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

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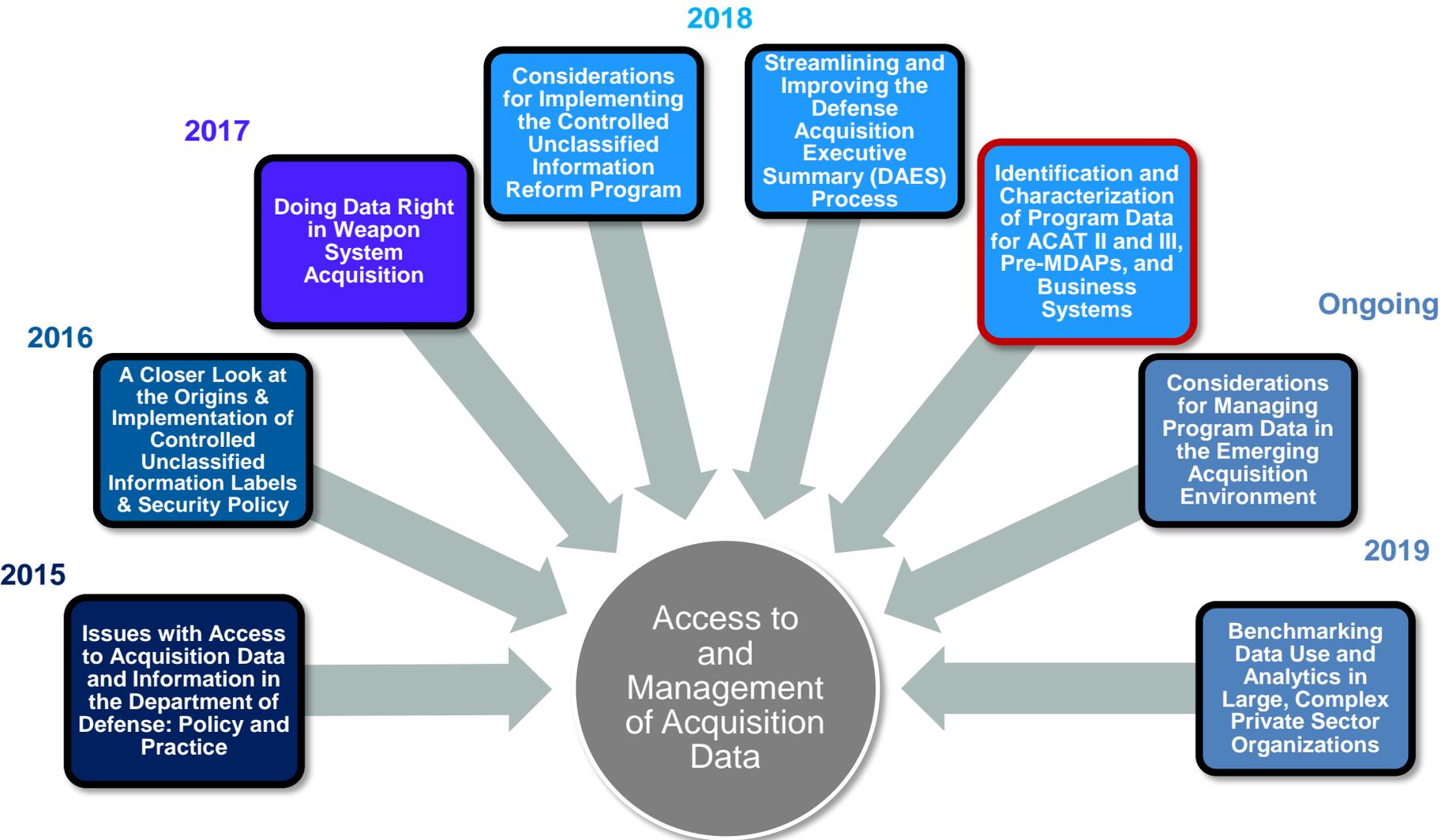


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RAND has Analyzed Issues with Acquisition Data Management in DoD in Multiple Studies



Study results can be found in the Defense Acquisition Visibility Environment or at [RAND.org](https://www.rand.org) (for publicly available)

Acquisition Data Lay the Foundation for Decisionmaking, Management, Insight, and Oversight of DoD's Acquisition Program Portfolio

- Large amount of information is collected on higher-cost ACAT I MDAPs
 - Based on statutory and regulatory reporting requirements
 - Used for program execution, oversight, insight, and analysis
 - Data may include cost, schedule, performance, risk, testing, systems engineering, budget, requirements, etc.
- Selected Acquisition Report (SAR) and Defense Acquisition Executive Summary (DAES) embody ACAT I reporting, captured in the Defense Acquisition Management Information Retrieval (DAMIR) since 1997

