June 2024

DOD FINANCIAL MANAGEMENT

Additional Steps Needed to Guide Future Systems Transitions

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Why GAO Did This Study

The Marine Corps migrated to a new financial management system as part of a broader DOD effort to improve its financial management and achieve an unmodified (clean) audit opinion. Specifically, the Marine Corps has transitioned from its legacy accounting system to the Defense Agencies Initiative. As of February 2024, the Marine Corps and four smaller DOD components that use the system have achieved clean audit opinions.

This report was developed in connection with GAO's audit of the U.S. government's consolidated financial statements. It examines the extent to which (1) DOD used leading practices in estimating cost and schedule and in measuring migration progress and (2) the Marine Corps followed data migration and conversion and change management leading practices for its transition.

GAO reviewed key program management documentation on cost, schedule, and performance; data migration and conversion; and change management. GAO compared DOD's and the Marine Corps' efforts to relevant leading practices. GAO also interviewed DOD program officials.

What GAO Recommends

GAO is making 14 recommendations on cost, schedule, performance measures, data migration, and change management. DOD concurred with 13 of the 14; it concurred with comment on the remaining one. DOD added that, given its progress to date, selected recommendations could be consolidated, deleted, or closed. GAO maintains that each of the 14 recommendations is warranted.

View GAO-24-106313. For more information, contact Asif A. Khan at (202) 512-9869 or khana@gao.gov or Vijay A. D'Souza at (202) 512-7650 or dsouzav@gao.gov.

What GAO Found

The Department of Defense (DOD) used selected leading practices in estimating cost and schedule and in measuring progress of the Marine Corps' migration to an accounting system known as the Defense Agencies Initiative but did not implement all practices. For example, although DOD documented program costs, it did not include all Marine Corps' transition costs in its $1.448 billion life cycle estimate. DOD also did not include all effort (e.g., work required) in its schedule estimate for the Marine Corps' transition to the Defense Agencies Initiative. Further, the Marine Corps did not fully develop performance metrics. Marine Corps officials stated that they followed standard procedures for DOD components transitioning to the Defense Agencies Initiative. However, those procedures do not call for components to include all costs in estimates, include all effort in schedule estimates, or establish comprehensive metrics. As a result, the Marine Corps underestimated the complexity and time required for its transition. The Marine Corps initially planned to move from a stabilization phase to normal operations by December 2021. However, it did not complete the stabilization phase and enter normal operations until February 2024.

Regarding data migration and conversion, the Marine Corps followed five leading practices and partially followed five others. For example, the Marine Corps developed a comprehensive conversion plan that included time frames, program scope, data for conversion, and system inputs and outputs, but did not develop plans for post-go-live data cleansing and quality activities (see table). For change management, the Marine Corps followed four practices and partially followed three others. For example, it communicated with stakeholders to manage commitment, but it did not directly assess stakeholder resistance to change.

GAO Assessment of the Marine Corps' Defense Agencies Initiative Data Migration and Conversion Efforts against Leading Practices for Relevant Phases

Phases and number of practices	GAO assessment
Pre-conversion phase (four practices)	●●◐◐
Cutover phase (four practices)	●◐◐◐
Post-installation/operations phase (two practices)	●●

Legend: ● = Consistent: Marine Corps provided evidence that it satisfied all relevant criteria.
◐ = Partially consistent: Marine Corps provided evidence that it satisfied some, but not all, of the relevant criteria.
Source: GAO analysis of Marine Corps and Defense Finance and Accounting Service migration documentation. | GAO-24-106313

The Marine Corps followed the Defense Agencies Initiative established procedures for its data migration and conversion and change management efforts, but these procedures did not fully incorporate leading practices. Until DOD ensures that the Defense Agencies Initiative standard operating procedures fully incorporate leading practices, DOD components transitioning to the Defense Agencies Initiative risk experiencing understated costs, schedule delays, and limitations in understanding their progress toward achieving their goals. Additionally, DOD components transitioning to the Defense Agencies Initiative risk experiencing systems and processing disruptions and may miss opportunities to identify and address change management issues.

_____ **United States Government Accountability Office**

Contents

Abbreviations

Advana	Advanced Data Analytics
DAI	Defense Agencies Initiative
DCPS	Defense Civilian Payroll System
DFAS	Defense Finance and Accounting Service
DLA	Defense Logistics Agency
DMLSS	Defense Medical Logistics Standard Support
DOD	Department of Defense
DTS	Defense Travel System
EDQ	Enterprise Data Quality
FFMIA	Federal Financial Management Improvement Act of 1996
G-Invoicing	Government Invoicing
GSA	General Services Administration
IG	Inspector General
IPA	independent public accountant
JFMIP	Joint Financial Management Improvement Program
M3 Playbook	*Modernization and Migration Management Playbook*
MCTFS	Marine Corps Total Force System
MILSTRIP	Military Standard Requisitioning and Issue Procedures
OPM	Office of Personnel Management
PBIS-DON	Program Budget Information System-Department of the Navy
PMI	Project Management Institute
USD(C)/CFO	Undersecretary of Defense (Comptroller)/Chief Financial Officer
SABRS	Standard Accounting Budgeting and Reporting System

U.S. GOVERNMENT ACCOUNTABILITY OFFICE

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June 3, 2024

Congressional Committees

The Department of Defense (DOD) spends billions of dollars each year to acquire and modernize its financial and business systems. DOD is in the process of modernizing financial systems in the U.S. Marine Corps through implementing the Defense Agencies Initiative (DAI) platform. DAI is an enterprise resource planning platform that was originally created to solve defense agency financial management problems through standard end-to-end business processes delivered by commercial off-the-shelf software.[1]

The Marine Corps, in coordination with the DAI program office (DAI program) within the Defense Logistics Agency (DLA),[2] the Under Secretary of Defense (Comptroller)/Chief Financial Officer (USD(C)/CFO), and Defense Finance and Accounting Service (DFAS), stopped using its legacy general ledger system in October 2021 and began using DAI. The legacy system was the Standard Accounting Budgeting and Reporting System (SABRS).[3] Since that time, the Marine Corps has completely relied on DAI as its general ledger system.

The Marine Corps stated that its primary objective of the transition to DAI was to improve its financial management, which will ultimately help it to achieve an unmodified (clean) audit opinion.[4] The Marine Corps had not been able to achieve a clean opinion while using SABRS. In February 2024, the DOD Inspector General (IG) reported that the fiscal year 2023 audit of the Marine Corps General Fund financial statements resulted in a

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[1]An enterprise resource planning system is an automated system using commercially available, off-the-shelf (i.e., without significant modifications) software consisting of multiple, integrated functional modules that perform a variety of business-related tasks, such as general ledger accounting, payroll, and supply chain management.

[2]The DAI program is an office within DLA, the DOD agency that maintains the system. The DAI program had previously onboarded several other DOD agencies to the system since 2008.

[3]A legacy general ledger system is an agency's core financial management system that has become outdated or obsolete. The general ledger is the highest level of financial summarization for an agency and maintains account balances.

[4]An unmodified opinion, sometimes referred to as a clean opinion, is expressed when the auditor concludes that management has presented the financial statements fairly and in accordance with generally accepted accounting principles.

clean audit opinion.[5] According to the DOD IG, the audit opinion was the result of a 2-year audit cycle that began in fiscal year 2022. The auditors used a substantive-based testing approach throughout fiscal year 2022 and fiscal year 2023.[6] While the audit resulted in a clean opinion, it identified seven material weaknesses related to internal controls over financial reporting within the Marine Corps. This included three material weaknesses associated with IT.[7]

We performed this audit in connection with our audit of the U.S. government's consolidated financial statements, which cover the financial status and activities related to the operation of the federal government.[8] DOD and its military services' financial activities are significant to the government-wide financial statements. This report examines the extent to which (1) DOD used leading practices in estimating cost and schedule and in measuring migration progress and (2) the Marine Corps followed data migration and conversion and change management leading practices for its transition.

To examine the extent to which DOD used leading practices in estimating the cost and schedule and in measuring progress for its migration to DAI, we collected and reviewed documentation describing the Marine Corps' transition from its legacy accounting general ledger system to DAI. Such

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[5]Department of Defense Office of Inspector General, *Transmittal of the Independent Auditor's Report on the U.S. Marine Corps General Fund Financial Statements and Related Notes for FY2023,* DODIG-2024-060 (Alexandria, Va: Feb. 22, 2024).

[6]A substantive-based approach means that the auditors had to increase the amount of testing necessary because they were unable to rely solely on the Marine Corps' internal control over financial transactions. This included the auditors having to examining a larger sample of transactions, account balances, and other adjustments made while preparing financial statements, as well as physically counting military equipment, ammunition, and other property—all designed to result in adequate audit evidence.

[7]According to the DOD IG, a material weakness represents weaknesses in internal control that result in a reasonable possibility that management will not prevent, or detect and correct, a material misstatement in the financial statement in a timely manner. The material weaknesses associated with financial information systems were (1) access controls/segregation of duties, (2) configuration management, and (3) IT operations.

[8]The Government Management Reform Act of 1994, Pub. L. No. 103-356, 108 Stat. 3410 (Oct. 13, 1994), added a requirement for government-wide financial statements, beginning with fiscal year 1997, to be prepared by the Secretary of the Treasury, in coordination with the Director of the Office of Management and Budget and audited by GAO. See 31 U.S.C. § 331(e).

documentation included the October 2020 *Marine Corps DAI Implementation Initiative Transition Plan*.[9]

We subsequently assessed whether DOD's cost and schedule estimates for the Marine Corps' transition met cost and schedule estimation leading practices.[10] We also reviewed DOD's and the Marine Corps' documentation for the performance metrics they used to track the transition to DAI and assessed whether the Marine Corps established comprehensive strategic goals and performance metrics that met leading practices.[11]

To examine the extent to which the Marine Corps followed data migration and conversion leading practices for its transition to DAI, we reviewed the Marine Corps' data migration and conversion plans and associated documentation. We also conducted walk-throughs of the DAI data migration and conversion process and how the results were documented and reported. We subsequently assessed the extent to which DOD and the Marine Corps followed data migration and conversion leading practices.[12]

In addition, to examine the extent to which the Marine Corps followed change management leading practices for its transition, we examined the *Marine Corps' DAI Transition Organizational Change Management Plan*,[13] business process reengineering documentation, and other associated documentation, and evaluated the documentation against

[9]U.S. Marine Corps, *United States Marine Corps DAI Implementation Initiative Transition Plan* (updated October 2020).

[10]GAO, *Cost Estimating and Assessment Guide*: *Best Practices for Developing and Managing Program Costs*, GAO-20-195G (Washington, D.C.: Mar. 2020), and GAO *Schedule Assessment Guide: Best Practices for Project Schedules*, GAO-16-89G (Washington, D.C.: Dec. 2015).

[11]General Services Administration, *Modernization and Migration Management (M3) Playbook*, accessed January 31, 2023, https://www.ussm.gov/m3, and Project Management Institute, Inc., *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*—Seventh Edition (2021). PMBOK is a trademark of Project Management Institute, Inc. The Project Management Institute is a not-for-profit association that, among other things, provides standards for managing various aspects of projects, programs, and portfolios.

[12]Joint Financial Management Improvement Program, *White Paper: Financial Systems Data Conversion – Considerations, and General Services Administration, Modernization and Migration Management (M3) Playbook*.

[13]U.S. Marine Corps, *USMC Defense Agencies Initiative (DAI) Transition Organizational Change Management Plan* (updated June 2, 2021).

leading change management practices.[14] For both objectives, we interviewed key Marine Corps, DAI program, DFAS, and USD(C)/CFO officials. Appendix I provides additional details on our objectives, scope, and methodology.

We conducted this performance audit from October 2022 to June 2024 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Financial statements provide information about an organization's financial position—such as assets (what it owns) and liabilities (what it owes)—as of a certain point in time. They also provide information on the results of the organization's operations—such as revenue (what came in) and expenses (what went out)—over a period of time, such as a fiscal year. DOD, which includes the military services, prepares an annual financial report to describe and communicate its financial position and the results of DOD operations. In addition, the military services—the Air Force, Army, Navy, and Marine Corps—and several other DOD subsidiary components also prepare separate, or stand-alone, financial statements.

For purposes of financial reporting, DOD collects financial information from its subsidiary components to produce summarized, or consolidated, financial statements. The department collects this information from subsidiary components' accounting systems. If this information is not accurate, the reliability of DOD's financial reporting and the department's ability to manage operations can be adversely affected.

Since 1997, the inspectors general of 24 executive agencies, including DOD, have been responsible for annual audits of agency-wide financial

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[14]Project Management Institute, Inc., *Managing Change in Organizations: A Practice Guide* (Newtown Square, Pa.: 2013); Office of Personnel Management, *Migration Planning Guidance Information Documents, Change Management Best Practices* (Oct. 7, 2011); GAO, *Business Process Reengineering Assessment Guide*, version 3, GAO/AIMD-10.1.15 (Washington, D.C.: May 1997); ISACA, *COBIT 2019 Framework* (2019); and Prosci, *The Prosci ADKAR® Model, A Goal Oriented Change Management Model to Guide Individual and Organizational Change*, accessed February 27, 2023, https://www.prosci.com/methodology/adkar. ADKAR® is a registered trademark of Prosci, Inc.

statements.[15] Since that time, auditors have not been able to express an opinion on the financial statements for DOD and its subsidiary military services. Pervasive weaknesses have adversely affected DOD's ability to prepare auditable financial statements. This is one of three major impediments preventing GAO from expressing an audit opinion on the U.S. government's consolidated financial statements.[16]

Since 1995, GAO has designated DOD financial management as a high-risk area because of these pervasive weaknesses in its financial management systems,[17] business processes, internal controls, corrective action plans, and financial monitoring and reporting.[18] DOD business systems, which include financial systems as well as systems that support other business functions (e.g., logistics and health care), have also been on GAO's High Risk List since 1995. This high-risk area addresses, among other things, the department's critical challenges in improving its business system acquisitions and investment management.

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[15]31 U.S.C. § 3521(e). The Government Management Reform Act of 1994 authorized the Office of Management and Budget to designate agency components (e.g., the Air Force, Navy, and Marine Corps) that also must report financial statements and have them audited. See 31 U.S.C. § 3515(c). Also, see Office of Management and Budget, *Audit Requirements for Financial Statements*, OMB Bulletin No. 24-01, app. B (Oct. 19, 2023).

[16]Since fiscal year 1997, when the federal government began preparing consolidated financial statements, the other two impediments preventing us from rendering an audit opinion on the federal government's consolidated financial statements have been (1) the federal government's inability to adequately account for intragovernmental activity and balances between federal agencies and (2) the weaknesses in the federal government's process for preparing the consolidated financial statements. See GAO, *Financial Audit: FY 2022 and FY 2021 Consolidated Financial Statements of the U.S. Government*, GAO-23-105837 (Washington, D.C.: Feb. 16, 2023).

[17]As defined in the Federal Financial Management Improvement Act of 1996, financial management systems are the financial systems and the financial portions of mixed systems necessary to support financial management. These systems include automated and manual processes, procedures, controls, data, hardware, software, and support personnel dedicated to operating and maintaining system functions. A financial system is an information system, comprising one or more applications used for collecting, processing, maintaining, transmitting, or reporting data about financial events; supporting financial planning or budgeting activities; accumulating and reporting costs information; or supporting the preparation of financial statements. A mixed system is an information system that supports both financial and nonfinancial functions. The DOD Financial Management Regulation refers to some mixed systems as feeder systems. The regulation defines feeder systems as the manual or automated programs, procedures, and processes that develop data required to initiate an accounting or financial transaction but do not perform an accounting operation, such as personnel, property, or logistics systems.

