

**MEMORANDUM ADVISORY REPORT
SBA NEEDS TO IMPLEMENT A VIABLE SOLUTION
TO ITS LOAN ACCOUNTING SYSTEM MIGRATION PROBLEM**

AUDIT REPORT NUMBER 05-29

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U.S. SMALL BUSINESS ADMINISTRATION
OFFICE OF INSPECTOR GENERAL
WASHINGTON, D.C. 20416

**MEMORANDUM ADVISORY
REPORT**

Issue Date: September 30, 2005

Number: 05-29

To: Stephen D. Galvan,
Acting Deputy Administrator

Michael W. Hager,
Associate Deputy Administrator
Office of Capital Access

Charles McClam
Acting Chief Information Officer

From: **/S/ Original Signed**
Robert G. Seabrooks
Assistant Inspector General for Audit

Subject: SBA needs to Implement a Viable Solution to its Loan Accounting System Migration Problem

This report alerts you to the serious and significant problems confronting SBA and the need for more effective actions relating to the migration, enhancement or replacement of SBA's Loan Accounting System. SBA reviewed a draft of this report and generally agreed with its findings and recommendations. SBA's complete response is included as appendix "A" to this report.

BACKGROUND

SBA's Loan Accounting System (LAS) has been in existence since the 1970's. While state-of-the-art when designed, the application environment now adversely impacts the SBA's ability to rapidly meet the expanding requirements of current and future business needs. The LAS includes 19 subsystems and serves as the principal data processing and data collection tool for SBA's loan servicing, loan monitoring and loan accounting processes. In Fiscal Year (FY) 2004, the SBA LAS serviced a loan portfolio which totaled approximately \$60 Billion.¹

¹ SBA Performance and Accountability Report FY2004, page 75

While multiple assessments and feasibility studies have been completed with the objective of pointing out the need for enhancing or replacing LAS, a definitive migration strategy or replacement approach has not been developed and adopted by the SBA. Recently, the risks of not implementing an effective short-term and long-term migration or replacement solution have increased due to the following factors.

- SBA's contract with Unisys Corporation to provide outsourced services for LAS will expire effective on February 17, 2007.
- On January 24, 2005, the Office of Chief Information Officer (OCIO) was informed by the General Services Administration that the existing Unisys contract could not be extended beyond its current term.
- On December 10, 2004, OCIO presented to SBA's Business Technology Investment Council (BTIC) a series of migration options for LAS. As the OCIO proposal noted SBA "is faced with a clear decision; is there an action that can be taken to eliminate the reliance on the mainframe prior to the end of the current contract term, or should OCIO immediately begin the process of procuring a replacement for the existing Unisys contract." Migration activities, estimated at 367 days in the OCIO December, 2004 plan were anticipated to start on May 2, 2005, after vendor procurement activities were completed.
- A Request for Information (RFI) was issued June 30, 2005; alternative solutions will be considered by the BTIC during the week of August 15, 2005.

OBJECTIVES, SCOPE AND METHODOLOGY

The objective of this review was to evaluate whether SBA's plans and controls are working effectively to address issues related to migrating from its legacy mainframe Unisys Clearpath 2200 operating system. The need for change comes from at least two major risks:

- Application and technology risk – OCIO noted in its December 2004 proposal, "the existing mainframe applications support the mission of the SBA but there are several significant drawbacks of the current platform including extremely high-cost, obsolete technology, and serious security holes that cannot easily be addressed. The applications are COBOL based and have been in existence for up to 30 years."
- Contracting and cost risk – GSA has informed the SBA the existing task order cannot be extended. Therefore, it is likely that maintaining the status quo will require the SBA to negotiate a custom agreement. This custom agreement may significantly limit SBA's optimal contracting leverage, thereby potentially impacting service levels and increasing operating costs.

The scope of our review included an examination of FY 2005 Business Technology Investment Council (BTIC) minutes, the OCIO Mainframe Migration plan dated December 2004, proposal and contracting documents, interviews with selected SBA personnel. We performed our review during May to July 2005.

REVIEW RESULTS

The results of our review identify that the LAS remediation project requires intervention and oversight from the highest levels of SBA up to and including the Acting Deputy Administrator.

Finding 1: The Loan Accounting System Needs Immediate Attention by all Aspects of SBA

SBA needs to immediately develop and deploy an effective LAS migration or modernization plan. As noted in the SBA's strategic systems plan "The single biggest challenge facing the SBA is the modernization of the loan accounting process, where the Loan Accounting System is the central hub. This mainframe-based system has been in place for approximately 30 years and significantly contributes to the amount of manual processes in place."² A major impediment to making needed changes is that LAS is "owned" by multiple SBA Offices including: Office of Financial Assistance, Office of Disaster Assistance, Office of Field Operations and the Office of Chief Financial Officer. These multiple SBA Offices have disparate organizational goals and objectives, making prioritization and implementation of remediation efforts both untimely and challenging. As a result, the LAS migration or modernization project requires intervention and oversight from senior management, such as the Acting Deputy Administrator.

