

Defense Enterprise Accounting and Management System (DEAMS)



The Defense Enterprise Accounting and Management System (DEAMS) program continues to refine their implementation of the Scaled Agile Framework (SAFe) to improve the delivery of accounting management software in support of the warfighter, but the operational test strategy is out-of-date and DEAMS's current operational effectiveness, suitability and survivability have not been fully assessed since FY16. The Air Force should perform a DEAMS verification, validation, and accreditation (VV&A) of the DEAMS integrated test environment to determine its level of operational representativeness. The results should be used to develop a more operationally representative test strategy to guide Agile development and fielding of new capabilities and software fixes.

SYSTEM DESCRIPTION

DEAMS is a defense business system that uses commercial off-the-shelf enterprise resource planning software to provide accounting and financial management services.

The DEAMS Program Management Office (PMO) is following an Agile acquisition strategy that adds capabilities and users incrementally. DEAMS serves a user base of up to 16,600 end-users at approximately 170 locations worldwide.

MISSION

DEAMS is intended to deliver accurate, reliable, timely, and auditable financial management information compliant with governing laws, regulations, and policies. DEAMS performs the following core accounting functions:

- Financial System Management
- General Ledger Management
- Funds Management
- Payment Management
- Receivable Management
- Cost Management
- Reporting

Air Force financial managers and tenant organizations use DEAMS to do the following across the U.S. Air Force, the U.S. Space Force, and their supported combatant and field commands:

- Compile and share accurate, up-to-the-minute financial management data and information
- Satisfy congressional and DoD requirements for auditing of funds, standardizing of financial ledgers, timely reporting, and reduction of costly rework

PROGRAM

DEAMS is a Business Acquisition Category I program of record. The PMO submitted for approval a Test and Evaluation Master Plan (TEMP) to DOT&E, which was approved in FY18. DEAMS was designated as an Agile software development pilot program in the FY19 National Defense Authorization Act. In FY20, the DEAMS PMO adopted SAFe to facilitate Agile software development. During FY23, DEAMS completed 4 Agile program increments of approximately 12 weeks each, which resulted in deployment of incremental updates to previously fielded capabilities.

» MAJOR CONTRACTOR

- CACI International, Inc. – Dayton, Ohio

TEST ADEQUACY

The DEAMS PMO developed a more operationally representative integrated test environment to support shortened development

and deployment cycles enabled by Agile software development methods. Additionally, the DEAMS PMO is executing a cloud migration strategy as well. The DEAMS program intends to deploy new capabilities to new user sets starting in major acquisition commands in FY25, a one-year slip from DOT&E's FY22 Annual Report. The Air Force will conduct a risk assessment in accordance with DOT&E guidance to determine the scope of the FOT&E for this limited deployment planned for FY25.

As reported in the FY22 DOT&E Annual Report, the following problems still need to be addressed as a result of the implementation of the SAFe software development:

- The approved DEAMS TEMP is out of date and requires an update to address future FOT&E of new capabilities being fielded and/or new user deployments.
- The operational representativeness of the DEAMS integrated test environment is unknown because the Air Force has not yet conducted a VV&A of the integrated test environment.
- An Agile Operational Master Test Plan (AOMTP) is needed with sufficient detail to conduct adequate operational tests of the upcoming DEAMS capability deployments.

PERFORMANCE

» EFFECTIVENESS

The FY22 Annual Report noted some areas reducing the operational effectiveness of the DEAMS program identified during previous operational testing. The DEAMS program is using Agile development methods to improve each of those areas:

- Timeliness of displayed information to users has improved due to fixes implemented in performance in data replication to display timely reports to the users.
- Problems resulting from software obsolescence and a major system software upgrade are delivered through the program increment Agile process.

DEAMS implementation of SAFe is facilitating an Agile software development environment that can focus on faster resolution of critical software deficiencies and prioritization of the backlog of software deficiencies, enhancements, and capability development. Limitations in the integrated test environment have precluded discovery of operational software deficiencies prior to deployment. However, the program has limited resources and software deficiencies are placed in the software defect backlog to be fixed based on program priorities.

» SUITABILITY

In FY20, DOT&E recommended that site-specific workflows are needed

to improve the usability of DEAMS. The DEAMS AOMTP should then implement a test strategy that will evaluate site-specific operational needs for existing users and future user deployments. No significant progress has been made in this area.

» SURVIVABILITY

DEAMS remains not survivable based upon previous operational tests. In the FY20 Annual Report, DOT&E recommended that the DEAMS PMO address cyber vulnerabilities that present a high risk to DEAMS missions. To measure the program's progress towards cyber survivability, the Air Force should conduct a cooperative vulnerability and penetration assessment and an adversarial assessment.

3. Conduct a cooperative vulnerability and penetration assessment and an adversarial assessment to evaluate the progress of DEAMS towards cyber survivability.

RECOMMENDATIONS

The Air Force should:

1. Perform a VV&A of the operational representativeness and realism of the DEAMS integrated test environment. The Air Force should provide a report that details any deficiencies in the integrated test environment that would preclude its use for adequate operational testing, prior to FOT&E in FY25 and deployment of new capabilities.
2. Submit an AOMTP and an updated TEMP to DOT&E for approval to support the next planned capability deployment to new users in FY25.