[18]GAO, *High-Risk Series: Efforts Made to Achieve Progress Need to Be Maintained and Expanded to Fully Address All Areas*, GAO-23-106203 (Washington, D.C.: Apr. 20, 2023).

We have also reported that DOD's financial systems are a significant contributor to its inability to improve how it accounts for and reports its spending and assets. For example, in September 2020, we reported[19] that DOD's independent public accountants (IPA) issued 2,100 new and reissued notices of findings and recommendations to the military departments for fiscal year 2019.[20] Of the 2,100, 1,008 were related to IT and cybersecurity issues.

More recently, we reported that in fiscal year 2022,[21] DOD's various IPAs issued or reissued 2,992 notices of findings and recommendations and the DOD IG identified 28 DOD-wide material weaknesses. Of the 28 DOD-wide material weaknesses identified in DOD's fiscal year 2023 agency financial report, six were related to financial management systems and IT.

The DOD IG has also discussed the role of financial systems in the department's annual audit. For example, in May 2023, the IG noted that for fiscal year 2022, DOD reported using 334 separate IT systems to support its financial statements.[22] The IG added that long-standing IT challenges remain, preventing DOD from efficient and effective financial management and preventing progress toward receiving a clean audit opinion.

In addition, in January 2024, the IG reported, that the department's list of systems relevant to its internal controls over financial reporting was not complete or accurate.[23] The IG added that DOD's plans to modernize or replace relevant systems that do not comply with the Federal Financial Management Improvement Act of 1996 (FFMIA) were not complete and

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[19]GAO, *Financial Management: DOD Needs to Implement Comprehensive Plans to Improve Its Systems Environment*, GAO-20-252 (Washington, D.C.: Sept. 30, 2020).

[20]A notice of finding and recommendation includes one or more findings and discusses deficiencies that IPAs identified during the audit along with a corresponding recommendation(s) for addressing the deficiencies. The IPAs issue both financial and IT notices of findings and recommendations.

[21]GAO, *DOD Financial Management: Additional Actions Needed to Achieve a Clean Audit Opinion on DOD's Financial Statements*, GAO-23-105784 (Washington, D.C.: May 15, 2023).

[22]Department of Defense, Office of Inspector General, *Understanding the Results of the Audit of the FY 2022 DOD Financial Statements* (Alexandria, Va.: May 16, 2023).

[23]Department of Defense, Office of Inspector General, *Audit of the DoD's Plans to Address Longstanding Issues with Outdated Financial Management Systems* (Alexandria, Va.: Jan. 19, 2024).

were not aggressive enough to ensure that the systems will comply by DOD's fiscal year 2028 goal.[24]

DOD and the Marine Corps' Financial Statements

As of February 2024. the military services (except for the Marine Corps) and 13 DOD consolidated components received disclaimers of opinion on their fiscal year 2023 financial statements.[25] In addition, seven consolidated agencies received clean audit opinions, including the Defense Contract Audit Agency and the Defense Commissary Agency.

The Marine Corps received a disclaimer of opinion on its agency financial report for fiscal year 2021. In fiscal year 2021, the Marine Corps adopted a 2-year audit cycle, beginning with the fiscal years 2022–2023 cycle and did not have its financial statements audited in fiscal year 2022. The Marine Corps continued to report material noncompliance issues related to financial systems in its fiscal year 2021 agency financial report. As a result, it was unable to provide assurance on its internal controls over financial reporting and internal controls over financial systems.

In addition, the Marine Corps stated in its fiscal year 2021 agency financial report that SABRS, its core financial management system, was not configured to capture complete and accurate data to generate reliable financial statements. Accordingly, the Marine Corps continued to report material weaknesses for its financial systems in fiscal year 2021.

However, in fiscal year 2020, the Marine Corps, in concert with other leadership at DOD, began planning to transition from its legacy financial management system to the DAI platform. According to the Marine Corps' fiscal year 2021 annual financial report, this decision was a critical step in addressing the recurring material weaknesses the Marine Corps had reported for many prior years. As of January 2024, four DOD components—DFAS, the Defense Contract Audit Agency, the Defense Commissary Agency, and the Defense Health Agency (Contract Resource Management)—had used DAI and received clean audit opinions for multiple fiscal years.

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[24]FFMIA requires the 24 agencies listed in 31 U.S.C. § 901(b) (commonly referred to as Chief Financial Officers Act, or CFO Act, agencies) to implement and maintain financial management systems that comply substantially with (1) federal financial management system requirements, (2) applicable federal accounting standards, and (3) the U.S. Standard General Ledger at the transaction level. Pub. L. No. 104-208, div. A, §101(f), title VIII, 110 Stat. 3009, 3009-389, reprinted as amended in 31 U.S.C. § 3512 note.

[25]DOD consolidated agencies include those defense agencies organized under the Office of the Secretary of Defense, separate from the Departments of the Navy, Army, and Air Force. Such consolidated agencies that received disclaimers of opinion include the National Security Agency; Defense Intelligence Agency; and Defense Logistics Agency's General Fund, Working Capital Fund, and Stockpile Transaction Fund.

	According to the DOD IG, in February 2024, the Marine Corps completed its 2022–2023 audit cycle and received a clean audit opinion for fiscal year 2023. As noted, the auditors used a substantive-based testing approach over two years and identified seven material weaknesses, including three associated with IT.
The Marine Corps' Transition to DAI	The Marine Corps developed and began using SABRS as its general ledger accounting system in 1991. Since its first full financial statement audit in fiscal year 2017, the Marine Corps has stated that SABRS has limitations, such as noncompliance with FFMIA and an inability to prevent or detect the processing of duplicate transactions. Further, the Marine Corps has reported that SABRS contains several inherent deficiencies that affect its ability to provide complete and accurate data to properly support financial balances, activity, and related reconciliations.

In fiscal year 2022, the Marine Corps officially transitioned from using SABRS to DAI as its general ledger accounting system. DAI is an Oracle E-Business Suite that DLA maintains. Additionally, DAI is intended to serve as an enterprise resource planning system, providing the Marine Corps with accounting, procurement, data management, and other services that several legacy systems previously provided.[26] Another key component of the DAI transition relates to the DOD-wide objective of achieving auditability. Specifically, DAI is intended to help address audit findings and meet financial and regulatory standards. As mentioned above, four DOD agencies that have obtained clean audit opinions also use DAI.

According to the Marine Corps, moving away from legacy systems and processes to DAI enables it to strengthen monitoring of internal controls to reduce unmatched transactions and access transaction-level detail. It also alleviates the need for numerous data calls to field commands and allows the Marine Corps to use Government Invoicing (G-Invoicing) for intragovernmental transactions.[27] Further, it allows full integration of its

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[26]According to the Marine Corps, some of the other legacy systems that DAI will replace in addition to SABRS include systems such as One Pay and Computerized Accounts Payable System – Windows for vendor payments and SABRS Management Analysis Retrieval Tools System for reports generation.

[27]The Department of the Treasury's G-Invoicing system has been identified as DOD's long-term solution to account for and support its intradepartmental activities and address its material weakness related to intradepartmental eliminations.

financial accounting system with other key systems, such as the Global Combat Support System Marine Corps.[28]

Figure 1 provides an illustration of example systems and data types that interact with DAI.

Figure 1: Examples of Systems and Types of Data That Interact with DAI

Source: GAO analysis of Department of Defense data, GAO (images). | GAO-24-106313

Phased DAI Implementation Approach

Marine Corps officials stated that it used a phased approach for its transition from SABRS to DAI, beginning with an initiation phase in fiscal year 2020. The approach consisted of six phases and was based on the DAI program's standardized 18-month approach. According to DAI officials, other DOD components have used this approach for implementing DAI. The Marine Corps began planning for the phased DAI transition in June 2020 and completed it in February 2024.

According to the Marine Corps, the phases involved in this approach and their respective completion dates are as follows:

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[28]Global Combat Support System Marine Corps is the Marine Corps' accountable property system of record. Like DAI, it is an Oracle-based system.

- **Phase 0 - Initiation: September 2020 to September 2021.** Included executive alignment and commitment to the DAI transition among the responsible DOD components.

- **Phase 1 - Planning: September 2020 to September 2021.** Included workforce preparation, data conversion planning, and infrastructure preparation.

- **Phase 2 - Preparation: September 2020 to September 2021.** Included data preparation and testing of DAI with the new data through mock conversions.

- **Phase 3 - Cutover: September 2021 to November 2021.** Included data conversion from SABRS to DAI and concluded with loading the data into DAI for the Marine Corps' use (also referred to as go-live).

- **Phase 4 - Stabilization: December 2021 to February 2024.** Included error resolution after cutover and the beginning of the Marine Corps' DAI use.

- **Phase 5 - Operation: achieved in February 2024.** DAI is to be fully stable and operational as the Marine Corps' general ledger system.

Implementation Roles and Responsibilities

USD(C)/CFO provided coordination and strategic oversight for the Marine Corps, DAI program, and DFAS for this transition.[29] However, the Marine Corps managed the internal aspects of its transition to DAI, establishing and defining roles and responsibilities throughout the organization. This included establishing an executive sponsor, who was to assist in resolving department-wide migration issues. It also included establishing the Marine Corps DAI core leadership team, which was to manage the day-to-day transition activities and related risks and issues. Additionally, USD(C)/CFO established roles and responsibilities for other DOD components to assist in the Marine Corps' transition, including the DAI program and DFAS.

- The DAI program was tasked with working with the Marine Corps and DFAS to map the legacy data from SABRS during the planning phase. It was also responsible for staging the DFAS-provided data for loading into DAI during the preparation phase and loading the data into DAI during the cutover phase. The DAI program also assisted the Marine Corps during the stabilization phase. For example, the DAI program developed and delivered DAI system changes to the Marine Corps to address issues occurring after cutover.
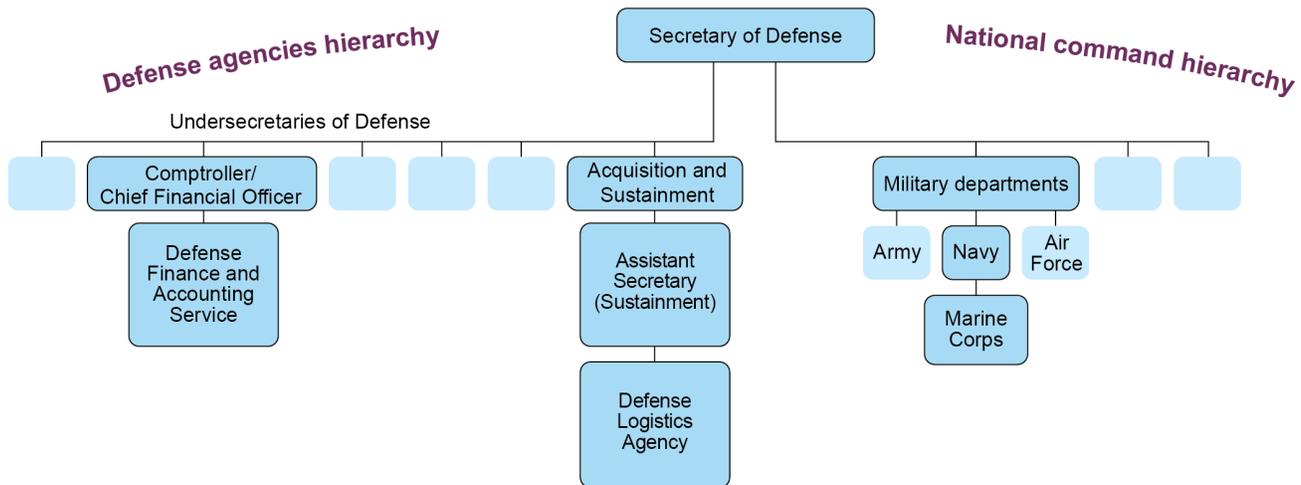
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[29]From a DOD enterprise perspective, USD(C)/CFO provides coordination and strategic oversight of the financial management systems and modernization and the financial statement audit.

- The DFAS Data Conversion Team worked jointly with the Marine Corps to identify all source systems for DAI and develop a data conversion strategy. It also worked with the Marine Corps to provide the DAI program with converted data from SABRS and to reconcile the data.

- The USD(C)/CFO's Enterprise Financial Transformation Division participated in daily transition meetings during all phases of the DAI transition. It provided direct oversight and assistance in addressing challenges with the data migration and conversion from SABRS to DAI.

USD(C)/CFO also used the Advanced Data Analytics system (Advana) to monitor performance metrics for the DAI data migration and conversion. As part of these monitoring efforts, Advana also identified the sources and causes of challenging areas for the transition, such as unmatched transactions. Figure 2 shows the various DOD components that participated in the Marine Corps' DAI transition.

Figure 2: DOD Components Participating in the Marine Corps' Transition to the Defense Agencies Initiative

Source: GAO analysis of Department of Defense information. | GAO-24-106313

Leading Practices for Tracking Transition Progress

Reliable cost and schedule estimates provide a road map for program execution, and successful program management enables agencies to execute programs. System transitions within the parameters of those estimates are an important part of program execution. GAO has previously issued cost and schedule guides that capture leading practices

for developing and managing project schedules and program costs.[30] According to these leading practices, comprehensive cost estimates provide all life-cycle costs for a program, including those for developing, implementing, and enhancing a program.

Additionally, a baseline schedule is the basis for managing the program's scope, timing, and required resources. GAO's leading practices for developing project schedules state that such a baseline schedule should reflect all effort necessary to successfully complete the program, regardless of who performs the activities. A baseline schedule enables organizations to measure, monitor, and report on program performance by measuring the actual schedule against the baseline. Continual monitoring for deviations from the baseline could inform management that the execution of the program is not following the planned schedule agreed to by stakeholders.

In addition, organizations and agencies, such as the Project Management Institute (PMI) and the General Services Administration (GSA), have issued guidance for measuring program performance.[31] According to these leading practices, performance metrics should be based on the strategic objectives of the organization and encompass a cross section of program success factors, including compliance, process, and workload factors. In addition to monitoring program execution against baseline schedules and metrics, program management should also communicate with leadership and report on the program's progress.

Leading Practices for Data Migration and Conversion and Change Management

In the area of data migration and conversion, agencies such as GSA and GAO have published leading practices, as has the Joint Financial Management Improvement Program (JFMIP).[32] Both the GSA and JFMIP have published guidance in this area that was designed to be compatible with a phased approach, similar to the Marine Corps' DAI transition. These 10 leading practices are segmented by the phases of data migration and conversion. The phases and leading practices follow.

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[30]GAO-20-195G and GAO-16-89G.

[31]Project Management Institute, Inc., *PMBOK® Guide*. PMBOK is a trademark of PMI. PMI is a not-for-profit association that, among other things, provides standards for managing various aspects of projects, programs, and portfolios. General Services Administration, *Modernization and Migration Management (M3) Playbook*.

[32]JFMIP is an intragovernmental collaboration among the Department of the Treasury, the Office of Personnel Management, the Office of Management and Budget, and GAO.

- Pre-conversion phase: Includes conducting general pre-conversion activities, performing data-mapping activities, performing data cleaning and validation activities, and establishing and testing data.

- Cutover phase: Includes developing a cutover plan, determining a go/no-go decision, executing cutover tasks, and reconciling converted data.

- Post-installation phase: Includes confirming that converted data are functioning as designed and performing post-conversion data-cleansing.