The OCIO Strategic Plan indicated that OCIO will work with the entire Agency to design a more integrated solution that provides increased functionality throughout the loan lifecycle, as well as more robust and user-friendly capability. This will streamline the process by providing more automation throughout the process, reducing data entry redundancies, and allowing real-time updates and inquiry of loan data.

Further, SBA's Loan Accounting System presents substantial risk to the Agency. This was reported in the KPMG Legacy Application Report issued on May 22, 2002, more than three years ago. That report noted that SBA has a substantial risk related to the age of the systems [the LAS] and the age of the work force that supports it. It also faces an increasingly shrinking window of opportunity for completing systems modernization efforts. The core transaction systems operating on the mainframe are inflexible and provide an end-user interface that is both difficult to navigate and difficult to comprehend.

The KPMG Legacy Application Report also stated that the SBA Loan Accounting System is outdated. The application portfolio is largely made up of systems and technology that are dangerously close to the end of their expected useful life. Very few

² SBA IT Strategic Plan, Page 35, Document Date – September 2004

of the systems are compliant with the SBA Information Technology Architecture (ITA); it is not likely that the older technologies or the systems that are built on them can be cost-effectively modernized to the point that they could play a meaningful long-term role in a new LAS.

The Clinger-Cohen Act (44 USC 3506) requires Agencies to:

- Assume responsibility and accountability for information technology investments,
- Assume responsibility for maximizing the value and assessing and managing the risks of major information systems initiatives through a process that is –
 - Integrated with budget, financial, and program management decisions; and
 - Used to select, control, and evaluate the results of major information systems initiatives.

According to the SBA Information Technology Investment Management Guide (ITIM), the Business Technology Investment Council (BTIC) is SBA's top tier review board. The BTIC is responsible for reviewing and making decisions on all major IT investments, including screening, scoring, and prioritizing new initiatives, monitoring ongoing investments, and evaluating implemented investments. In addition, BTIC provides recommendations for Agency-wide IT investment strategies and improves upon the overall ITIM process.

From a review of IT proposals Capital Asset Plans (CAP) submitted by SBA since the KPMG Legacy Application Report was finalized in 2002, there has been no proposal submitted and adopted by the SBA for migrating, modernizing or replacing LAS. This includes CAPs preliminarily approved for FY 2007 which are due to be submitted to OMB in September 2005.

SBA has internally discussed moving off the legacy mainframe as identified in BTIC minutes in 2004 and 2005. However, due to the fragmented ownership of LAS and the inability of the individual SBA offices which have a vested interest in LAS to act in concert to submit a timely and comprehensive proposal for either migrating off LAS, updating its components or planning for eventual system retirement, a viable solution has not been determined. Therefore, we believe that SBA has not been fully responsive to its duties as defined within 44 USC 3506 in planning for the replacement or upgrading of the existing LAS legacy system since the KPMG Legacy Application Report was published in 2002.

Recommendations:

We recommend that the Acting Deputy Administrator:

- 1.A** In coordination with affected component offices of the Agency, adopt a plan to expedite the migration or modernization of SBA's Loan Accounting System off the current UNISYS legacy mainframe and make this the highest priority of the

SBA going forward using good project management practices and financial management of the project.

- 1.B** Ensure the adopted migration or modernization plan for the SBA Loan Accounting System include such budgets and resources to ensure success of the project and if possible, be included in the FY 2007 Capital Asset Plan submission to OMB and Congress.

Management Comments

In SBA's response, SBA fully concurred with the finding and both recommendations to this report (see attachment A for SBA's full response).

Evaluation of Management's Comments

SBA comments were responsive to the recommendations.

Finding 2: Ownership of the Loan Accounting System is not Defined Clearly which has Compounded Risks and Slowed Replacement Efforts

According to the OIG Report 4-18 issued on April 5, 2004 finding #2, "Ownership of LAS does not accurately reflect the offices which actually own the system. SBA security documentation identified that SBA's Chief Financial Officer owns and has overall responsibility for LAS. This occurred because ownership of LAS was inappropriately designated to the Chief Financial Officer in March of 2001. As a result, operational units within SBA including the Office of Chief Information Officer (OCIO), Office of Capital Access, Office of Field Operations, Office of Disaster Assistance and the Office of Chief Information Officer do not currently have a formal direct stake in the operations, risks and capabilities of LAS. Since responsibilities have not been appropriately designated, coordination between SBA offices for changes to the LAS environment is therefore, not effectively administered."

