improved communication, data-sharing, leveraging of existing data systems (as opposed to developing, operating, and maintaining Service- or program-unique data systems), improved transparency, and improved data quality. Standardization and consistency within a common data framework could also improve analysis and program decision-making by enhancing analysis and facilitating a shared understanding of how to interpret results.

The intent of data management is to improve program management by providing higher-quality, consistent information to inform a variety of acquisition use cases. Data management emphasizes data standards—which can be common across organizations and program types—not just status reporting. We have identified five actions that we believe will facilitate continued progress toward a common environment for acquisition program data and improve acquisition data management in the DoD. Some recommendations are improvements or actions that reinforce recent trends while other recommendations are new (e.g., an enterprise acquisition data strategy).

Implementation of the options presented here will require some additional focus because the current acquisition environment is in the midst of significant change from multiple congressional mandates. Some implementation concerns are a workforce that tends to focus on process rather than data (both a cultural and training issue); the recent



changes to the acquisition organizational structure within the OSD; and changes in RRA through the delegation of the majority of MDA to the SAEs.¹

Continue the AVSG/AVWG to Facilitate Information Governance

The AVSG and AVWG structures provide an important forum for information governance. The AVSG convenes senior leaders from the OSD and the Services whose offices are directly responsible for acquisition program information, and it can be a useful mechanism for aligning policies. The AVWG, which pulls together information managers who are responsible for establishing data management practices, facilitates communication and collaboration and provides a mechanism for aligning data management practices across organizations and program types. We recommend continuing the AVSG/AVWG as an important element of information governance. The recent reorganization of the OSD acquisition organizations and the rebalancing of MDA toward the Services offers an opportunity to make information governance through the AVSG/AVWG structure formal and explicit. Membership and participation can be adjusted to reflect both the new organizations and new acquisition authorities.

Promulgate an Acquisition Data Strategy for the DoD

Currently, no enterprise-wide strategy exists for acquisition program data.² Such a strategy— developed collaboratively with the Office of the Under Secretary of Defense for Acquisition and Sustainment, the Office of the Under Secretary of Defense for Research and Engineering, and the SAEs—could set the parameters of a common data framework and environment. It could also encourage sharing of ideas and experiences, improve data transparency and access, and establish goals for a common data framework. An enterprise acquisition program data strategy could become a significant element of acquisition information governance. The DoD might want to consider addressing the need for core definitions in this strategy, along with considering communication mechanisms and other best practices in information management.

Focus Initial Efforts on Identifying a Core Set of Acquisition Program Data

Small steps and incremental change are often easier and more effective than trying to do everything at once. We therefore suggest developing an initial common data framework based on a small set of core program data appropriate for all program types and use cases. (This is in addition to the APL that has been recently added to DAVE.) At first, these data might be just program descriptive information; additional data elements could be

¹ Section 825 of the National Defense Authorization Act (NDAA) for Fiscal Year 2016 (as amended) states that the milestone decision authority [MDA] for a major defense acquisition program reaching Milestone [MS] A after October 1, 2016, shall be the service acquisition executive of the military department that is managing the program, unless the Secretary of Defense [SECDEF] designates ... another official to serve as the milestone decision authority.

See also 10 U.S.C. §2430[d]. Section 901 of the NDAA for Fiscal Year 2017 instituted a major reorganization within the OSD and created three new positions: Under Secretary of Defense for Research and Engineering, Under Secretary of Defense for Acquisition and Sustainment, and a CMO.

² The USAF CDO is working toward a Data Architecture Charter and Data Services Reference Architecture for “all” USAF data (including acquisition data) and has set a vision to foster a data-driven organization by enabling Air Force activities through Visible, Accessible, Understood, Linked, and Trusted data.



added incrementally. The focus should fall on the underlying data, not the specific metrics preferred by a particular senior leader. This recommendation builds on the success that information managers have already achieved through both formal (i.e., AVWG) and informal mechanisms, and following through on this action would build positive momentum toward a common data framework by enabling the institutionalization of small successes. For example, the common data definitions already in place for ACAT I programs would provide a good starting point because they are already defined and do not create additional burden to collect. In addition, the Air Force and Navy have already extended some of those definitions to lower ACAT-level reporting.