Similarly, several organizations and agencies have published change management leading practices. These organizations and agencies include PMI, the Office of Personnel Management (OPM), the Prosci Corporation, ISACA, and GAO. Although these publications are varied, the practices related to change management are consistent. The seven change management leading practices are

- developing a vision for change,

- identifying stakeholders,

- effectively communicating with stakeholders to manage commitment,

- identifying and addressing stakeholders' potential barriers to change,

- increasing workforce skills and competencies,

- assessing the readiness for change, and

- assessing the results of change.

DOD and the Marine Corps Partially Addressed Cost, Schedule, and Measurement Practices

DOD developed cost and schedule estimates for the Marine Corps DAI transition but did not include all costs in its cost estimate, nor did it include all effort (steps, events, work required, and outcomes) in its DAI schedule estimate. Such an approach is inconsistent with best practices for managing cost and schedule estimates. Further, although the Marine Corps developed and closely monitored certain performance metrics associated with system results, it did not fully develop performance metrics to measure and monitor the progress of its DAI transition, as called for by leading practices.

As a result of not including all costs and effort in its estimates, the Marine Corps underestimated the complexity and time required for its transition to DAI. The Marine Corps initially anticipated completing stabilization phase activities and entering normal operations by December 2021. However, the Marine Corps completed the stabilization phase and entered normal operations in February 2024.

DOD Did Not Include All Costs in the DAI Transition Estimate

GAO's *Cost Estimating and Assessment Guide* states that a cost estimate should include all life-cycle costs.[33] This includes costs for development, modernization, enhancements, implementation, and operations and support. A life-cycle cost estimate also encompasses all costs for every aspect of the program, regardless of funding source.

The Marine Corps' transition to DAI was centrally funded with appropriated funds by USD(C)/CFO. These funds were used to supplement the increased costs associated with adding the Marine Corps to DAI. According to the DAI program, the life-cycle cost baseline that included the Marine Corps' DAI implementation rose from $1.421 billion to $1.448 billion from September 2020 through April 2022.[34]

However, DOD did not include the DOD components' estimated implementation costs in the DAI life-cycle baseline. The Marine Corps' October 2020 *DAI Implementation Initiative Transition Plan* identified the entities responsible for transition costs by major cost category (e.g., system development, data conversion, hardware, project management, and vendor software licenses). The plan also identified activities (e.g., labor and materials) for the DOD components involved in the transition (e.g., the DAI program, the Marine Corps, and DFAS). However, the transition plan only included cost categories (not dollar costs) for the Marine Corps and DFAS.

USD(C)/CFO and Marine Corps officials acknowledged that they did not consider the Marine Corps' transition from a legacy system to a new system to be a unique project outside its normal financial management mission. For example, the Marine Corps did not include contractor costs for its help desk or DAI operation costs in the cost estimate. Marine Corps officials stated that it funded some contractor support for the transition to DAI at an approximate cost of $1.3 million as of December 31, 2022. Also, DFAS managed its support of the transition to DAI as normal

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[33]GAO-20-195G.

[34]According to the April 2022 DAI Acquisition Program Baseline, this increase was due to restructuring of the deployment timeline, using organizations, and hosting a solution for DAI Increment 3 for Releases 5, 6, and 7. This included the addition of the Naval Special Warfare Command to Release 5, the shift of the Defense Information Systems Agency Defense Working Capital Fund from Release 6, and the migration of DAI to commercial cloud hosting in Release 7.

customer support billed to the Marine Corps through the working capital fund.[35]

In addition, according to DLA program officials who developed the DAI cost estimate, the office did not have visibility into the Marine Corps' costs and did not coordinate with the service to obtain other transition costs. The DAI program's cost estimate to add the Marine Corps included only internal program costs (i.e., no costs that occur outside of the program).

Marine Corps officials stated that they followed DAI's standard procedures for DOD components transitioning to DAI. However, these procedures did not call for components to include all costs in their estimates for the DAI transition or for those costs to be incorporated into the overall DAI program estimate.

Without an all cost-inclusive estimate, the DAI program's costs are understated and lack important information to help guide DOD in future transitions. Further, following GAO's leading practices for cost estimation would help DOD limit the risk of cost overruns and would better position the DAI program for more effective and successful implementations during future transitions.

The Marine Corps Did Not Include All Effort in the Schedule Estimate for Its Transition to DAI

GAO's Schedule Assessment Guide states that a schedule estimate should reflect all effort (e.g., the necessary steps, events, work required, and outcomes) necessary to successfully complete the program, regardless of who performs the activities.[36] Failing to include all work for all deliverables can hamper program members' understanding of the complete plan and the program's progressing toward a successful conclusion.

The Marine Corps' plan for transitioning to DAI did not include all the effort necessary for its transition from the SABRS legacy environment. Specifically, officials did not document or consider the additional steps, events, and work required due to the Marine Corps' larger, more complex financial management operating environment. For example, during the initial planning phase, the transition plan schedule did not consider the additional steps, events, and work required because of DAI's inability to process more complex types of Marine Corps transactions, such as Military Standard Requisitioning and Issue Procedures (MILSTRIP) and

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[35]Working capital funds are established to finance inventories of supplies, industrial-type activities, and commercial-type activities that provide common services within or among DOD components. Working capital funds function primarily from the fees charged for the supplies and services they provide.

[36]GAO-16-89G.

foreign currency transactions.[37] In addition, the transition plan did not adequately consider circumstances such as the Marine Corps' feeder systems providing incomplete and erroneous data to DAI.

The Marine Corps, in coordination with DLA and USD(C)/CFO, based its schedule estimate for its transition on the experiences of earlier transitions of smaller components to DAI. These component transitions were less complex than the Marine Corps' transition. For example, these components do not have transactions associated with MILSTRIP or foreign currency. In addition, DLA's standard procedures for transitioning to DAI did not call for components, such as the Marine Corps, to include all effort in their DAI transition schedule estimates. Further, these standard procedures did not consider the complexity of the Marine Corps' financial environment.

As noted, prior to its use in the Marine Corps, DAI primarily served defense components that were single source components operating within the United States. Marine Corps officials stated that since this was the first migration of a military service to DAI, some of the Marine Corps' business processes (e.g., MILSTRIP) were not included in the earlier DOD components' DAI plans, which were used as a basis for its schedule estimate. In addition, officials were aware that MILSTRIP and foreign currency transactions would be challenges, but they accepted the risks of extended timelines associated with those challenges as part of the transition to DAI. However, these challenges were not fully accounted for in the transition plan.

Further, when DOD and Marine Corps leadership decided to accept known risks to the schedule estimate and fully transition to DAI in October 2021, they ended additional detailed schedule planning. In addition, DOD and Marine Corps officials stated that if they waited any longer to proceed the Marine Corps would have been unable to transition until October 2022, a full year later. This would potentially delay its ability to remediate internal control weaknesses that were an impediment to receiving an audit opinion.

As noted in the Marine Corps DAI Implementation Initiative Transition Plan, the primary objective of the DAI transition was to improve financial management processes, which would also lead to the Marine Corps' financial statement auditability. The officials stated that transitioning in

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[37]MILSTRIP is used by all military services, defense agencies, and participating federal agencies to obtain supply support from within DOD and participating federal agencies. Foreign currency transactions include transactions such as contracts or other obligations payable in foreign currencies.
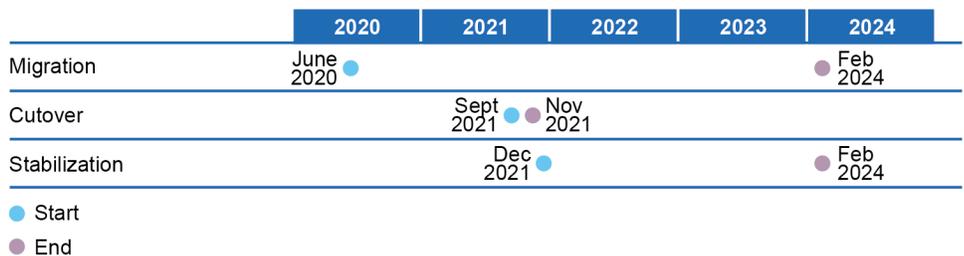
October 2021 was important for remediating weaknesses that were preventing auditability.

Because the Marine Corps did not include all effort necessary to accomplish the program's deliverables in its schedule estimate for its transition to DAI, it has encountered challenges that were not accounted for in its transition plan. For example, DAI's inability to process MILSTRIP and foreign currency transactions resulted in high volumes of rejected transactions after system cutover and the need for Marine Corps staff to perform manual rework, adding more effort and time to the stabilization phase. Marine Corps officials also acknowledged challenges they encountered associated with how feeder systems interacted with DAI.

In addition, the Marine Corps experienced challenges in efforts to exit the stabilization phase associated with effort that it did not document in its transition plan. USD(C)/CFO and the Marine Corps originally planned to transition the functionality of the SABRS legacy system within an 18-month period and initially planned to reach normal operations in DAI in December 2021. Specifically, the Marine Corps DAI Implementation Initiative Transition Plan stated that the Marine Corps General Fund general ledger transition from SABRS to DAI was expected to begin in June 2020 and conclude in December 2021. This included a 3-month stabilization phase that would begin in October 2021.[38] However, the Marine Corps did not complete the stabilization phase and enter normal operations in DAI until February 2024.

Figure 3 shows the timelines for the Marine Corps' DAI transition.

Figure 3: Timeline for the Marine Corps' Migration to the Defense Agencies Initiative (DAI)

Source: GAO analysis of Department of Defense data. | GAO-24-106313

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[38]The *Marine Corps DAI Implementation Initiative Transition Plan* stated that the stabilization duration was estimated to be 3 months. The plan also stated that the timeline may be extended as far as 12 months depending on end user needs.

In April 2023, the DAI program stated that pending the completion of a MILSTRIP-related DAI system change, the Marine Corps anticipated completing the stabilization phase of the DAI transition in late July 2023. However, as of November 2023, the Marine Corps and DAI program had not established a formal target date or agreed on final performance measures that will need to be satisfied for transitioning from stabilization to normal operations. In February 2024, the USD(C)/CFO and DLA, signed-off on the Marine Corps completing the stabilization phase and entering normal operations.

Although the Marine Corps documented that it fully transitioned to normal operations in DAI, demonstrating that it identified and fully addressed all effort associated with its transition will help ensure that it completed all key activities. In addition, the DAI standard operational procedures for programs transitioning to DAI do not call for programs to include all the necessary steps, events, work required, and outcomes in their planned schedules. Until those procedures are updated, the schedules of future entities transitioning to DAI will likely not fully include all needed effort.

Following leading practices to develop future schedule estimates—including ensuring that estimates include all new user components' efforts, activities, and complex financial transactions and identifying whether DAI has the capability to process those transactions—would help minimize the risk of schedule delays. This would also better position DOD for more effective and successful implementation for future DAI transitions.

DOD and the Marine Corps Monitored Aspects of DAI Transition, but Did Not Establish Comprehensive Performance Metrics

DOD and the Marine Corps monitored aspects of the transition to DAI, but did not fully establish comprehensive performance metrics. Organizations and agencies, such as PMI and GSA, have issued guidance for measuring program performance with metrics.[39] This includes measuring the performance of system modernizations and migrations. According to leading practices, programs should do the following:

- **Define metrics.** Programs should set baseline and target performance metrics based on the strategic objectives of the organization and establish performance metrics to address a cross section of program success factors. These factors include compliance, process, and workload at the beginning of the program to be able to measure and communicate the benefits intended, and ultimately achieved, by the program.

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[39]General Services Administration, *Modernization and Migration Management (M3) Playbook*, and Project Management Institute, Inc., *PMBOK® Guide*.

- **Monitor and control program execution.** Programs should monitor and report on program progress based on defined metrics and monitor status against milestones, issues, and risks.

- **Communicate performance.** Programs should document the results of the management success metrics and present results to key stakeholders and conduct executive briefings with organization leadership and oversight entities. Programs should also measure stakeholders' acceptance and satisfaction with project deliverables through activities such as interviews, observation, and end user feedback.

DOD and the Marine Corps' efforts to monitor the transition to DAI were consistent with one of these practices and partially consistent with the remaining two practices. Table 1 provides a summary of our evaluation of DOD and the Marine Corps' efforts to monitor the transition to DAI.

Table 1: GAO Evaluation of the DOD and Marine Corps Efforts to Monitor the Transition to the Defense Agencies Initiative (DAI)

Leading practices and descriptions	GAO assessment
Define metrics Set baseline and target performance metrics based on the strategic objectives of the organization; ensure performance metrics address a cross section of program success factors, including compliance, process, and workload.	Partially consistent: The Department of Defense (DOD) and the Marine Corps defined metrics associated with the transition to DAI. DOD and the Marine Corps tracked business-level transaction metrics, such as unmatched transactions, that provided indicators of progress toward achieving strategic goals. However, DOD and the Marine Corps' transaction metrics did not measure whether the Marine Corps was on target to meet its strategic objectives or address a cross section of program success factors.
Monitor and control program execution Monitor and report on program progress based on defined metrics; monitor status against milestones, issues, and risks; make needed decisions.	Consistent: DOD and the Marine Corps held daily, weekly, and biweekly updates with the Marine Corps and Office of the Undersecretary of Defense (Comptroller)/Chief Financial Officer leadership to report the progress of the Marine Corps' transition to DAI based on defined metrics.
Communicate performance Document the results of the program management success metrics and present results to key stakeholders; conduct executive briefings with organization leadership and oversight entities as necessary; measure stakeholders' acceptance and satisfaction with project deliverables.	Partially consistent: DOD and the Marine Corps conducted weekly executive briefings with organization leadership and oversight entities to report the results of defined business-level transaction metrics. However, DOD and the Marine Corps did not fully measure stakeholders' acceptance of and satisfaction with project deliverables.

Legend: Consistent = The Marine Corps provided complete evidence that satisfies the entire criterion. Partially consistent = The Marine Corps provided evidence that satisfies some but not all of the criterion.

Source: GAO analysis of DOD documentation. | GAO-24-106313

As shown in table 1 and discussed in detail below, DOD and the Marine Corps' efforts were consistent or partially consistent with leading practices for performance metrics.

- **Define metrics—partially consistent.** DOD and the Marine Corps defined business-level transaction metrics associated with the Marine Corps' transition to DAI. However, these metrics did not clearly link to the Marine Corps' strategic objectives. For example, the September 2020 *Marine Corps DAI Implementation Plan Agreement* stated that the DAI program was established to develop a new financial management system and standard end-to-end business processes. The agreement stated that, when deployed, the system will (1) streamline financial management capabilities, (2) improve the accuracy and efficiency of financial reporting capabilities, (3) eliminate material weaknesses, and (4) achieve financial statement auditability across the Marine Corps.

  The metrics that DOD and the Marine Corps tracked (e.g., transaction metrics associated with unmatched and undistributed transactions) provided indicators of progress toward achieving these goals.[40] For example, daily, the Marine Corps, with the assistance of USD(C)/CFO, tracked the inflow and outflow trends for unmatched transactions into DAI, which were a major issue area for the previous system, SABRS. However, DOD's business-level transaction metrics did not measure the extent to which DAI was meeting the Marine Corps' strategic objectives.

  In addition, DOD and the Marine Corps did not establish metrics that addressed a cross section of program success factors.[41] For example, the business-level transaction metrics that DOD and the Marine Corps tracked did not include metrics addressing factors such as compliance, process, and workload. In addition, the Marine Corps did not establish metrics to measure progress toward FFMIA requirements, such as compliance with applicable federal accounting standards and the U.S. Standard General Ledger at the transaction level. According to GSA-established leading practices, metrics should be established at the beginning of a program to measure and communicate the benefits intended, and ultimately achieved, by the program.