OMB Circular A-130, Appendix 3, Section B.3.4. requires that for major applications, a management official shall provide written authorization for use after confirming that its security plan as implemented adequately protects the application. Management authorization implies accepting the risk of each system used by the application. Additionally, SBA's System Development Methodology (SDM) requires the establishment of a Change Control Board (CCB) for all new application projects.

SBA was supposed to implement a CCB for LAS on January 1, 2005. The CCB is supposed to represent all offices with a direct stake in LAS operations and act as a voice in ensuring the continuance of the system. We are not making any recommendations since recommendation 2.B for report 4-18 has not yet been implemented. However, we note that with the multi-tiered ownership of LAS, no proposal for replacing LAS was submitted to the BTIC in either FY 2003 or FY 2004.

Additionally, no proposal is pending for replacing LAS in the FY 2005 submission to OMB.

Finding 3: Other Alternative Replacements to the Loan Accounting System could be Less Expensive to Operate in the Long-Term

The “Mainframe Migration Business Case Analysis” issued by the OCIO on December 10, 2004, identified that the base operations of the Legacy Mainframe were \$40.1 million over five years. This compared with migrating to a less expensive platform with a five year cost of \$23.7 million. This would equate to a five year projected savings of \$16.4 million if the OCIO Mainframe Migration Business Case estimated costs prove to be accurate.

Some alternatives that were not mentioned or included with estimated costs in the Mainframe Migration Business Case Analysis included:

- Fully replacing and retiring legacy applications with more modern applications or business logic based upon updated architectures as the more modern systems come on-line within SBA. As an example, from our audit on the legacy Loan Application Tracking System (LATS) (OIG Report 4-18), SBA identified that it would fully replace LATS with its Electronic Transaction (ETRAN) system in July 2005. Therefore, there should be no reason to continue LATS after July 2005.
- Exploring the costing out of specific Information Technology (IT) services of the mainframe system per subsystem and the SBA Office that requires it – that is, if one SBA office insists that it needs a subsystem of the legacy mainframe, use accounting principles to charge that specific SBA office for services that only it uses on the UNISYS mainframe system. Otherwise, utilize updated architectures and rework on-line analytical processing tools to support the requirements of the various SBA offices.
- Utilize the 1999 Booz, Allen and Hamilton – Loan Monitoring System Business Process Reengineering study as a beginning to updating the work processes around the SBA legacy systems. While SBA’s Office of Lender Oversight and Guaranty Purchase Center have changed a number of operations since 1999, the underlying systems which support SBA remain very similar to the ones which existed six years ago.

Recommendations:

- 3.A** We recommend that the Chief Information Officer in conjunction with OCFO explore the feasibility of charging each individual office for legacy applications which only those offices use when newer and more economical alternate computing capabilities exist.

- 3.B** We recommend that the Chief Information Officer and any potential LAS modernization project review the 1999 Booz, Allen and Hamilton – Loan Monitoring System Business Process Reengineering study and other materials from the previous Systems Modernization Initiative project as a beginning to updating the work processes around the SBA legacy systems.

Management Comments

Officials from SBA’s OCIO did not provide formal management comments to this report, but met with us on September 9, 2005. OCIO had the following comments in response to our draft report:

- OCIO requested that we remove converting SBA’s business logic to existing Sybase Data Base Management Structures (DBMS) or future Oracle DBMS structures and making the Electronic Loan Information Processing System (ELIPS) the master loan DBMS. OCIO identified that the existing mainframe business logic is extremely complex and could not be easily converted. Additionally, the ELIPS is in reality a data warehouse for OCFO.
- OCIO identified that SBA had decided that a project would be undertaken Agency-wide which would be headed by one of the major ownership offices. In this project the owners would identify their business processes, identify what processes were necessary and have technology work to meeting those process needs to develop a new system.
- OCIO further identified that SBA had decided to issue a Charter for implementing a newer system whereby one of the ownership offices would lead the group. SBA decided that Office of Capital Access would lead the effort. A representative from OCIO would be there to assist in a business process reengineering study (BPR) to ensure that the business processes could be transported to a technology solution.
- OCIO would continue to modernize the “low-hanging-fruit” of mainframe modules. They would replace modules one-at-a-time if possible.
- OCIO agreed with recommendation 3.A (the draft recommendation 3.B) as stated.

Evaluation of Management’s Comments

SBA comments were responsive to the recommendations. We modified finding 3, eliminated the former recommendation 3.A and added a new recommendation 3.B. These changes reflect that SBA verbally informed us that they had selected a business process reengineering project for updating its business processes.

