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ENTERPRISE INFORMATION TECHNOLOGY DATA REPOSITORY EFFECTIVENESS AS PORTFOLIO MANAGEMENT TOOL



AUDIT REPORT

F2008-0003-FB2000

25 February 2008

INTRODUCTION

United States Code, Title 40, Subtitle III, Chapter 113, requires the Air Force Chief Information Officer to implement a portfolio management process for maximizing the value and assessing and managing risks associated with information technology acquisition and use.

The Enterprise Information Technology Data Repository (EITDR) is the Air Force official database for registering information technology (IT) systems and maintaining portfolio management data. This database provides IT portfolio managers and senior leaders with investment decision support and the ability to track and report compliance with federal laws and regulations.

The Office of the Secretary of the Air Force, Warfighting Integration and Chief Information Officer (SAF/XC) is the EITDR functional office of primary responsibility. As of 30 November 2006, EITDR recorded 146 systems with operating budgets exceeding \$1 million. In addition, Fiscal Year (FY) 2006 EITDR operations and maintenance costs totaled \$4.3 million.

OBJECTIVES

SAF/XC requested this audit to evaluate EITDR effectiveness as a portfolio management tool. Specifically, we:

- Determined whether the EITDR database provided reliable, complete, and accurate information, and
- Evaluated the utility of the reporting tools developed for EITDR.

CONCLUSIONS

EITDR was not an effective portfolio management tool.

- EITDR data were not reliable. Program managers could not provide thorough supporting documentation for 306 (39 percent) of 779 EITDR data elements reviewed. Therefore, we could not validate EITDR data accuracy. Further, when supporting documentation was available, a detailed review of budget data and program manager information identified inaccuracies. As a result, senior leaders relied on manual data calls to support their decision-making process. (Tab A, page 1)

Executive Summary

- The EITDR report writing feature was an ineffective tool. Users found the report writing tool was not user friendly, and EITDR data limitations were not included in user writing tool documentation. Consequently, the program managers interviewed were unsuccessful in using the tool to review and monitor EITDR system data. (Tab A, page 5)

RECOMMENDATIONS

We made two recommendations to strengthen EITDR data reliability and reporting processes. (Reference the individual Tab for specific recommendations.)

MANAGEMENT'S RESPONSE

Management officials concurred with our audit results. Management's actions taken or planned are responsive to the issues and recommendations included in this report.



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SYNOPSIS

EITDR was not effective as a portfolio management tool. Specifically, EITDR data were not reliable and the report writing tool was not effective or useful. These conditions occurred because SAF/XC personnel did not: implement effective procedures to require source document retention; review EITDR data; define EITDR data elements required based on system thresholds; and develop electronic interfaces. Additionally, SAF/XC personnel did not evaluate the report writing tool before selecting it for implementation. These conditions reduce EITDR data reliability, accessibility, and usefulness, and EITDR effectiveness as a portfolio management tool.

BACKGROUND

EITDR provides a web-based, real-time, single point of entry for collecting IT data and facilitating analysis/decision support. Further, EITDR is used to report IT data including Capital Investment Reports (CIR), and Federal Information Security Management Act (FISMA) and FY 2005 National Defense Authorization Act (NDAA) certifications. Although reporting requirements differ for each, EITDR is intended to increase data integrity and reduce manual data requests. Also, EITDR provides automated updates to DoD portfolio management systems through electronic interfaces.

Data accuracy and accessibility are critical to EITDR effectiveness as a portfolio management tool. If the data are not accurate, management runs the risk of incorrect decisions. If the data are inaccessible, management cannot use the data, no matter how accurate. To improve EITDR data accessibility, EITDR provides a report writing process. Program and portfolio managers should be able to use these reports to monitor system status. Further, the reports should permit senior leaders to monitor mission area portfolio goals.

DoD Portfolio Management Instruction¹ requires portfolio managers to conduct periodic program and system reviews within their purview to ensure acquisitions continue to meet goals.

AUDIT RESULTS 1 – DATA RELIABILITY

Condition. EITDR data were not reliable. Specifically, program managers did not maintain supporting documentation, inappropriately combined systems into a single EITDR entry, and incorrectly answered two critical EITDR questions.

¹ DoDI 8115.02, Information Technology Portfolio Management Implementation, October 30, 2006, paragraph 6.1.3.3.