**DoD acquisition leadership cannot accomplish their missions
without these data**

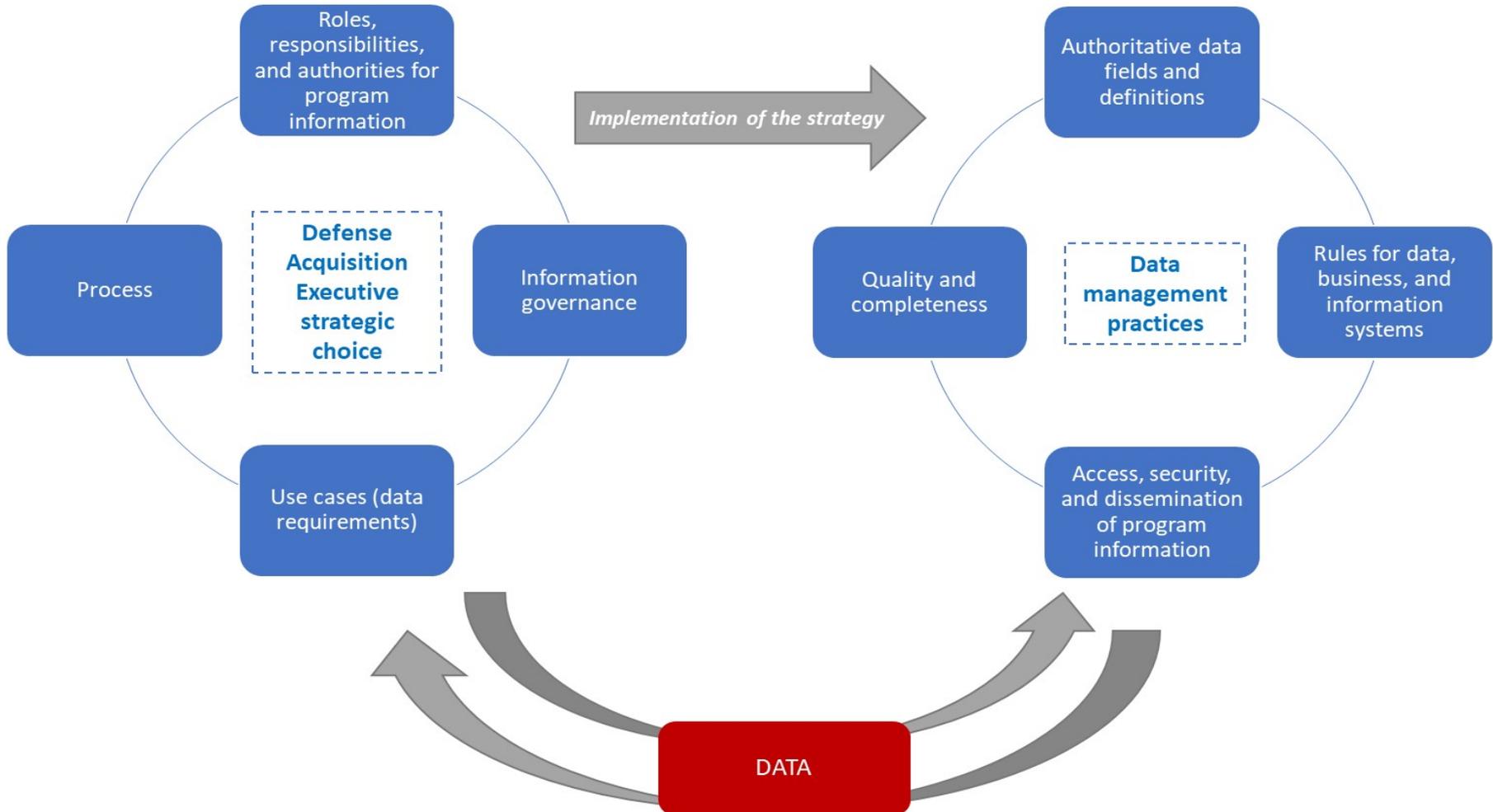
DoD Currently Lacks Capability to Understand ACAT II-IV Performance at an Aggregate Level

- **Smaller investments categorized as ACAT II-IV programs account for a large portion of annual budgets**
 - For example, in FY 14, DoD requested \$168 billion to acquire weapon systems and other equipment
 - About 40 percent was for ACAT I programs
 - Remaining 60 percent of the budget request included, among other investments, funding for DoD's ACAT II and III programs (GAO, 2015)
- **In 2015, GAO concluded that DoD cannot provide reliable data on the number, cost, or performance of ACAT II and III programs**
- **Consequently, OSD tasked its staff to better define problem and identify solutions**