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[40]Unmatched transactions are transactions that have been received and accepted by an accounting office but have not been matched to the correct detail obligation (or receivable). Undistributed transactions represent the difference between the amount of transactions reported to DFAS centers by Treasury's finance network and the amount of transactions recorded by the operating-level activities. Department of Defense, Financial Management Regulation 7000.14R, vol. 3, ch. 11, "Unmatched Disbursements, Negative Unliquidated Obligations, and In-Transit Disbursements" (Sept. 2021).

[41]According to leading practices, such metrics should include baselines and targets.

- **Monitor and control program execution—consistent.** DOD and the Marine Corps monitored and reported the progress of the Marine Corps' transition to DAI based on defined metrics. This included frequent—daily, weekly, and biweekly—updates with the Marine Corps and USD(C)/CFO leadership. For example, the primary business-level transaction metrics that the Marine Corps tracked were unmatched transactions and undistributed transactions.[42]
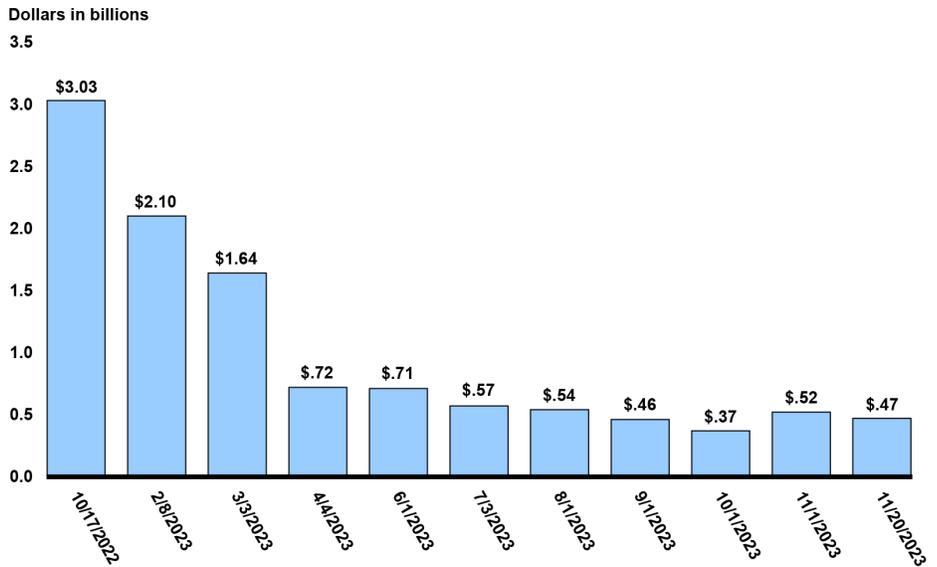
The Marine Corps continued to work through fiscal year 2023 to reduce these balances as much as possible. Marine Corps and USD(C)/CFO officials stated that they viewed the metrics almost daily to understand if the problem transactions were occurring at the beginning of the process and how well data were flowing into the system. USD(C)/CFO officials stated that they focused on the most material errors to help the Marine Corps prepare for audit, which was a primary goal of the DAI transition.

Marine Corps officials noted that corrections of transaction errors, such as unmatched transactions, on financial reports were addressed daily through recurring command walk-throughs and daily ad hoc meetings that occurred with key stakeholders. For the daily meetings, specific dashboards were used to discuss, analyze, prioritize, and target remediation actions for these errors. According to Advana analysis of the Marine Corps' data, unmatched transactions significantly declined from October 2022 through November 2023. Figure 4 shows dashboard trends that the Marine Corps reported for unmatched transactions.

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[42]The Marine Corps uses Advana to track these metrics. Advana is an enterprise data platform used across DOD for advanced analytics. DOD and its components use Advana to enhance financial data by linking nonfinancial data sources. Advana's data model standardizes DOD data to help address some of DOD's historical issues. Through Advana, data are managed centrally and are available DOD-wide for multiple purposes.

Figure 4: Marine Corps Unmatched Transactions Dashboard Trends, Oct. 17, 2022–Nov. 20, 2023

Dollars in billions

Source: GAO analysis of U.S. Marine Corps data. | GAO-24-106313

DOD also addressed issues and risks identified through the monitored metrics. In weekly meetings, the Marine Corps reported progress of identified metrics, including those for planned work, interfaces and data conversion status, current schedule, resources, and risks. The weekly meetings included all participants in the DAI transition, including officials from the Navy, DFAS, the Marine Corps, and USD(C)/CFO. The Marine Corps also issued the June 2023 DAI Interface Error Avoidance and Correction Guide to help improve its budget execution rate and avoid downstream unmatched transactions.

- **Communicate performance—partially consistent.** DOD and the Marine Corps conducted weekly executive briefings with organization leadership and oversight entities. This included documenting the results of defined business-level transaction metrics and presenting these results to DOD and Marine Corps leadership with the assistance of USD(C)/CFO's Advana metrics.

  The *Marine Corps Defense Agencies Initiative (DAI) Transition Organizational Change Management Plan* also documented how the Marine Corps' DAI core leadership distributed information, updates, and requests to stakeholders. These communications included weekly meetings with migrating commands, on-site workshops, status

meetings, and electronic updates. Further, USD(C)/CFO officials stated that they held daily meetings with stakeholders, including DFAS leadership, Marine Corps leadership, and the DAI program. These daily meetings allowed them to keep up with action items that needed to be addressed, promote accountability of deliverables and critical tasks, and raise issues and risks quickly and to the appropriate group.

However, DOD and the Marine Corps did not fully measure stakeholders' acceptance of and satisfaction with project deliverables. As discussed in greater detail subsequently in this report, Marine Corps officials did not conduct formal stakeholder or user feedback surveys during transition and post go-live. In addition, the Marine Corps initiated significant DAI transition activities, such as user acceptance testing, without all stakeholders participating. According to the Marine Corps' lessons learned documentation, this occurred due to invitations not being extended to all stakeholders and the importance of the activities not being clearly communicated.

As noted, the Marine Corps stabilization phase of its transition to DAI lasted from December 2021 to February 2024, and its metrics did not address a cross section of program success factors (e.g., workload).

Marine Corps officials stated that they followed the DAI program's standard procedures for components transitioning to DAI. However, these procedures did not call for the components to establish comprehensive metrics. Specifically, the DAI implementation standard operating procedures only discussed post-production data-cleansing metrics. Without standard operating procedures for DAI implementation that call for future user components to establish comprehensive program performance metrics, DOD risks that future components transitioning to DAI will not maintain key information needed to help ensure effective future transitions to the system. Further, although the Marine Corps documented that it fully transitioned to normal operations in DAI, demonstrating that it appropriately identified and monitored key performance metrics will help ensure that its operations are achieving their intended outcomes.

Marine Corps' Data Migration and Conversion and Change Management Efforts Were Not Fully Consistent with Leading Practices

The Marine Corps' data migration and conversion and change management efforts were not always consistent with leading practices. In particular, the Marine Corps followed five and partially followed another five leading practices for data migration and conversion. In addition, the Marine Corps followed four and partially followed three leading practices for change management. Consistent with the risks programs face by not following these data migration and conversion and change management leading practices, the Marine Corps took longer than expected to stabilize operations in the system and transition to normal operations. In addition, the Marine Corps may have missed opportunities to identify and address stakeholder concerns during the system transition.

Data Migration and Conversion Efforts Were Either Consistent or Partially Consistent with Leading Practices

JFMIP describes three different phases for data migration and conversion activities: pre-conversion, cutover, and post-installation.[43]

- The pre-conversion phase includes the activities leading up to conversion, such as developing a conversion plan and defining data needed in the new system.

- The cutover phase includes the activities associated with converting data into the new system.

- The post-installation phase includes activities where data integrity is verified.

JFMIP also describes leading practices associated with each of these phases.

In addition, *GSA's Modernization and Migration Management Playbook (M3 Playbook)* is a framework designed to help agencies achieve successful outcomes and reduce risk during system modernization and migrations.[44] The M3 Playbook is a compilation of leading project management practices, including those for data migration and conversion, for agencies seeking to modernize their systems. Developed by GSA using feedback from over 100 government and industry leaders, the M3 Playbook reflects leading practices and lessons learned from prior migrations.

The Marine Corps' DAI data migration and conversion activities were partially consistent with these federal leading practices related to data

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[43]Joint Financial Management Improvement Program, *White Paper: Financial Systems Data Conversion – Considerations*.

[44]General Services Administration, *Modernization and Migration Management (M3) Playbook*, and Joint Financial Management Improvement Program, *White Paper: Financial Systems Data Conversion – Considerations*.

migration and conversion. Specifically, the Marine Corps' activities were consistent with five practices and partially consistent with five practices.

Table 2 describes leading practices from JFMIP and the M3 Playbook relevant to key data migration and conversion phases and our assessment of the Marine Corps' adherence to those practices during the migration to DAI.

Table 2: Evaluation of the Marine Corps' Defense Agencies Initiative (DAI) Data Migration and Conversion Process against Relevant Leading Practices

Phases and leading practices	Practice description	GAO assessment
Pre-conversion phase		
Conduct general pre-conversion activities	Developing a comprehensive conversion plan, including time frames for various tasks in the phase. The conversion plan should fully detail information such as the scope of the conversion, data that will be converted, and system inputs and outputs. In addition, regarding legacy system function and data, the legacy system needs to define things such as what data are used, how they are used, what the system produces, and who uses this information. In this phase, management should also determine security roles and access. In addition, identified risks should be categorized by whether they are low, moderate, or high. Once a risk plan is in place, the program should determine the probability of failing to achieve an outcome and the consequences of failing to achieve that outcome. In addition, legacy data should be converted based on the determination that a valid need for them exists. This practice also includes incorporating additional post-go-live data-cleansing and quality activities into a data conversion strategy, schedule, and resource planning.	Partially consistent
Perform data-mapping activities	Identifying legacy data elements that will be continued and converted. Testing needs to be in place to ensure the mapping of these legacy data elements is complete and correct. A data dictionary also needs to be established to crosswalk legacy data elements to data elements in the new system, which should include a database schema. In addition, converted document and account balances, including those coming from manual systems, must be traceable to audited sources from the legacy system to support opening balances and related supporting transactions under the new automated or manual system.	Partially consistent
Perform data cleaning and validation activities	Ensuring that the data conform to business rules and processes and that they are consistent and complete. This process should be documented to provide quality assurance.	Consistent
Establish and test data	Establishing and testing mock data prior to conversion. The conversion plan should also include testing to ensure that required data edit and validation tables are accurate.	Consistent
Cutover phase		
Develop cutover plan	Developing a cutover plan. A backup plan should also be established in case the new system fails to operate as expected.	Partially consistent
Determine go/no-go decision	Making a go/no-go decision based on the degree of success of the new system's initial operation. This practice also includes establishing criteria and metrics on what threshold constitutes clean data.	Partially consistent

GAO-24-106313 DOD Financial Management

Execute cutover tasks	Stopping processing in the legacy system. As part of this practice, automated inputs and interfaces are rerouted to the new system.	Consistent
Reconcile converted data	Reconciling data in the new system with data from the legacy system. In addition, adjustments to converted data resulting from reconciliation are documented. Reports should also be compared and reconciled with legacy reports.	Partially consistent
Post-installation phase		
Confirm that converted data are functioning as designed	Confirming that converted data are functioning as designed, reviewing how manual entries were handled, and assessing abnormalities that may appear.	Consistent
Perform post-conversion data cleanse	Performing post conversion data cleanup.	Consistent

Legend: Consistent = The Marine Corps provided complete evidence that satisfies the entire criterion. Partially consistent = The Marine Corps provided evidence that satisfies some but not all of the criterion. Not consistent = The Marine Corps provided no evidence that satisfies the criterion.

Source: GAO analysis of the Marine Corps and Defense Financial Accounting Service migration documentation. | GAO-24-106313

As shown in the table, the following activities were consistent or partially consistent with relevant data migration and conversion leading practices.

- **Conduct general pre-conversion activities—partially consistent.**

  The Marine Corps developed a comprehensive conversion plan that included time frames, program scope, data for conversion, and system inputs and outputs, but did not develop a plan for post go-live data-cleansing activities. The Marine Corps documented the legacy system functions and data, including what data were used, how data were used, what the system produced, and who used the information. In addition, the Marine Corps documented security roles and access. The Marine Corps also identified risks and assigned risks a probability of failure and potential consequences if realized.

  Additionally, the Marine Corps identified legacy data needed for conversion based on a valid need for the data. The data conversion plan also identified project closeout documentation that was to be developed to demonstrate that the data in the legacy system were cleanly and accurately converted to DAI. This included developing documentation such as certified pre-load and post-load trial balances.

  However, this list of required documentation fell short of a full plan. Leading practices established by GSA call for incorporating post-go-live data-cleansing and quality activities into a data conversion strategy, schedule, and resource planning (i.e., a plan). These activities include addressing residual errors from data migration and conversion or unmatched transactions in DAI. The Marine Corps did not include these activities in its plan.

  Marine Corps officials stated that they followed the DAI program's standard operating procedures for migrating to DAI. While the
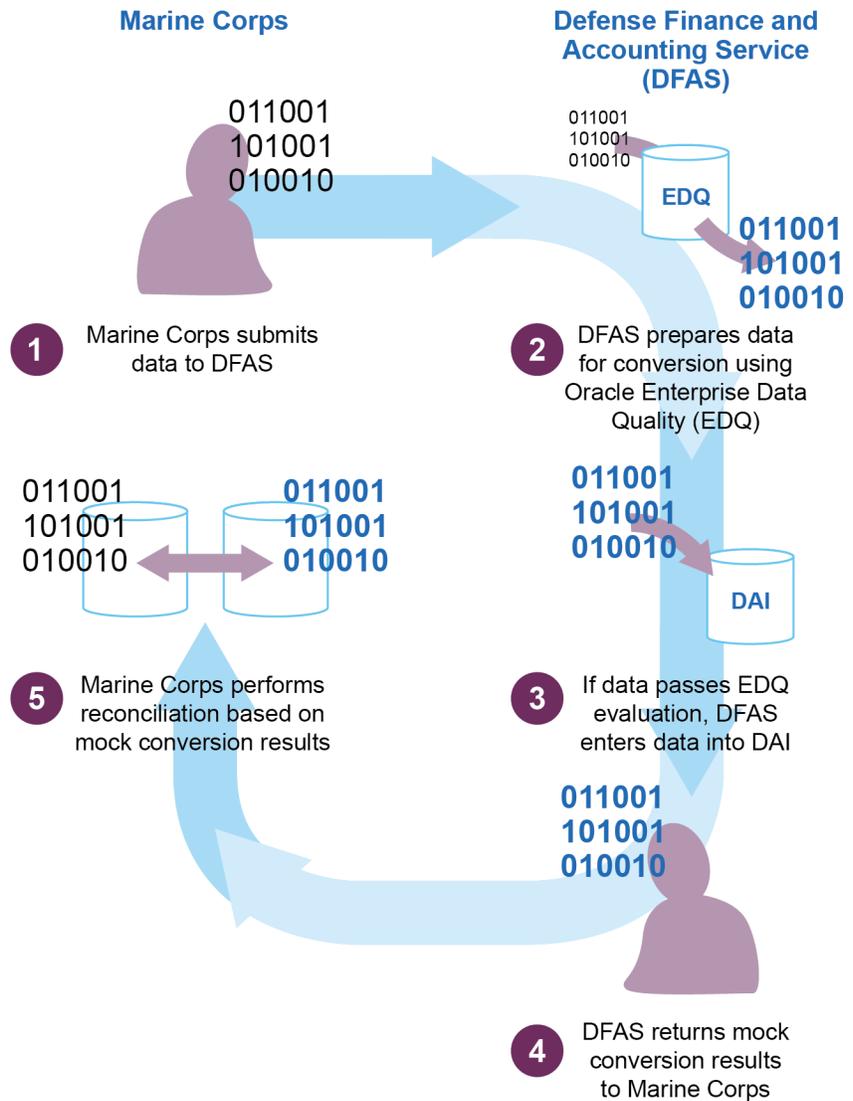
procedures included other requirements for the data conversion plan, such as conducting mock conversions, procedures did not include requirements for a plan related to post-conversion data-cleansing or quality activities. Such a plan can help to ensure that components effectively address data quality issues after transitioning to a new system and limit delays in achieving normal operations, such as the issues and delays the Marine Corps experienced in its efforts to achieve normal operations in DAI.