Leverage Existing Program Data Infrastructure

In this context, *infrastructure* means established information systems and applications running on those systems as well as approved and agreed-upon definitions for data elements and data fields. There is no reason to invest in all new Service- or application-specific information systems when existing systems can be expanded or otherwise modified to accomplish the same end.

Establish a Common Definition of a Program and Program Start

Acquisition program data collection begins with the definition of a program.³ Until an activity is officially declared a program, many of the information requirements do not apply. These activities can be for weapons, business systems, and Middle Tier efforts, to name a few. The high variation in the number of ACAT III programs counted among the Services suggests that the definition of a program might differ. DoDI 5000.02 (DoD, 2017) currently defines program start at MS B for ACAT I programs; policy is unclear as to when ACAT II–IV programs officially start.

This lack of clarity raises several questions that need to be answered:

- Who is the authoritative source for identifying when an activity becomes a program?
- When is a given set of activities both related enough and mature enough to declare it a program?
- What information should be documented and reported about a program early in its life cycle?

We recommend that the DoD develop a single definition of a program. The definition should include criteria and procedures for declaring program start, as well as a determination of the minimum program data needed at program start. A small set of program descriptive information can usefully be documented and applied across program type and size. This information should include program name, a unique identifier, mission or capability description, and basic cost and schedule estimates (recognizing the uncertainty of the last two data elements).

³ The Air Force, the Navy, and the Army have provided the OSD with APLs that are now stored in the OSD's DAVE for ACAT I–IV programs. Although there is still not agreement across the DoD on the definition of a program, this nevertheless reflects progress since 2015, when the DoD could not provide the GAO with a list of non-major programs.



This study has documented the current policy and data environment for acquisition programs. Given the large shift in organizational RRA within DoD acquisition over the past few years, now would be the ideal time for the DoD to take additional strides in improving how it manages its acquisition information and consider a common data framework for its acquisition programs by its data governance function.

References

- DoD. (2007, November 20). *The defense acquisition system* (DoD Directive 5000.01). Washington, DC: Author.
- DoD. (2017, August 10). *Operation of the defense acquisition system* (DoD Instruction 5000.02, incorporating change 3). Washington, DC: Author.
- GAO. (2015, March). *Defense acquisitions: Better approach needed to account for number, cost, and performance of non-major programs* (GAO-15-188). Washington, DC: Author. Retrieved from <https://www.gao.gov/assets/670/668783.pdf>
- McKernan, M., Moore, N. Y., Connor, K., Chenoweth, M. E., Drezner, J. A., Dryden, J., ... Szafran, A. (2017). *Issues with access to acquisition data and information in the Department of Defense: Doing data right in weapon system acquisition* (RR-1534-OSD). Santa Monica, CA: RAND Corporation. Retrieved from https://www.rand.org/pubs/research_reports/RR1534.html
- McKernan, M., Riposo, J., Drezner, J. A., McGovern, G., Shontz, D., & Grammich, C. (2016). *Issues with access to acquisition data and information in the Department of Defense: A closer look at the origins and implementation of controlled unclassified information labels and security policy* (RR-1476-OSD). Santa Monica, CA: RAND Corporation. Retrieved from https://www.rand.org/pubs/research_reports/RR1476.html
- McKernan, M., Riposo, J., McGovern, G., Shontz, D., & Ahtchi, B. (2018). *Issues with access to acquisition data and information in the Department of Defense: Considerations for implementing the Controlled Unclassified Information Reform Program* (RR-2221-OSD). Santa Monica, CA: RAND Corporation. Retrieved from https://www.rand.org/pubs/research_reports/RR2221.html
- National Defense Authorization Act for Fiscal Year 2016, Public L. No. 114-92 (2015).
- National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328 (2016).
- Riposo, J., McKernan, M., Drezner, J. A., McGovern, G., Tremblay, D., Kumar, J., & Sollinger, J. (2015). *Issues with access to acquisition data and information in the Department of Defense: Policy and practice* (RR-880-OSD). Santa Monica, CA: RAND Corporation. Retrieved from https://www.rand.org/pubs/research_reports/RR880.html





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