Tab A

Portfolio Management Tool

- Program management personnel could not provide supporting documentation for 306 (39 percent) of 779 data elements reviewed including 94 blank responses. Based on our statistical sample of systems valued over \$1 million, we estimate at least 4,350 (25 percent) of 17,228 EITDR data elements are not supported. Therefore, we could not determine the accuracy of all sampled data elements.
- Two of 15 organizations incorrectly combined multiple systems as a single EITDR entry. Air Force Personnel Center and the Air Weather Agency personnel combined systems and reported them as one “family of systems”. Further, the organizations’ program managers could not provide supporting documentation for the “family of systems” entries.
- When supporting documentation was available, a detailed review of budget data and program manager information identified inaccuracies. To illustrate:
 - EITDR Resource Tables for 23 (88 percent) of 26 systems contained inaccurate budget data when compared to system funding documents. For example, program managers for 12 (46 percent) of 26 systems overstated FY 2007 budgeted amounts by approximately \$120 million, while program managers for the remaining 11 systems understated FY 2007 budgeted amounts by approximately \$41 million.
 - EITDR Point of Contact listings for 13 (50 percent) of 26 systems inaccurately identified the system program manager.

Cause. These conditions occurred because SAF/XC Policy and Resources Directorate (SAF/XCP) personnel did not:

- Establish requirements to maintain supporting documentation for EITDR responses,
- Require program and portfolio manager to review EITDR data for accuracy and completeness,
- Clearly require system program managers to register individual systems rather than combined “family of systems” entries,²

² SAF/XC memorandum “Air Force Business System Development/Modernization Certification Requirements,” 26 October 2006, requires program managers to register and maintain all system information in the Air Force EITDR. The memorandum did not clearly prohibit combining systems into a single entry.

- Define which EITDR questions were mandatory based on specific system thresholds, and
- Require the EITDR program office to develop electronic interfaces to automatically populate data elements (and thus increase accuracy) when the authoritative data source is an existing information system.

Impact. EITDR data unreliability adversely affects management’s ability to make effective business decisions. As a result, senior leaders relied on manual data calls to support their decision making process. For example, in the FY 2008 Budget Estimate Submission cycle, SAF/XC issued manual data calls due to inaccuracies in the EITDR budget data.

Management Action Taken. In March 2007, the program manager completed action to correct a \$1.1 million overstatement of FY 2007 funding for the Joint Interactive Maintenance Information System identified by the auditor. Therefore, no recommendation is required to correct this condition.

Recommendation A1. SAF /XC should direct SAF/XCP to:

- a. Require program managers to review and correct all budget and program manager detail.
- b. Require program managers to maintain supporting documentation for EITDR responses.
- c. Require program and portfolio manager to periodically review EITDR data for accuracy and completeness.
- d. Require EITDR data element registration and completion at the system level.
- e. Define which EITDR questions were mandatory based on specific system thresholds.
- f. Require the EITDR Program Office to establish electronic interfaces to automatically populate data elements when the authoritative data source is an existing information system.

Management Comments A.1. SAF/XC concurred and stated:

- a. “SAF/XCP will establish guidance directing that all required answers for EITDR process questions be completed and reviewed at established intervals. SAF/XCP will review EITDR questions and establish review dates for those questions and for program

Tab A

Portfolio Management Tool

manager contact information. Further, SAF/XCP will establish guidance directing that all budget-year and out-year budget data within initiatives be amounts equal to or below budget data as listed in the Automated Budget Interactive Data Environment System (ABIDES) database at the time of budget submission to OSD(NII) for the Air Force's Budget Estimation Submission and the President's Budget. Estimated Completion Date: 2 January 2009.

b. "SAF/XCP will establish guidance requiring documentation to support EITDR responses. SAF/XCP will review EITDR questions to identify which questions require documentation. Estimated Completion Date: 2 January 2009.

c. "SAF/XCP will establish guidance directing that all required answers for EITDR process questions be completed and reviewed at established intervals. SAF/XCP will review EITDR questions and establish review dates for those questions and for program manager contact information. Estimated Completion Date: 2 January 2009.

d. "SAF/XCP will establish guidance directing Air Force IT investment adherence to the DoD Financial Management Regulation Volume 2B, Chapter 18, that requires the submission of all budget information for defense business systems (DBS) and that all DBSs must be included within the IT Budget at the system level, not as a system of systems, group of systems, or bundle of systems (one Defense Business System = one Initiative). Next, SAF/XCP personnel will establish guidance directing Air Force IT investment adherence to the DoD IT Portfolio Repository and DoD SIPRNET IT Registry Guidance 2007-2008, which requires Defense IT systems to be linked to Budget Identification Numbers. Also, SAF/XCP will execute portfolio investment reviews on Air Force Enterprise Information Environment Mission Area and Warfighting Mission Area, beginning in fiscal year 2008, in response to the Clinger-Cohen Act of 1996 and DoDD 8115.01/DoDI 8115.02 on Information Technology Portfolio Management. The initial review candidates will include those with development/modernization (Dev/Mod) investments greater than \$10 million over the Future Years Defense Program, with the remaining systems phased in over subsequent fiscal years based on Dev/Mod funding levels. Estimated Completion Date: 2 January 2009.