As noted, the Marine Corps completed its migration and achieved normal operations in DAI. However, without requiring that new user components migrating to DAI develop plans for post-go-live data-cleansing and quality activities, DAI risks that new user components migrating to DAI will not adequately test converted data and make needed corrections. As a result, these new components risk encountering additional challenges and delays in establishing reliable data.

- **Perform data-mapping activities—partially consistent.**

The Marine Corps identified legacy data elements for conversion, tested its mapping of legacy data elements, and created a data dictionary. For example, the Marine Corps identified templates to represent all financial transactions that DAI supported for the data conversion. Additionally, the Marine Corps and DFAS tested the mapping of data elements during mock conversions to confirm that the mapping was correct and complete. The Marine Corps also created a data dictionary to crosswalk legacy data elements to data in the new DAI system and documented a database schema. Figure 5 provides an illustration of the mock conversion process.

Figure 5: Illustration of the Marine Corps Mock Data Migration and Conversion Process for the Defense Agencies Initiative (DAI)

Marine Corps

011001
101001
010010

1 Marine Corps submits data to DFAS

Defense Finance and Accounting Service (DFAS)

011001
101001
010010

EDQ

011001
101001
010010

2 DFAS prepares data for conversion using Oracle Enterprise Data Quality (EDQ)

011001   **011001**
101001   **101001**
010010   **010010**

5 Marine Corps performs reconciliation based on mock conversion results

011001
101001
010010

DAI

3 If data passes EDQ evaluation, DFAS enters data into DAI

011001
101001
010010

4 DFAS returns mock conversion results to Marine Corps

Source: GAO analysis of Department of Defense data, GAO (images). | GAO-24-106313

However, the Marine Corps did not determine if the SABRS data were traceable to audited sources before migration to support opening balances and related supporting transactions in DAI. A major factor in the Marine Corps' decision to transition to DAI was that the DAI system was fully auditable.

According to Marine Corps officials, they recognized the limitations in the legacy SABRS and did not determine whether migrated data were traceable to an audited source. The *Marine Corps Fiscal Year 2021 Agency Financial Report* identified interface control weaknesses as a significant risk to the Marine Corps' financial management information systems environment. Therefore, the Marine Corps risked migrating unreliable data from SABRS to DAI.

To the Marine Corps' credit, while it did not determine if the SABRS data were traceable to audited sources before migration, it took steps to document issues with SABRS and begin addressing potential data conversion concerns. For example, the Marine Corps documented in its April 2020 Fit-Gap Analysis that the legacy system SABRS did not comply with FFMIA and the DOD Standard Financial Information Structure.[45]

In addition, the Marine Corps documented risks related to data migration and conversion. For example, in the June 2021 *SABRS to DAI Transition Risk Register*, the Marine Corps documented a risk that if DAI does not convert abnormal SABRS balances, then the trial balance will not match the subledger.[46] The risk register further stated that the impact of this risk, if realized, would be that that the trial balance will not match the subledger, which will not match the source system.

The Marine Corps also documented risks related to DAI interfaces with key feeder systems. According to Marine Corps officials, they used the DAI Interface Dashboard not previously available with the legacy SABRS to manage and discuss interface issues during weekly meetings. According to the Marine Corps officials, they established a 90 percent interface metrics goal and used the dashboard to monitor and manage interface data errors. The Marine Corps, USD(C)/CFO, DAI program, and DFAS also collaborated at the end of fiscal year 2022 to improve performance using Advana data analysis to provide insights to correct fundamental process and data quality errors. Specifically, DOD began tracking incoming contract actions (new

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[45]DOD's Standard Financial Information Structure is a DOD comprehensive data structure that supports requirements for budgeting, financial accounting, cost/performance, interoperability, and external reporting needs across the DOD enterprise.

[46]General ledger account balances are abnormal when the reported balances do not comply with the normal debit or credit balances established in the *U.S. Standard General Ledger* chart of accounts.

awards and modifications) that failed to interface to DAI and providing supporting details to assign a root cause and organization responsibility.

During pre-conversion, the Marine Corps' data conversion metrics demonstrated persistent conversion errors, although those errors improved over time. According to DFAS data, during the first mock conversion in April 2021, only 10 of 20 DAI data load element categories had a 99 percent or greater success rate.[47] This low data load rate into DAI can be attributed, in part, to the quality of the data migrated from SABRS to DAI. The third mock conversion in September 2021 identified that 20 out of 21 DAI data load elements had a 99 percent or greater success rate.

However, given the large number of transactions that the Marine Corps planned to process in DAI, this still represented potentially impactful risks to program success. Marine Corps officials stated that, at the time of cutover, identified risks either had mitigation plans or were accepted.[48]

Marine Corps officials followed the DAI program's standard operating procedures for migrating to DAI. These procedures did not include a requirement to trace the data to an auditable source before conversion. The Marine Corps completed its migration to DAI and therefore is past the point of being able to address the identified risks to data reliability from legacy systems.

However, other DOD agencies may migrate to DAI in the future. Without implementation standard operating procedures that include a requirement, as feasible, for tracing data to an auditable source before conversion to better inform data migration and conversion, new user DOD components risk migrating unreliable data to DAI.

- **Perform data cleaning and validation activities—consistent.**

   The Marine Corps conducted data cleanup to help ensure that the data conformed to business rules and that they were consistent and complete. The Marine Corps documented its process in a data-cleansing plan, which included a data-cleansing checklist for different

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[47]Data load element categories include data categories such as customers, vendors, billing events, and commitments.

[48]GAO did not evaluate the Marine Corps' efforts to address the identified risks to data reliability in legacy systems.

data elements. The Marine Corps and DFAS also provided mock conversion results from before cutover to document that the Marine Corps validated transactions added to DAI by reconciling pre- and post-conversion data with each mock conversion. As previously discussed, the three mock conversion tests demonstrated an improvement in cleanup metrics over time.

- **Establish and test data—consistent.**

  The Marine Corps and DFAS tested data conversion through a series of mock conversions that were described in a data conversion plan. Specifically, mock conversions were intended to validate the conversion process and data from end to end with the goal of identifying data quality or conversion process issues. The Marine Corps and DFAS provided mock conversion results and pre- and post-trial balance reconciliation to document that they ran three mock conversions, documented the results, and cleaned up uncovered data issues.

- **Develop cutover plan—partially consistent.**

  The Marine Corps developed an implementation agreement, which served as the cutover plan for data migration and conversion to DAI. The agreement included a six-phase plan for implementation: initiation, planning, preparation, cutover, stabilize, and operate. Each phase described culminating tasks and included unique deliverables.

  However, the cutover plan did not include a backup plan in case DAI failed to operate as expected. Marine Corps officials stated that they followed the DAI standard operating procedure for implementation as a guide to their transition. However, this procedure did not include a requirement for developing a backup plan or other contingency plans.

  As noted, the Marine Corps completed its migration to DAI and therefore is past the point of being able to develop a backup plan. However, without a backup plan or other contingency planning, future new user components migrating to DAI risk complications if the system does not operate as expected or there is a failure during data entry. Programs that encounter migration complications without a contingency plan are more likely to experience schedule delays, increased costs, and data reliability issues.

  Until the DAI program revises the DAI implementation standard operating procedures to include a backup plan or other contingency

plan in the cutover plan, DOD risks increased disruption to systems and processing for new user components migrating to the system.

- **Determine go/no-go decision—partially consistent.**

  Program officials from DAI, DFAS, and the Marine Corps determined a 'go-live' decision on September 28, 2021, to complete final cutover to DAI. Additionally, the Marine Corps established criteria for what constituted clean data by including target metrics in presentations to management and creating a data-cleansing checklist.[49]

  However, the decision to complete a final cutover to DAI was not consistent with the Marine Corps' guidance for what constituted clean data for data migration and conversion metrics. Specifically, the Marine Corps' data migration and conversion metrics did not meet the standards required by the *Marine Corps DAI Data Conversion Plan*, as discussed subsequently in this report. In addition, the metrics were incomplete at the time of the go-live decision.

  For example, September 2021 presentations to management showed that two of 17 data quality assessment metrics for data conversion were identified as "TBD." Additionally, the conversion metrics did not meet the standards presented to management. Specifically, Marine Corps presentations to management established a zero-tolerance goal for conversion errors, which was not realistic for the conversion. Marine Corps officials stated that its leadership determined there were no material risks to transition when determining to go live, and all the risks had acceptable mitigation plans.

  As previously noted, Marine Corps officials stated that they followed the DAI standard operating procedure for implementation as a guide to their transition. However, the DAI program's standard operating procedure for data conversion did not include guidance instructing migrating services in how to determine realistic data conversion goals.

  In addition, transitions to DAI are schedule driven and occur at the beginning of the fiscal year. As a result, the Marine Corps could not have transitioned to DAI for another full year if it did not complete cutover in October 2021 (i.e., the start of fiscal year 2022). As a result, when the Marine Corps needed to make a go/no-go decision based on the timing of the audit cycle, it made the decision even though its

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[49]"Clean data" refers to a data set that has had its incorrect, corrupted, incorrectly formatted, duplicate, or incomplete data fixed or removed.

decision was not consistent with its conversion metrics guidance and the Marine Corps had incomplete data. Nevertheless, the Marine Corps made the decision to transition to DAI in October 2021 knowing that the decision involved risks based on the then-current status of its data migration and conversion metrics.

Without realistic data conversion goals, converting services risk ignoring conversion metric requirements to meet migration deadlines. For example, the Marine Corps' migration overlooked its data migration and conversion metric requirements stated in its *Marine Corps Defense Agencies Initiative (DAI) Data Conversion Plan*. Following conversion, as discussed, the Marine Corps experienced data conversion errors. In addition, without guidance for more realistic target conversion metrics, DOD risks migrating new user components to DAI with unrealistic goals that may not effectively inform future go/no-go decisions.

- **Execute cutover tasks—consistent.**

  According to Marine Corps officials and a joint DFAS, DAI program, and Marine Corps cutover decision, the Marine Corps stopped processing in the SABRS legacy system as of October 1, 2021. In doing so, according to the May 2021 *DAI Interface Guide* and September 2021 *Cutover Decision*, the Marine Corps rerouted automated inputs and interfaces to DAI and began operating in DAI.

- **Reconcile converted data—partially consistent.**

  The Marine Corps reconciled data in DAI with the data from the legacy system. The Marine Corps documented adjustments from reconciliation failures in a final metrics report. Additionally, the Marine Corps ran legacy data through a conversion interface and documented the results of mock conversions. In addition, the DFAS Director of Accounting Operations certified in a memorandum that the SABRS trial balance accounts reconciled to the balances in the trial balance accounts that were loaded into DAI.

  However, the Marine Corps did not compare and reconcile DAI output reports with SABRS legacy output reports. Marine Corps officials followed the DAI program's standard operating procedures for migrating to DAI, which did not include requirements for comparing DAI output reports with legacy output reports. As noted, the Marine Corps completed its migration to DAI and therefore is past the point of being able to compare and reconcile DAI output reports with SABRS legacy output reports.

Without calling for this activity, DOD risks that new user components migrating to DAI will not perform adequate reconciliation of converted data. As a result, these new components risk encountering additional challenges and delays in establishing reliable data.

- **Confirm that converted data are functioning as designed—consistent.**

  After the Marine Corps transitioned to DAI, USD(C)/CFO and Marine Corps officials monitored errors to confirm whether converted data functioned as designed. For example, the Marine Corps documented progress in the number of unmatched transaction errors identified post-conversion from October 2022 through November 2023.

  Post-migration, errors were identified through the data conversion tracker, the Marine Corps help desk, and project support request tickets to the DAI program to monitor and remediate the issues. Further, according to Marine Corps officials, manual entries and automated entries were reconciled with the same process. After entry to DAI, any resulting errors were addressed with the same process.

  Additionally, Marine Corps officials stated that the Marine Corps identified and shared abnormalities that appeared in converted data with stakeholders in recurring meetings. The Marine Corps provided the September 2023 *DAI Conversion Task Tracker*, calendar invitations to stakeholders, and error dashboards to demonstrate active tracking of data migration and conversion failures.

- **Perform post-conversion data cleanse—consistent.**

  The Marine Corps performed post-conversion data cleanup to address errors. For example, officials provided summary metrics demonstrating that they conducted post-conversion data-cleansing. Further, officials stated that the service's approach to post-conversion data-cleansing efforts occurred through daily meetings in which stakeholders addressed metrics of concern for specific business processes and interfaces. The Marine Corps also published an error and correction guide to assist in post-conversion data cleanup in June 2023.

The Marine Corps' Change Management Efforts Were Partially Consistent with Leading Practices

The Marine Corps' change management efforts as part of the DAI migration were partially consistent with leading practices. Specifically, the Marine Corps followed four and partially followed three leading practices. According to federal guidance and other leading practices, change management practices are intended to apply an organized and structured framework to organizational changes, such as system migrations.[50] Effective change management techniques help managers plan, organize, and negotiate successful changes in the organization.

The objective of managing organizational change is to maximize the likelihood of successfully implementing sustainable enterprise-wide organizational change quickly and with reduced risk. Table 3 provides a detailed description of seven leading practices for change management.

Table 3: Leading Practices for Change Management

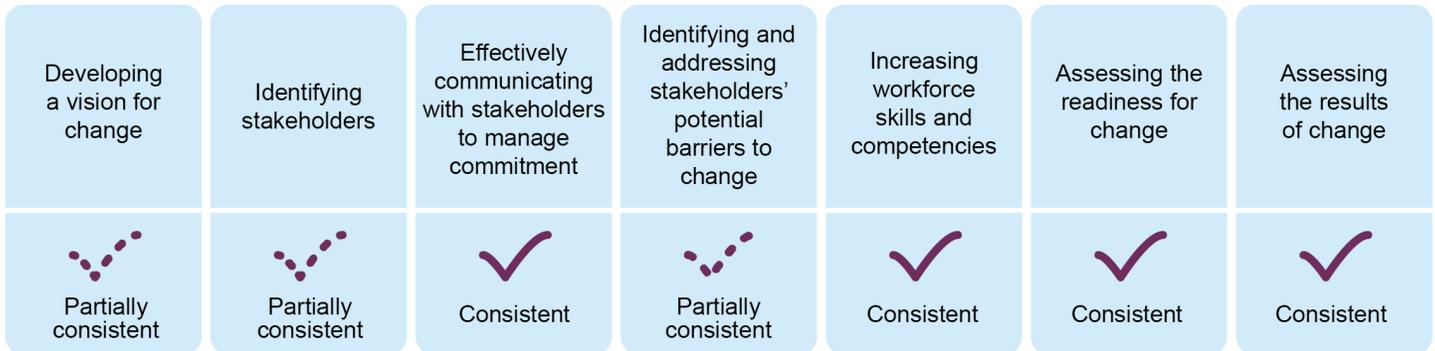| Leading practice	Practice definition	Practice description
Developing a vision for change	The vision for change effectively identifies the compelling need for change and benefits of the desired change that can motivate stakeholders to accept and willingly participate to make the change successful.	Identifying and clarifying the need for change, assessing readiness for change, and delineating the scope of change. In addition, it involves establishing and understanding of the scope and impact of the desired change, assessing stakeholder readiness and willingness to change, and identifying actions to motivate stakeholder acceptance and participation to make the change work successfully.
Identifying stakeholders	Stakeholders are those individuals, groups, departments, and organizations that have a direct interest in the change effort and will be directly affected by or have influence over the change effort. Given their power to sustain or derail a change initiative, efforts should be made to identify and understand stakeholders and their concerns, including concerns about processes reengineered because of the change.	Obtaining full stakeholder support and buy-in for the change by executing plans to win stakeholder commitment and managing the opposition of those who disagree with the change effort. It also includes managing stakeholder resistance and effectively sponsoring the change to develop stakeholder desire to engage and participate in the change. In addition, it includes ensuring that stakeholder concerns are addressed, including concerns related to business process reengineering.