Study Objectives and Approach

- **OSD asked the RAND Corporation's National Defense Research Institute to**
 - Document the DoD status quo for identifying, collecting, and storing ACAT II–IV acquisition programs
 - Perform an initial gap analysis
 - Recommend actions that could move DoD toward a common framework for acquisition program data
- **Our approach included:**
 - Analyzing current policy in OSD and the Services
 - Holding discussions with subject-matter experts throughout DoD
 - Collecting information on ACAT I as a benchmark for comparison

A Framework was Developed to Guide the Assessment of the Current Acquisition Program Data Environment



Information Governance

- Policy environment for ACAT I program information is well established
- OSD and the Services have similar acquisition policy frameworks, including information governance for program data
- 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
- RRA are fairly consistent across the Services for ACAT programs of all levels
 - Centralized authority for policy and oversight (the Defense Acquisition Executive [DAE] or Service Acquisition Executive [SAE])
 - Decentralized responsibility for execution (Program Executive Officers [PEOs] and PMs)
- Programs are responsible for collecting and reporting most program-level data

Use cases

- **Use cases are the demand signal for acquisition program data and identify the data required, both explicitly and implicitly**
- **Use cases for acquisition program data appear to be largely similar across OSD and the Services and across ACAT levels**
 - Program management and execution
 - Insight and oversight
 - Statutory and regulatory reporting
 - Portfolio analysis

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

- **OSD, USAF, and the Navy have authoritative data fields defined in their information systems for ACAT I programs**
 - Air Force and Navy carry those definitions down to the smaller ACAT II–IV programs
- **OSD, USAF, and the Navy also have data dictionaries available to system users**
- **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**
 - Army also tracks basic information on ACAT II–III program data in the Army Acquisition Program Master List (AAPML), which resides in DAVE within OSD
- **Differences in specific data elements and the definitions of those data elements across OSD, Army, Navy, and 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**
- **Underlying data—the cost, schedule, performance, and risk information captured and reported at the program level—tend to be similar or the same**
 - Consistency is partly because some data elements are defined in statute (e.g., unit cost)

Data, Business, and Information System Rules

- 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 OSD, 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 similar 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**
 - Data quality may be addressed as documentation is approved at different levels in 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

Moving Toward a DoD Common Acquisition Program Data Framework

- **Aligning OSD and Service data policy and management environments creates efficiencies and potential savings with respect to program data collection, storage, processing, sharing, and use**
 - Improved communication, data-sharing, leveraging of existing data systems, improved transparency, and improved data quality
 - Standardization and consistency improves analysis and decisionmaking by facilitating a shared understanding of how to interpret results
- **Common acquisition program data definitions enables more seamless Service interaction within and outside of DoD**
- **Services can tailor their data systems, metrics, analyses, and visualizations to satisfy the preferences of senior leaders and Service-specific use cases**

Achieving a common data framework across program types and organizations is a complex task that requires at least

- **Establishment and alignment of information governance organizations and processes to manage data-related activities**
- **Partial alignment of policy and data environments**
- **Agreement on a core set of data (e.g., data elements and data fields)**
- **Use cases of data/technical parameters of information systems to be understood and documented, but not perfectly aligned**

OSD and the Services have created procedures that in effect align the collection and transmission of data with OSD and congressional information requirements

- **Use formal communication mechanisms as instruments to help standardize and work through information management challenges**
 - e.g., the Acquisition Visibility Working Group (AVWG) and the Acquisition Visibility Steering Group (AVSG)
- **Created an Acquisition Program List (APL) that consolidates Service-level lists of ACAT programs in one location in OSD's Defense Acquisition Visibility Environment (DAVE)**
- **Established a common framework for ACAT I programs, partially reflected in current law, regulations, policy, and guidance**
 - Navy and USAF use mixed methods in which some data are digitally pushed to DAMIR and other data are input manually
 - Army manually inputs program data directly into DAMIR
- **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 OSD**
- **In all cases, the Services are actively improving their data governance and management practices for both internal use and coordination with OSD**

We identified five actions to facilitate continued progress toward a common environment for acquisition program data and improve acquisition data management

- **Continue the AVSG/AVWG to facilitate information governance**
- **Promulgate an acquisition data strategy for DoD**
- **Focus initial efforts on identifying a core set of acquisition program data**
- **Leverage existing program data infrastructure**
- **Establish a common definition of a program and program start**



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