e. "EITDR already indicates which questions systems must answer. SAF/XCP will establish guidance directing that all required answers for EITDR process questions be completed and reviewed at established intervals. SAF/XCP will review EITDR questions and establish review dates for those questions and for program manager contact information. Estimated Completion Date: 2 January 2009.

f. "Budget data within initiatives composing the Air Force's Budget Estimation Submission and the President's Budget are reviewed by SAF/XCP prior to submission to OSD/NII for adherence to amounts equal to or below budget data as listed in the ABIDES database. SAF/XCP will investigate the feasibility of interfacing EITDR to ABIDES or pulling an ABIDES extract into EITDR, assuming a methodology can be

established and implemented to allocate non-pure IT program element monies to the initiative level.” Estimated Completion Date: 2 January 2009.

Evaluation of Management Comments. Management comments were responsive to the issues presented, and actions planned should correct the problem.

AUDIT RESULTS 2 – EITDR REPORTING TOOL

Condition. The EITDR report writing tool was not useful or effective. Specifically, the tool did not make the EITDR data easily accessible and required multiple reports to obtain data across time periods (different fiscal years or different budget cycles).

- The system Help file for the report writing tool did not provide a correlation between the items available for inclusion in the report (called Business Objects) and EITDR questions. Thus, the user who normally associates EITDR information with questions has difficulty identifying the Business Objects that will produce the exact information desired. For example, none of the 26 program managers sampled used the report writing tool due to the difficulty designing a report to obtain the information needed. Instead, they relied on calls to the EITDR Help Desk to generate these reports.
- The Help file did not identify report limitations including effective time periods. To illustrate, the EITDR report writing tool required 14 separate reports to capture all the data to identify systems over \$1 million and related CIR, FISMA, and NDAA questions.

Cause. This condition existed because SAF/XCP personnel did not thoroughly evaluate the report writing tool utility and effectiveness before selecting it for implementation.

Impact. As a result, although program managers were aware of the report writing function, none used the reporting tool. Program and portfolio managers cited the lack of user friendliness as the primary reason they did not use the tool. Further, difficulty accessing data contributed to the increased reliance on manual data calls and infrequent EITDR data reviews. An effective report writing tool could enhance and improve program and portfolio manager ability to monitor and review system data as required by DoD.

Recommendation A.2. SAF/XC should direct SAF/XCP identify, evaluate, and implement a user-friendly report writing tool to support the program/portfolio management review processes.

Management Comments A.2. SAF/XC concurred with the finding and recommendations and stated, “SAF/XCP will direct the EITDR Program Office to review the current report writing system to document known problems, evaluate possible solutions, and

Tab A Portfolio Management Tool

make recommendations. Based on the results, SAF/XCP and the EITDR Program Office will take steps to correct known problems.” Estimated Completion Date: 2 January 2009.

Evaluation of Management Comments. Management comments were responsive to the issues presented, and actions planned should correct the problem.

AUDIT SCOPE.

Audit Coverage. To accomplish our objectives, we performed work at 10 locations (15 organizations) (Appendix II). We interviewed applicable personnel and reviewed source and supporting documentation to test the data reliability and accuracy contained in EITDR retrievals dated from March 1993 through June 2007. We performed the audit from October 2006 through July 2007 and provided a draft report to management in October 2007.

- To determine whether the EITDR database provided reliable, complete, and accurate information, we reviewed 779 randomly selected data elements across 26 randomly selected systems.
- To determine if program and portfolio managers were formally assigned, thoroughly trained and conducted reviews, we identified the applicable program and portfolio management personnel who were or should have been involved in providing the required answer. We interviewed these individuals to determine if they were formally assigned by letter. We identified the training they received and the guidance they used to determine what information should be entered in the EITDR. Additionally, we identified if they had reviewed EITDR responses.
- To determine whether supporting documents were available, we first determined whether local managers provided responses as required. If local management officials did not respond to the questions, we determined why, and assessed the reason given. Then, for those answered questions, we determined the rationale for each response and whether source or supporting documentation was retained. We examined available supporting documents (certification and accreditation packages, system security plans, and risk assessments) to determine whether they supported the responses given. If supporting documents were not retained, we determined why.
- To evaluate the reporting tools utility developed for EITDR, we asked program and portfolio managers whether they used available Air Force Knowledge Service report writing tools. Specifically, we asked how often they used the tools, what reports were generated through their use, and whether the tools were user friendly. In addition, we determined whether training was provided to help managers effectively use the tools.