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[50]Project Management Institute, Inc., *Managing Change in Organizations: A Practice Guide*; Office of Personnel Management, *Migration Planning Guidance Information Documents*, *Change Management Best Practices*; GAO/AIMD-10.1.15; ISACA, *COBIT 2019 Framework*; and Prosci, *The Prosci ADKAR® Model, A Goal Oriented Change Management Model to Guide Individual and Organizational Change*. ADKAR® is a registered trademark of Prosci, Inc.

Effectively communicating with stakeholders to manage commitment	Communication of the what, when, why, and how of the change must be frequent, targeted, and compelling. It should demonstrate management's commitment and understanding of the change investment from stakeholders.	Communicating the rationale for and the benefits of the change, including the impacts of not making the change. In addition, the practice includes developing an effective communication plan for determining who needs to understand the what, why, when, and how of the change.
Identifying and addressing stakeholders' potential barriers to change	Steps should be taken to identify and understand potential resistance barriers or roadblocks throughout the change efforts. Actions should be taken to address barriers that might derail change efforts when they arise.	Measuring and monitoring change resistance for all stakeholders when changes are announced. It also includes identifying barriers to change by brainstorming, identifying, and describing those people, groups, departments, organizations, business process, programs, and IT systems that will serve as barriers.
Increasing workforce skills and competencies	This involves empowering stakeholders with the knowledge for how to successfully change and gaining the full benefits from the change by training them in the new processes, skills, and competencies needed throughout the transition.	Training staff in the new processes and systems and empowering and recognizing staff with implementation roles by assigning accountability and providing training.
Assessing the readiness for change	Periodic checkpoints, analysis, and metrics should be used to measure the state of readiness. Any potential problems should be resolved in a timely fashion.	Assessing readiness for change across the organization, including identifying potential roadblocks. It also includes performing an organization impact analysis to identify potential problems and negative effects before they arise.
Assessing the results of change	Once change has been implemented, it is important to measure adoption and obtain feedback from stakeholders to help determine how successful the change was and actions needed to ensure that the change is reinforced and sustained.	Measuring adoption rates and outcomes and results of the change at the business level and maintaining the new state of change by continuing to carry on the new processes and practices after the change. It also includes resisting reverting back to the former modes of operation.

Source: GAO analysis of leading practices described by the Project Management Institute, the Prosci Corporation, the Information Systems Audit and Control Association, the Office of Personnel Management, and GAO. | GAO-24-106313

The Marine Corps' DAI change management activities were consistent with four of seven change management leading practices and partially consistent with three practices. Figure 6 provides a summary of our evaluation of the Marine Corps' DAI change management activities.

Figure 6: The Marine Corps' Consistency with Organizational Change Management Leading Practices for Its Transition to the Defense Agencies Initiative (DAI)

Developing a vision for change	Identifying stakeholders	Effectively communicating with stakeholders to manage commitment	Identifying and addressing stakeholders' potential barriers to change	Increasing workforce skills and competencies	Assessing the readiness for change	Assessing the results of change
Partially consistent	Partially consistent	Consistent	Partially consistent	Consistent	Consistent	Consistent

Consistent - The Marine Corps provided evidence that it conducted organizational change management activities mostly consistent with leading practices
Partially consistent - The Marine Corps provided evidence that it conducted organizational change management activities consistent with some of the leading practice criteria, but some key parts were not followed
Not consistent - The Marine Corps did not provide sufficient evidence that it followed leading practices

Source: GAO analysis of the Marine Corps and Defense Finance Accounting Service documentation, GAO (images). | GAO-24-106313

As shown in the figure, the following activities were consistent with leading practices.

- **Effectively communicating with stakeholders to manage commitment.**

  The *Marine Corps DAI Implementation Initiative Transition Plan* outlined the vision, the benefits of the change, an implementation schedule, and project stakeholders. In addition, the April 2020 *Marine Corps' Rationale for Standard Accounting Budgeting and Reporting System (SABRS) Migration* highlighted the benefits of the Marine Corps' transitioning to DAI and why other systems were not appropriate for the change.

  Further, according to Marine Corps, USD(C)/CFO, DFAS, and DAI program officials, the Marine Corps regularly communicated with stakeholders during meetings with migrating commands, on-site workshops, status meetings, and electronic updates. Marine Corps officials also provided presentation slides from weekly meetings that were held to discuss progress on identified metrics on planned work, current schedule, resources, and risks.

- **Increasing workforce skills and competencies.**

  The Marine Corps' DAI Core Leadership Team identified key users to be trained as internal DAI experts for the Marine Corps. The Marine Corps change management plan stated that these key users should

have a level of technical skill sufficient to navigate the new DAI system, learn how it works, and teach it to others after receiving training from the implementation team.[51] In addition, the Marine Corps' DAI training plan outlined the training delivery method and identified the rollout, timeline, and schedule for training.[52]

According to the plan and Marine Corps officials, the training team was responsible for customizing the training materials, training the identified key users, and providing additional support to the key users in training end users. Additionally, the training plan states that the training team would provide reinforcement, coaching, and support. The Marine Corps DAI transition team also developed an online knowledge portal where end users were provided with initial and ongoing training for the transition to DAI. The portal included, among other things, frequently asked questions, how-to documentation, and job aids.

In addition, Marine Corps documentation states that key users, after receiving initial training from the training team, would eventually be responsible for training other system users. Marine Corps officials provided training slides and attendance logs to document that these additional training sessions occurred.

- **Assessing the readiness for change.**

    The Marine Corps held open forum discussions with stakeholders from different business process areas and commands, which resulted in an assessment of the readiness of the DAI system to go live. According to Marine Corps officials, these discussions also resulted in a risk register for the DAI transition, which served as the documented issue resolution process for the transition. Marine Corps officials provided a risk register, which they stated documented feedback on the DAI transition that they solicited during routine stakeholder briefings.

    In addition, they provided a decision support matrix, which documented an organizational impact analysis. According to Marine Corps officials, they used the risk register and decision support matrix

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[51]U.S. Marine Corps, *USMC Defense Agencies Initiative (DAI) Transition Organizational Change Management Plan* (updated June 2, 2021).

[52]U.S. Marine Corps, *USMC Defense Agencies Initiative (DAI) Transition Training Plan* (updated Apr. 5, 2021).

to track issues from this analysis and these meetings until their ultimate disposition.

- **Assessing the results of change.**

  The Marine Corps, with the assistance of USD(C)/CFO's Advana metrics, tracked the outcomes of the DAI transition and measured DAI's impact on business-level areas, such as the reduction of unmatched MILSTRIP transactions.[53] For example, the Marine Corps provided documentation, such as tracking reports and screenshots of the Advana user interface, demonstrating that it tracked the inflow and outflow trends for unmatched business-level transactions into DAI since the beginning of the DAI transition, along with a range of other business-level transaction metrics. In addition, Marine Corps officials demonstrated that they tracked errors with key performance indicator analysis reports.

  Further, the Marine Corps continued to interact with stakeholders after the DAI migration to understand the results of the change. Specifically, the Marine Corps' team focused on reinforcing the DAI transition by holding periodic meetings with stakeholders to evaluate the progress of the DAI transition at the business level.

  Marine Corps officials provided slides and a post-migration lessons learned tracker that demonstrated that the Marine Corps held meetings to discuss post-migration issues and developed lessons learned from the DAI migration. For example, the Marine Corps identified a lesson learned related to confusion among logistics and financial management personnel over their roles and responsibilities in DAI. This confusion resulted in contract awards not being recorded in DAI in a timely manner.

  The Marine Corps also provided Advana screenshots demonstrating that it continued to identify and use business-level transaction metrics to track post-migration issues. Such issues focused on DAI's performance in processing financial information after it transitioned to the system, such as trends with unmatched transactions. In addition,

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[53]According to Marine Corps officials, DAI processed transactions for two new business areas that it had not previously encountered with the other, non-military DOD agencies: MILSTRIP and Military Pay. The Marine Corps used Advana to track metrics specific to these new business areas. The Marine Corps encountered issues with unmatched MILSTRIP transactions early in the transition.

the Marine Corps prevented staff from reverting back to old business processes by ending its use of the SABRS system.

The remaining activities were partially consistent with leading practices:

- **Developing a vision for change.**

  The April 2020 *United Stated Marine Corps (USMC) Defense Agencies Initiative (DAI) Initial Fit-Gap Analysis* identified and clarified the need for change and how the new system would assist the Marine Corps in achieving auditability. The analysis also delineated the scope of the change. The Marine Corps' DAI communication plan also contained information on the DAI project, its purpose, the nature of the change involved with the transition, and the rationale behind the transition.[54] The Marine Corps further explained the rationale behind the transition in documentation, such as its April 2020 presentation, *Rationale for SABRS Migration to DAI*.

  In addition, the Marine Corps completed a tracking document for key decisions during the DAI transition. This included business process decisions along with their status, work-arounds, anticipated impact, and next steps. Finally, the Marine Corps' DAI change management plan established the framework and associated activities to identify and communicate effectively with stakeholders affected by the DAI transition.

  However, the Marine Corps did not develop a change readiness assessment or complete a stakeholder readiness assessment, as called for by OPM and PMI leading practices. Such assessments are intended to analyze if the organization and stakeholders are prepared for the change.

- **Identifying stakeholders.**

  The Marine Corps' DAI change management plan described implementing a structured approach intended to create transparency and instill confidence and assurance among stakeholders on the transition and their involvement. It identified the stakeholder groups for the DAI transition and identified user groups by entities (e.g., Headquarters Marine Corps, Marine Forces Reserve, and DFAS) that would require DAI training.

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[54]U.S. Marine Corps, *USMC Defense Agencies Initiative (DAI) Communication Plan*.

GAO-24-106313 DOD Financial Management

The plan also discussed efforts intended to develop a desire to change and effectively sponsor the change. For example, the plan identified executive sponsors at the Navy Financial Management and Comptroller's office, Marine Corps Headquarters, and the USD(C)/CFO to serve as executive sponsors for the DAI transition and assist in resolving migration issues. The plan also included efforts to develop a training plan and schedule, conduct a change readiness assessment, log communications, and develop an impact analysis and identify process gaps.

The Marine Corps' DAI communication plan documented its approach to stakeholder collaboration and communication channels to stakeholders, including senior executives and DAI users. In addition, Marine Corps officials demonstrated that they held weekly meetings with migrating commands, which served as a method to collect information and share updates on the migration effort.

However, the Marine Corps did not follow the systematic processes established in its DAI organizational change management plan, which included assessing stakeholder readiness and willingness to change to develop stakeholder desire to participate in the change. For example, according to officials, the Marine Corps did not complete site information questionnaires or site change readiness surveys to assess stakeholder readiness to change, as specified by the plan. Further, it did not log communications with stakeholders as called for by the change management plan.

In addition, the Marine Corps' change management plan did not identify how the service was to manage and maintain stakeholder commitment or how it would manage resistance to change.

- **Identifying and addressing stakeholders' potential barriers to change.**

  The Marine Corps did not directly assess stakeholders' resistance to change by engaging all stakeholders or identifying and addressing all barriers to change. The Marine Corps did provide training for stakeholders through multiple platforms, but it did not measure and monitor change resistance for all stakeholders. Marine Corps leadership focused on identifying barriers to change that affected processing of financial transactions instead of all barriers that affected stakeholders. For example, the Marine Corps focused on issues with posting logic for financial transactions but did not address other potential issues, such as issues associated with using a new end-to-end process.

However, according to Marine Corps officials, some entire commands were resistant to the change. According to the Marine Corps' lessons learned documentation, significant DAI transition activities, such as process mock conversions and user acceptance testing, were initiated without all stakeholders participating. According to the documentation, this occurred due to invitations not being extended to all stakeholders and the importance of the activities not being clearly communicated. To reduce resistance to change, the Marine Corps offered a live support hotline to all commands. However, according to Marine Corps officials, the Marine Corps did not monitor stakeholder resistance.

Marine Corps officials stated that they followed the DAI program's standard operating procedures for transitioning to DAI. However, these procedures did not fully address key activities consistent with leading practices for change management, including

- completing and documenting a change readiness assessment, which includes focus groups, surveys of change readiness, and interviews with leadership;

- completing a stakeholder readiness assessment, which includes identifying and assessing key stakeholder groups by common characteristics, communication needs and preferences, and learning styles;

- ensuring that stakeholder concerns are addressed, including concerns related to business process reengineering; and

- identifying and addressing all barriers to change, including those barriers unrelated to processing financial transactions.

Until DOD ensures that the DAI standard operating procedures fully address these leading practices, future components transitioning to DAI may continue to miss opportunities to identify and address change management issues. As a result, these components risk delays to the sustainment phase of their transitions and unforeseen issues arising after cutover to the new system that could have been prevented.

As discussed, the Marine Corps has transitioned to and achieved normal operations in DAI. Nevertheless, it did not demonstrate that it took certain actions that are described by leading practices and its change management plan that remain relevant and would have value if implemented. Specifically, it did not effectively identify and assess all barriers to change, as called for by GAO and Prosci leading practices. Marine Corps leadership focused on identifying barriers to change that affected processing of financial transactions instead of all barriers that affected stakeholders. According to Marine Corps officials, some entire

commands were resistant to the change. Further, the Marine Corps did not engage all stakeholders.

In addition, the Marine Corps did not log communications with stakeholders, despite this being called for in its change management plan. Officials held meetings with stakeholders to discuss topics such as posting logic and information requirements, as well as work-arounds and necessary system change proposals. However, officials did not log all communications with stakeholders, as called for by its change management plan.

To its credit, the Marine Corps captured issues from open forum discussions during a series of meetings and teleconferences and documented the results in a go-live assessment matrix. As part of its stabilization phase efforts, officials planned to submit over 20 change requests to DLA to address some of these key outstanding issues related to data processing and audit requirements, such as the MILSTRIP unmatched transactions, transaction posting to the *U.S. Standard General Ledger*, and bulk uploading to DAI. However, the go-live assessment matrix did not include an assessment of 69 of the 145 issues documented during these discussions.

As a result of not fully engaging all DAI stakeholders; identifying and addressing all barriers to change, including those unrelated to processing financial transactions; and not logging communications with stakeholders, the Marine Corps continues to risk that some stakeholders will be less prepared as they continue to move forward using the system. As a result, thoroughly engaging all DAI stakeholders to ensure that the Marine Corps is aware of and can address all barriers to change remains critical to ensuring the Marine Corps' success in its new DAI environment.