Finding 4: The Loan Accounting System does not have Adequate Security to Protect the Information within the System

SBA has a number of serious security weaknesses which it has either accepted or cannot successfully address within its current mainframe environment due to budget constraints or the abilities of the mainframe system to secure these issues. These security

weaknesses were estimated to cost \$3.6 million to correct in SBA's Mainframe Migration Report issued in December 2004. As a result, SBA's main mission critical information is at risk of exposure, or misuse due to a potential lack of confidentiality or integrity within the LAS system.

OMB Circular A-130 Security of Automated Information Resources identifies adequate security as security commensurate with the risk and magnitude of harm resulting from the loss, misuse, or unauthorized access to or modification of information.

The Clinger – Cohen Act 44 USC 3506 requires that with respect to privacy and security each Agency shall implement and enforce applicable policies, procedures, standards, and guidelines on privacy, confidentiality, security, disclosure and sharing of information collected or maintained by or for the agency.

The following security weaknesses which are not in compliance with SBA's SOP 90-47 on Computer Security have been identified for the Eagan Mainframe or LAS by either SBA's Risk Assessment or OIG audits:

1. [FOIA Ex. 2]

2. No data checking was performed including:

- Event checking which ensures that data input is valid and that the LAS database was updated correctly, and
- Data checking which identifies if data is altered prior to update cycle.

SBA's estimated cost in its POA&M to repair or mitigate this vulnerability within the current platform is \$360,000 and would not fully address all aspects of the vulnerabilities identified.

3. [FOIA Ex. 2] SBA's estimated cost in its POA&M to repair or mitigate this vulnerability within the current platform is \$845,000.

4. Access controls were not implemented in the relational database system. SBA's estimated cost in its POA&M to repair or mitigate this vulnerability within the current platform is \$500,000.

5. [FOIA Ex. 2] SBA's estimated cost in its POA&M to repair or mitigate this vulnerability within the current platform is \$125,000.

6. LAS did not perform auditing features including:

- [FOIA Ex. 2]

SBA's estimated cost to repair or mitigate these vulnerabilities in its POA&M is \$760,800 and would not fully address all aspects of the vulnerabilities identified.

7. Documentation for system and program changes was outdated, and documentation supporting tests of program changes was inadequate. Specifically, user and programmer test plans and results are not documented to demonstrate that programs are properly tested and approved prior to being placed in operation. Compliance is not enforced, because control procedures do not exist to ensure that documentation is being updated and maintained.

In answering OIG audit 5-12 on Information System Controls for FY 2004, SBA recently estimated that the partial cost of updating documentation for LAS to a reasonable level would be over \$1.1 million and would not fully correct all system documentation issues.

All six items have been identified in OIG audits and risk assessments of SBA's LAS mainframe system going back to FY 2001. SBA responded to our FISCAM audit 01-12 issued on July 2, 2001 that for systems that have been frozen and are due for retirement [LAS], we consider it an unwise investment in resources to update documentation. However, with the LMS redirection in May 2001, SBA has identified no concrete plans to replace LAS with either an updated platform or make the investments needed to correct the security and system vulnerabilities within the current system. These security and system vulnerabilities make LAS unsustainable over the long-term and create operational risk to the Agency.

Recommendation:

- 4.A We recommend that the SBA Chief Operating Officer take concrete steps to improve the computing environment and potentially eliminating the security vulnerabilities identified for its legacy mainframe operating system.

Management Comments

SBA fully concurred with the finding and both recommendations to this report.

Evaluation of Management's Comments

SBA comments were responsive to the recommendations.

* * *

The findings included in this report are the conclusions of the Auditing Division based upon the auditors' review of SBA's Loan Accounting System and applicable planning and contract documents. The findings and recommendations are subject to review and implementation of corrective action by your office following the existing Agency procedures for audit follow-up and resolution.

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Should you or your staff have any questions, please contact Jeffrey R. Brindle, Director, Information Technology and Financial Management Group, at (202) 205-[FOIA Ex. 2].



U.S. SMALL BUSINESS ADMINISTRATION
WASHINGTON, D.C. 20416

OFFICE OF THE ADMINISTRATOR

Sep 30 2005

TO: Peter McClintock
Acting Inspector General

/S/ Original Signed

FROM: Stephen D. Galvan
Acting Deputy Administrator and Chief Operating Officer

SUBJECT: Response to OIG LAS Memorandum Advisory Report

In its August 18, 2005 report on SBA's Loan Accounting System (LAS), the OIG alerted the Agency to "serious and significant" problems with the LAS and the need for more effective action to immediately develop and deploy an effective LAS migration or modernization plan. SBA agrees with the four findings of the report and will act on the Five recommendations supporting the findings.

Cc: Mr. Robert Seabrooks, Assistant IG for Auditing

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