Sampling Methodology. We used the following sampling concepts and Computer-Assisted Auditing Tools and Techniques (CAATTs) to complete this audit.

- Sampling. We selected our sample in two stages. In the first stage, we identified a universe of EITDR registered systems with a \$1 million or more annual budget

Audit Scope and Prior Audit Coverage

as of 30 November 2006. From this universe, we selected a statistical sample of 30 systems for review. We deleted three systems from the sample because they were managed by other DoD components. Further, program management officials combined two systems³ resulting in a sample of 26 systems. In the second stage, we identified a universe of questions relating to CIR, FISMA, and NDAA as of 30 November 2006. From this universe, we selected a statistical sample of 30 CIR, FISMA, and NDAA questions for each of the 26 sampled systems. One data element was not applicable to one system, resulting in a final sample of 779 data elements. In addition, we reviewed the budget data and program manager detail for all 26 sampled systems.

- CAATTs. We used Microsoft Excel statistical formulas to develop the sample, analyze personnel training, system reviews, and budget data for the 26 sampled systems.

Data Reliability. We relied extensively on computer-processed data contained in the EITDR system. The data test results, comparing output data to manual documents to validate data accuracy and completeness, cast doubt on the data's validity. However, we believe the opinions, conclusions, and recommendations in this report are valid when viewed with other available evidence. The evidence includes program funding documents, certification and accreditation packages, system security plans, and risk assessments.

Auditing Standards. We conducted this audit in accordance with generally accepted government auditing standards, and accordingly, included such tests of internal controls as considered necessary under the circumstances. Specifically, we evaluated EITDR data accuracy and reviewed internal controls including management policies and procedures established to ensure responses provided to EITDR questions were correct and supported.

PRIOR AUDIT COVERAGE

We did not identify any DoD Inspector General or Government Accountability Office reports issued within the past 5 years that addressed the same or similar objectives as this audit. However, we identified one previous Air Force Audit Agency Report of Audit, F2006-0001-FB2000, Reliability of Data Supporting Air Force Information and Logistics Systems, 15 November 2005. The report indicated AFMC/A6 (formerly AFMC/TR) per-

³ The Air Force Knowledge Service and the Global Command and Control System – Air Force.

Audit Scope and Prior Audit Coverage

sonnel did not effectively develop and implement EITDR. Specifically, program office personnel did not effectively implement EITDR system controls for the 10 control categories reviewed and monitor EITDR registered systems for data completeness and user access. The report made three recommendations to strengthen EITDR system controls and data reliability, that management reported as completed in June 2006.

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Locations Audited/ Reports Issued

<u>Organization/Location</u>	<u>Installation-Level Reports Issued</u>
<u>Headquarters Air Force</u>	
Information and Communications Support Washington DC	NONE
844th Communication Group Andrews AFB MD	NONE
<u>Air Education and Training Command (AETC)</u>	
HQ AETC Randolph AFB TX	NONE
<u>Air Force Materiel Command (AFMC)</u>	
HQ AFMC Wright-Patterson AFB OH	F2007-0032-FCW000 11 July 2007
554th Electronic Systems Group Wright-Patterson AFB OH	NONE
754th Electronic Systems Group MAFB-Gunter Annex AL	F2007-0070-FDD000 31 July 2007
754th Electronic Systems Group Wright-Patterson AFB OH	NONE
Electronic Systems Center Hanscom AFB MA	F2007-0012-FCQ000 19 September 2007
Ogden Air Logistics Center Hill AFB UT	F2007-0066-FCI000 12 September 2007
Oklahoma City Air Logistics Center Tinker AFB OK	NONE
Air Force Flight Test Center Edwards AFB CA	F2007-0059-FCI000 2 August 2007
Warner Robins Air Logistics Center Robins AFB GA	NONE

Locations Audited/ Reports Issued

Air Force Personnel Center (AFPC)

HQ AFPC	NONE
Randolph AFB TX	

Air Force Manpower Agency (AFMA)

HQ AFMA	NONE
Randolph AFB TX	

Air Force Weather Agency (AFWA)

HQ AFWA	NONE
Offutt AFB NE	

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