Conclusions

DOD and the Marine Corps developed DAI program costs as part of the Marine Corps' transition to the DAI system, which the Marine Corps described as a critical step for improving financial management in support of achieving an unmodified (clean) audit opinion. However, DOD and the Marine Corps did not include all costs in their estimate for the transition to DAI. In addition, the Marine Corps did not include all effort in its schedule. This includes effort associated with transitioning the Marine Corps' larger, more complex, financial management operating environment to DAI and DAI's capability to process associated transactions.

Until DOD ensures that all costs are included in future DAI cost estimates and transition procedures call for programs to include all effort in their planned schedules, DOD will lack important information about ongoing and future transitions to DAI. These limitations prevent DOD and

Congress from having more complete information about the DAI program's cost and schedule expectations to support future planning and oversight.

Additionally, DOD and the Marine Corps monitored aspects of the Marine Corps' transition to DAI but did not fully establish performance metrics. These metrics did not link to the strategic objectives for the transition, address a cross section of program success factors, or fully measure stakeholders' acceptance and satisfaction with project deliverables, which would have helped the Marine Corps improve how it monitored transition progress. Until DOD ensures that future components transitioning to DAI establish complete metrics, DOD risks that future components transitioning to DAI will not be able to understand the extent to which these transitions are achieving intended goals.

The Marine Corps used the DAI program's established procedures to guide its system migration efforts. However, these procedures did not fully incorporate leading practices for data migration and conversion or change management. Without procedures that more fully incorporate relevant data conversation and migration leading practices, DOD risks experiencing systems and processing disruptions for new user components migrating to DAI.

Further, without procedures that fully incorporate relevant change management leading practices, future components transitioning to DAI may miss opportunities to identify and address change management issues with their transitions, increasing risk for delays and other issues. Such efforts would help to ensure future components' success in the new DAI environment. In addition, until DOD and the Marine Corps ensure that they have appropriately engaged with all stakeholders, they continue to risk that some stakeholders may not be included as the Marine Corps continues using DAI and new components transition to the system.

Recommendations for Executive Action

We are making the following 14 recommendations to DOD:

The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components, as appropriate, revise the DAI standard operating procedures to include all costs when developing future DAI cost estimates. This cost estimate should document all life-cycle costs, including costs associated with bringing new user components into the DAI system. (Recommendation 1)

The Secretary of Defense should ensure that the USD(C)/CFO, the Marine Corps, and other DOD components, as appropriate, include all remaining effort in the schedule for the remaining tasks associated with the Marine Corps' full transition to DAI, which appropriately accounts for

program complexity. This schedule should document all remaining effort needed to complete the Marine Corps' stabilization phase and transition to normal operations in DAI if the Marine Corps does not meet its planned completion date. (Recommendation 2)

The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components, as appropriate, develop schedule estimates for future user components migrating to DAI that include all new user components' efforts, activities, and complex financial transactions, and that identify DAI's capability to process those transactions. (Recommendation 3)

The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components, as appropriate, establish performance metrics for new user components that address all elements described by the leading practices discussed in this report. (Recommendation 4)

The Secretary of Defense should ensure that the USD(C)/CFO, the Marine Corps, and other DOD components, as appropriate, establish comprehensive performance metrics for the Marine Corps' transition to DAI that address all elements described by the leading practices discussed in this report. (Recommendation 5)

The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components, as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI to include plans for post-go-live data-cleansing and quality activities. (Recommendation 6)

The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components, as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI to include a requirement to, as feasible, trace data to an auditable source before migration to better inform data migration and conversion efforts. (Recommendation 7)

The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components, as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI to include a backup plan, or other contingency plan, in case the DAI failed to operate as expected, as part of the cutover plan. (Recommendation 8)

The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components, as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI

to require realistic data conversion goals for performance metrics in their conversion plans. (Recommendation 9)

The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components, as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI to require components to compare and reconcile DAI output reports with legacy output reports. (Recommendation 10)

The Secretary of Defense should ensure that the USD(C)/CFO and other DOD components, as appropriate, revise the DAI program standard operating procedures for new user components migrating to DAI to require the completion and documentation of a change readiness assessment. Such an assessment should include focus groups, surveys of change readiness, and interviews with leadership. (Recommendation 11)

The Secretary of Defense should ensure that the USD(C)/CFO and other DOD components, as appropriate, revise the DAI program standard operating procedures for new user components migrating to DAI to require that they complete and document a stakeholder readiness assessment. Such an assessment should include identifying and assessing key stakeholder groups by common characteristics, communication needs and preferences, and learning styles. (Recommendation 12)

The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components, as appropriate, revise the DAI program standard operating procedures for new user components migrating to DAI to require that future user components ensure that stakeholder concerns, including those related to business process reengineering, are fully addressed. (Recommendation 13)

The Secretary of Defense should ensure that the USD(C)/CFO, the Marine Corps, and other DOD components, as appropriate, engage all DAI stakeholders; focus on identifying and addressing all barriers to change, including those barriers unrelated to processing financial transactions; and log communications with stakeholders. (Recommendation 14)

Agency Comments and Our Evaluation

We provided a draft of this report to DOD for review and comment. We received written comments from DOD that are reproduced in appendix II and addressed below.

In its comments, the department concurred with 13 of our 14 recommendations and concurred with comment on the remaining one. In

addition, DOD recommended consolidating two recommendations, deleting one recommendation, and closing three recommendations. The department also described actions it has taken and plans to take to address them and provided a draft update to its DAI Implementation Plan Agreement.

In concurring with the 13 recommendations, DOD described actions it has taken and plans to take to address them (recommendations 1 through 6 and 8 through 14). For example, with respect to recommendations aimed at DOD revising its DAI standard operating procedures, DOD plans to revise its DAI Implementation Agreement to require users to include all costs when developing future cost estimates. In addition, DOD plans to revise the agreement to require users to establish performance metrics based on strategic objectives and that address a cross section of program success factors.

With respect to recommendations aimed at the Marine Corps' efforts to complete its transition to DAI (recommendations 2, 5, and 14), the department also described steps it has taken to address them. For example, the department stated that the Marine Corps completed its DAI transition to "steady state" operations in February 2024 and provided the signed agreement to GAO. DOD also stated that the Marine Corps continues to engage with key stakeholders and its partners in an ongoing effort to establish configuration management using DAI and regularly addresses areas for improvement, including addressing barriers to change, in regularly scheduled meetings with USD(C)/CFO.

Regarding recommendation 14, in February 2024 the Marine Corps and DAI Portfolio Manager signed off on Marine Corps completing the stabilization phase and entering normal operations in DAI. However, DOD needs to provide documentation associated with the Marine Corps' actions to engage with key stakeholders and partners to address all barriers to change.

For recommendations 2 and 5, we will follow up to confirm that the Marine Corps' actions on our recommendations are, to the extent possible, achieving the desired results. If confirmed, we plan to close the recommendations.

DOD concurred with comment on recommendation 7. This recommendation calls for DOD to revise the DAI standard operating procedures for new user components migrating to DAI to include a requirement to, as feasible, trace data to an auditable source before migration (recommendation 7). DOD stated that most organizations migrate to DAI because their source data system(s) are not auditable.

Nevertheless, revising the DAI standard operating procedures to require new user components to, as feasible, trace data to an auditable source before migration would help mitigate the risk of migrating unreliable data.

In addition, DOD recommended consolidating recommendation 9 with recommendation 6 and deleting recommendation 10. These recommendations involved revising the DAI standard operating procedures for new user components migrating to DAI to require realistic data conversation goals (recommendation 9); plans for post-go-live data cleansing and quality activities (recommendation 6); and comparing and reconciling DAI output reports with legacy output reports (recommendation 10). DOD concurred with these recommendations and addressed their intent as part of its comments on recommendation 6. We did not consolidate the recommendations because each represents a discrete step the department needs to take to improve future transitions to DAI.

With respect to the department's reference to "cutover plans" in its response to recommendation 10, we removed the reference to "cutover plans" from the draft recommendation and communicated this change to the department shortly after we provided DOD with our draft report. The intent remained the same. As noted, DOD provided a draft DAI Implementation Agreement requiring DAI users to compare and reconcile DAI output reports with legacy reports.

In addition, after we sent the draft report to the department, the Marine Corps received a clean audit opinion for fiscal year 2023. As noted, the Marine Corps also completed its transition to normal operations in DAI. Consequently, we revised the report to reflect these accomplishments.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Defense, the Undersecretary of Defense (Comptroller)/Chief Financial Officer, and the Secretary of the Navy. In addition, the report will be available at no charge on the GAO website at https://www.gao.gov.

If you or your staff members have any questions on matters discussed in this report, please contact Asif A. Khan at (202) 512-9869 or khana@gao.gov or Vijay A. D'Souza at (202) 512-7650 or dsouzav@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix III.

Asif A. Khan
Director
Financial Management and Assurance

Vijay A. D'Souza
Director
Information Technology and Cybersecurity

The Honorable Jack Reed
Chairman
The Honorable Roger Wicker
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Gary C. Peters
Chairman
The Honorable Rand Paul, M.D.
Ranking Member
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Mike Rogers
Chairman
The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable James Comer
Chairman
The Honorable Jamie Raskin
Ranking Member
Committee on Oversight and Accountability
House of Representatives

Appendix I: Objectives, Scope, and Methodology

The objectives of this report were to examine the extent to which (1) the Department of Defense (DOD) used leading practices in estimating cost and schedule and in measuring migration progress and (2) the Marine Corps followed data migration and conversion and change management leading practices for its transition.

To address the first objective, we reviewed prior GAO reports and other relevant federal and nonfederal guidance to identify leading practices for developing cost and schedule estimates and metrics for monitoring system transitions.[1] We identified leading practices to include all life-cycle costs in cost estimates, and all necessary effort in schedule estimates. We also identified three leading practices for establishing comprehensive performance metrics to monitor system transitions.

We then used these leading practices to assess the Marine Corps' program cost and schedule estimates for its transition to the Defense Agencies Initiative (DAI) as well as its use of performance metrics. In doing so, we assessed DOD and the Marine Corps' control activities designed to achieve cost, schedule, and performance objectives; identify, analyze, and respond to risks to the DAI transition; and use and communicate quality information to achieve the objectives of the transition.

To evaluate the extent to which DOD and the Marine Corps identified all life-cycle costs in the cost estimate for transitioning to DAI, we reviewed documentation associated with the Marine Corps' costs for transitioning to DAI. For example, we reviewed documentation, such as the October 2020 Marine Corps DAI Implementation Initiative Transition Plan, documents showing contractor support costs, internal briefing slides on the cost of the transition, and the major cost categories and activities that the Marine Corps identified.[2] We also obtained and reviewed internally reported DAI cost information from the DAI Increment 3 Acquisition Program Baseline, which was sourced from the Defense Acquisition

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[1]GAO, *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Program Costs*, GAO-20-195G (Washington, D.C.: Mar. 2020); GAO, *GAO Schedule Assessment Guide: Best Practices for Project Schedules*, GAO-16-89G (Washington, D.C.: Dec. 2015); General Services Administration, *Modernization and Migration Management (M3) Playbook*, accessed January 31, 2023, https://www.ussm.gov/m3; and Project Management Institute, Inc., *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*—Seventh Edition (2021). PMBOK is a trademark of Project Management Institute, Inc. The Project Management Institute is a not-for-profit association that, among other things, provides standards for managing various aspects of projects, programs, and portfolios.

[2]U.S. Marine Corps, *United States Marine Corps DAI Implementation Initiative Transition Plan* (updated Oct. 2020).

Management Information Retrieval system, and DAI program management briefings.[3]

We compared this documentation to GAO guidance on leading practices for establishing cost estimates.[4] Although not a complete reliability assessment of the cost data from DOD and the Marine Corps, we reviewed whether the DAI program's cost estimates included all costs and documented data limitations for our report. In doing so, we determined that the cost information was not fully reliable because it did not include all costs.

To evaluate the extent to which DOD and the Marine Corps included all necessary effort in the Marine Corps' schedule estimates, we reviewed DOD and Marine Corps schedule documentation.[5] This included the October 2020 Marine Corps DAI Implementation Initiative Transition Plan, which outlined the phases of the transition that were expected to begin in June 2020 and conclude in December 2021; program execution timelines; and internal briefings on the schedule of the transition.

We also met with Marine Corps officials to discuss the basis for their schedule estimate, guidance or best practices they followed in establishing their schedule estimate, their monitoring of the adherence to the schedule with metrics, and factors that delayed their planned transition. Further, we met with officials at the Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer (USD(C)/CFO), DAI program, and Defense Finance and Accounting Service (DFAS) to discuss their roles in planning, supporting, and monitoring the Marine Corps' transition schedule.

In addition, we obtained and reviewed documentation of the Marine Corps' planned schedule of activities for its DAI transition, such as its Integrated Master Schedule. We then compared the Marine Corps' schedule estimation process and the planned dates for the transition phases to GAO guidance on leading practices for schedule estimates, assessing the Marine Corps' use and communication of quality information to achieve the objectives of the DAI transition. To assess the reliability of the schedule data from the Marine Corps, we reviewed the

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[3]Defense Logistics Agency, Revised Acquisition Program Baseline Defense Agencies initiative (DAI) Increment 3 (updated Apr. 8, 2022).

[4]GAO-20-195G.

[5]We did not assess the reliability of the Marine Corps' schedule estimates beyond our evaluation of whether the Marine Corps included all necessary effort in those estimates.

differences between the planned and actual transition schedule and the reasons for schedule delays. In doing so, we determined that the schedule information was not fully reliable because it did not include all necessary effort.

To evaluate the extent to which DOD and the Marine Corps addressed leading practices for establishing comprehensive performance metrics to monitor system transitions, we reviewed DOD and the Marine Corps' documentation of metrics they established and maintained associated with the Marine Corps' transition to DAI.[6] Specifically, we reviewed metrics that tracked the general trends with transactional data and interface errors from other systems to DAI, such as unmatched and undistributed transactions. We compared the performance-tracking metrics that DOD and the Marine Corps used to three leading practices identified in our review of guidance from the Project Management Institute and the General Services Administration (GSA).

Specifically, we assessed if the Marine Corps' use of performance metrics was consistent, partially consistent, or not consistent with each of the three leading practices. Our assessment was based on the following decision rules:

- Consistent: The Marine Corps provided complete evidence that satisfied the entire criterion description.

- Partially consistent: The Marine Corps provided evidence that satisfied some but not all of the criterion description.

- Not consistent: The Marine Corps did not provide evidence satisfying any of the criterion description.

In addition, for all three of these areas, we met with cognizant officials from USD(C)/CFO, the DAI program, DFAS, and the Marine Corps Office of Programs & Resources affiliated with the Marine Corps' transition to DAI. We reviewed and summarized these interviews and associated written responses to further understand the Marine Corps' use of cost estimates, schedule estimates, and performance metrics for its transition to DAI. This information supplemented our analysis of the extent to which DOD and the Marine Corps followed relevant leading practices. We did not assess the reliability of the data associated with the performance

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[6]We did not assess the reliability of the Marine Corps' performance metric data. Instead, we focused on the extent to which the Marine Corps' performance metrics followed leading practices.

metrics the Marine Corps used. Instead, as stated, we focused on the extent to which its efforts followed associated leading practices.

To address the second objective, we reviewed prior GAO reports and other relevant federal and nonfederal guidance to identify leading practices for data migration and conversion and change management.[7] We then examined if the Marine Corps followed these leading practices in its transition to DAI. In doing so, we assessed the Marine Corps' control activities designed to achieve its data migration and conversion and change management objectives; identify, analyze, and respond to risks to the DAI transition; and use and communicate quality information to achieve the objectives of the transition. We did not assess the reliability of the data that the Marine Corps used to monitor its data migration and conversion and change management efforts. Instead, as stated, we assessed the Marine Corps' practices in these areas against relevant leading practices.

To evaluate the extent to which the Marine Corps followed leading practices for data migration and conversion, we reviewed relevant federal guidance to identify appropriate leading practices. This included reviewing leading practices for data migration and conversion that the Joint Financial Management Improvement Program (JFMIP) identified.[8] JFMIP describes three phases for data migration and conversion along with associated leading practices. These phases are the pre-conversion phase with three leading practices, the cutover phase with four leading practices, and the post-installation/operations phase with three leading practices.

We also reviewed GSA's *Modernization and Migration Management Playbook (M3 Playbook)*, which documents leading practices learned from over 100 government and industry leaders. From the M3 Playbook, we identified leading practices related to data migration and conversion

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[7]Joint Financial Management Improvement Program, *White Paper: Financial Systems Data Conversion – Considerations* (2002); Project Management Institute, Inc., *Managing Change in Organizations: A Practice Guide* (Newtown Square, Pa.: 2013); Office of Personnel Management, *Migration Planning Guidance Information Documents, Change Management Best Practices* (Oct. 7, 2011); GAO, *Business Process Reengineering Assessment Guide*, version 3, GAO/AIMD-10.1.15 (Washington, D.C.: May 1997); ISACA, *COBIT 2019 Framework* (2019); and Prosci, *The Prosci ADKAR® Model, A Goal Oriented Change Management Model to Guide Individual and Organizational Change*, accessed February 27, 2023, https://www.prosci.com/methodology/adkar. ADKAR® is a registered trademark of Prosci, Inc.

[8]Joint Financial Management Improvement Program, *White Paper: Financial Systems Data Conversion – Considerations*.

that were applicable to the Marine Corps' DAI migration. GAO has used similar leading practices in previous assessments.[9]

For our assessment of the Marine Corps' DAI data migration and conversion activities, we reviewed documentation, such as the DAI program standard operating procedures for DAI transitions, the August 2021 *Marine Corps DAI Data Conversion Plan* and related data migration and conversion testing results, associated exception reports documentation, mock conversion documentation, and cutover determination documentation.[10] We compared the Marine Corps' data-cleansing, conversion, and migration activities to the leading practices identified by JFMIP and in the M3 Playbook for data migration and conversion.

Using an approach consistent with our assessment of the Marine Corps' use of performance metrics, we assessed whether the Marine Corps was consistent, partially consistent, or not consistent for each of the leading practices for data migration and conversion. We consolidated the relevant JFMIP and *M3 Playbook* leading practices to report our findings.

For our assessment of the Marine Corps' DAI change management activities, we conducted a literature search for organizational change management leading practices. In doing so, we identified seven common organizational change management leading practices applicable to the Marine Corps' transition to DAI.[11] GAO has used similar leading practices in a previous assessment.[12]

For our assessment of the Marine Corps' change management activities, we reviewed relevant DOD and Marine Corps documentation. This included the June 2021 Marine Corps' DAI Transition Organizational

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[9]GAO, *Financial Management Systems: Additional Efforts Needed to Address Key Causes of Modernization Failures*, GAO-06-184 (Washington, D.C.: Mar. 15, 2006); *VA Financial Management System: Additional Actions Needed to Help Ensure Success of Future Deployments*, GAO-22-105059 (Washington, D.C.: Mar. 24, 2022).

[10]Defense Finance and Accounting Service, Defense Logistics Agency, and U.S. Marine Corps, *United States Marine Corps (USMC) Defense Agencies Initiative (DAI) Data Conversion Plan* (updated Sept. 8, 2021).

[11]We identified the following organizational change management leading practices: developing a vision for change, identifying stakeholders, effectively communicating with stakeholders to manage commitment, identifying and addressing stakeholders' potential barriers to change, increasing workforce skills and competencies, assessing the readiness for change, and assessing the results of change.

[12]GAO, *VA Financial Management System: Additional Actions Needed to Help Ensure Success of Future Deployments*, GAO-22-105059 (Washington, D.C.: Mar. 24, 2022).

Change Management Plan; business process reengineering
documentation; and other associated documentation, such as the
standard operating procedures for DAI transitions provided by the DAI
program.[13] We also obtained and reviewed Marine Corps' planning
documents from that were relevant to the management of the DAI
transition, such as the Defense Agencies Initiative (DAI) Transition
Training Plan and Defense Agencies Initiative (DAI) Communication
Plan.[14]

In addition, we reviewed documentation that the Marine Corps used to
track and address issues with the DAI transition, such as its risk register
and decision support matrix. We then compared the Marine Corps'
change management practices for its DAI transition to the seven leading
practices. Consistent with our review of the Marine Corps' data migration
and conversion, we assessed the Marine Corps as consistent, partially
consistent, or not consistent with the seven leading practices for change
management.

In addition, for all topics covered under our second objective, we met with
cognizant officials from USD(C)/CFO, the DAI program, DFAS, and the
Marine Corps associated with the Marine Corps' data migration and
conversion and change management processes for the transition to DAI.
We reviewed and summarized these interviews and associated written
responses to further understand associated topics, such as the Marine
Corps' data-cleansing, mock conversion tests, and assessments of its
readiness for change for the transition to DAI. We used this information to
supplement our assessment of the Marine Corps' data migration and
conversion and change management practices for the DAI transition.

We conducted this performance audit from October 2022 to June 2024 in
accordance with generally accepted government auditing standards.
Those standards require that we plan and perform the audit to obtain
sufficient, appropriate evidence to provide a reasonable basis for our
findings and conclusions based on our audit objectives. We believe that
the evidence obtained provides a reasonable basis for our findings and
conclusions based on our audit objectives.

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[13]U.S. Marine Corps, *USMC Defense Agencies Initiative (DAI) Transition Organizational
Change Management Plan* (updated June 2, 2021).

[14]U.S. Marine Corps, *USMC Defense Agencies Initiative (DAI) Communication Plan*
(updated Apr. 15, 2021).

OFFICE OF THE UNDER SECRETARY OF DEFENSE
1100 DEFENSE PENTAGON
WASHINGTON, DC 20301-1100

COMPTROLLER

APR 1 8 2024

Mr. Asif Khan
Director, Financial Management and Assurance
U.S. Government Accountability Office
441 G Street, NW
Washington DC 20548

Dear Mr. Khan:

Enclosed is the Department of Defense (DoD) response to the Government Accountability Office (GAO) Draft Report GAO-24-106313, "FINANCIAL MANAGEMENT: DoD Needs to Take Additional Steps to Guide Future Systems Transition, "dated February 16, 2024 (GAO Code: 106313).

In summary, we concur with 13 of the recommendations and concur with comment on one of the recommendations. Given progress to date, we recommend the consolidation of two recommendations, the deletion of one recommendation, and the closure of three recommendations. To demonstrate our commitment to continued improvement, we accelerated acceptance of the remaining recommendations into the Defense Agencies Initiative Implementation Plan Agreement.

We greatly appreciate the opportunity to provide our responses to the recommendations as well as highlight recent achievements within the Department, most notably with the U.S. Marine Corps. We look forward to future continued engagement and constructive partnership. My point of contact is Ms. Krystyna Kolesar at krystyna.m.kolesar.civ@mail.mil.

Sincerely,

Kathleen S. Miller
Deputy Under Secretary of Defense
(Comptroller)

Enclosure:
As Stated

THE U.S. GOVERNMENT ACCOUNTABILITY OFFICE (GAO) DRAFT REPORT
DATED FEBRUARY 16, 2024
GAO-24-106313 (GAO CODE 106313)

"FINANCIAL MANAGEMENT: DOD NEEDS TO TAKE ADDITIONAL STEPS TO
GUIDE FUTURE SYSTEMS TRANSITIONS"

DEPARTMENT OF DEFENSE (DOD) COMMENTS
TO THE GAO RECOMMENDATION

RECOMMENDATION 1: The Secretary of Defense should ensure that the Under Secretary of
Defense (Comptroller) (USD(C)), the Defense Agencies Initiative (DAI) program, and other
Department of Defense (DoD) components as appropriate, revise the DAI standard operating
procedures to include all costs when developing future DAI cost estimates. This cost estimate
should document all life-cycle costs, including cost associated with bringing new user
components into the DAI system.

DoD RESPONSE: The DoD concurs with this recommendation and has completed – see
Page A-5 of revised DAI Implementation Agreement.

RECOMMENDATION 2: The Secretary of Defense should ensure that the USD(C)/CFO, the
Marine Corps, and other DoD components as appropriate, include all remaining effort in the
schedule for the remaining tasks associated with the Marine Corps full transition to DAI, which
appropriately accounts for program complexity. This schedule should document all remaining
effort needed to complete the Marine Corps' stabilization phase and transition to normal
operations in DAI if the Marine Corps does not meet its planned completion date.

DoD RESPONSE: Complete. The Marine Corps agreed to document its transition to "steady
state" operations on February 28, 2024, and the fully executed agreement was provided to GAO
as evidential matter by March 3, 2024. Therefore, DoD believes this action is complete. The
Marine Corps and the DAI Portfolio Manager documented issues for future improvements, and
both entities will continue to monitor operations as these are addressed, while simultaneously
taking corrective action to resolve material weaknesses and other findings issued by the Marine
Corps Independent Public Auditor.

RECOMMENDATION 3: The Secretary of Defense should ensure that the USD(C)/CFO, the
DAI program, and other DoD components as appropriate, revise the DAI standard operating
procedures to include schedule estimates for future user components migrating to DAI that
include all new user components' efforts, activities, and complex financial transactions; and that
identify DAI's capability to process those transactions.

DoD RESPONSE: The DoD concurs with this recommendation and has completed – see
Page A-5 of revised DAI Implementation Agreement.

RECOMMENDATION 4: The Secretary of Defense should ensure that the USD(C)/CFO, the

DAI program, and other DoD components as appropriate, establish performance metrics for new user components that address all elements described by the leading practices discussed in this report.

DoD RESPONSE: The DoD concurs with this recommendation and has completed – see Page A-11 within the revised DAI Implementation Agreement. The leading practices discussed in the report include, among other things, defining metrics by setting and targeting performance metrics based on the strategic objectives of the organization, ensuring performance metrics address a cross section of program success factors, including compliance, process, and workload, and communicating performance by measuring stakeholders' acceptance of and satisfaction with project deliverables.

RECOMMENDATION 5: The Secretary of Defense should ensure that the USD(C)/CFO, the Marine Corps, and other DoD components as appropriate, establish comprehensive performance metrics for the Marine Corps' transition to DAI that address all elements described by the leading practices discussed in the report.

DoD RESPONSE: Complete. The Marine Corps agreed to transition to "steady state" operations on February 28, 2024. The Marine Corps and the DAI Portfolio Manager documented issues for future improvements, and both entities will continue to monitor operations as these are addressed, while simultaneously taking corrective action to resolve material weaknesses and other findings issued by the Marine Corps Independent Public Auditor. As part of regular updates with USD(C), the Marine Corps and the DAI Program Office monitor system and operations performance outcomes.

RECOMMENDATION 6: The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DoD components, as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI to include plans for post-go-live data-cleansing and quality activities.

DoD RESPONSE: The DoD concurs with this recommendation and has completed – see Page A-9 within the revised DAI Implementation Agreement. DoD recommends a consolidation to incorporate Recommendations 9. DoD also understands that the intent to require components to compare and reconcile DAI output reports with legacy output reports; include plans for post-go-live data cleansing and quality activities; and require realistic data conversion goals for performance metrics in their conversion plans.

RECOMMENDATION 7: The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DoD components as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI to include a requirement to, as feasible, trace data to an auditable source before migration to better inform data migration and conversion efforts.

DoD RESPONSE: The DoD concurs with comment on this recommendation. Most organizations migrate to DAI because their source data system(s) are not auditable. We will require data tracing to an auditable source where such tracing is feasible. Completed - see Page A-9 of revised DAI Implementation Agreement.

RECOMMENDATION 8: The Secretary of Defense should ensure that the USD(C)/CFO, the

DAI program, and other DoD components as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI to include a backup plan, or other contingency plan in case the DAI failed to operate as expected, as part of the cutover plan.

DoD RESPONSE: The DoD concurs with this recommendation and has completed – see Page A-9 of revised DAI Implementation Agreement.

RECOMMENDATION 9: The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI to require realistic data conversion goals for performance metrics in their conversion plans.

DoD RESPONSE: The DoD concurs with this recommendation and has completed – see Page A-9 of revised DAI Implementation Agreement. The DoD recommends that Recommendation 9 be merged with Recommendation 6.

RECOMMENDATION 10: The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI to require cutover plans to compare and reconcile DAI output reports with legacy output reports.

DoD RESPONSE: The DoD understands that the requirement for "cutover plans" described in Recommendation 10, which was included in the initial draft report, was removed. The DoD recommends that Recommendation 10 be deleted.

RECOMMENDATION 11: The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DoD components as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI to require completion and documentation of a change readiness assessment. Such an assessment should include focus groups, surveys of change readiness, and interviews with leadership.

DoD RESPONSE: The DoD concurs with this recommendation and has completed – see Page A-8 of revised Implementation Agreement.

RECOMMENDATION 12: The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI to require that they complete and document a stakeholder readiness assessment. Such an assessment should include identifying and assessing key stakeholder groups by common characteristics, communication needs and preferences, and learning styles.

DoD RESPONSE: The DoD concurs with this recommendation and has completed – see page A-7/8 of revised DAI Implementation Agreement. DoD recommends a consolidation to incorporate Recommendations 13.

RECOMMENDATION 13: The Secretary of Defense should ensure that the USD(C)/CFO, the DAI program, and other DOD components as appropriate, revise the DAI standard operating procedures for new user components migrating to DAI to require that future user components ensure that stakeholder concerns, including those related to business process reengineering, are

fully addressed.

DoD RESPONSE: The DoD concurs with this recommendation and has completed – see Page A-7/8 of revised DAI Implementation Agreement. The DoD recommends that Recommendation 13 be merged with Recommendation 12.

RECOMMENDATION 14: The Secretary of Defense should ensure that the USD(C)/CFO, the Marine Corps, and other DoD components as appropriate, engage all DAI stakeholders, focus on identifying and addressing all barriers to change, including those barriers unrelated to processing financial transactions and log communications with stakeholders.

DoD RESPONSE: The DoD concurs with this recommendation and has completed – see page A-8 of revised DAI Implementation Agreement. Furthermore, the Marine Corps completed its full transition from stabilization to normal operations in DAI during FY 2024. The Marine Corps addressed all barriers to change in an extensive review of their operating environment in its transition to "steady state" operations on February 28, 2024. The Marine Corps continues to engage with key stakeholders within the Marine Corps and its partners in an on-going effort to establish configuration management using DAI. Areas for improvement, to include addressing barriers to change, are addressed in regularly scheduled meetings with USD(C)/CFO with focus on both time and resource constraints.

Appendix III: GAO Contacts and Staff Acknowledgments

GAO Contacts	Asif A. Khan, (202) 512-9869 or khana@gao.gov
	Vijay A. D'Souza, (202) 512-7650 or dsouzav@gao.gov
Staff Acknowledgments	Principal contributors to this report were Michael Holland (Assistant Director), Edward Romesburg (Analyst in Charge), Beatrice Alff, Jason Kelly, Nolan Roosa, Aaron Ruiz, Althea Sprosta, and Umesh Thakkar. Other contributors included Juana Collymore, Jason Kirwan, Michael LaForge, Colleen Phillips, Jason Lee, Anne Thomas, and Benjamin Wilder.