

Congress of the United States
U.S. House of Representatives
Committee on Small Business
2361 Rayburn House Office Building
Washington, DC 20515-6315

To: Members, Committee on Small Business
From: Barry Pineles, Chief Counsel
Re: Full Committee Hearing: "Placing Federal Tax Dollars at Risk: How the Small Business Administration Mismanages the Modernization of its Information Technology"
Date: February 1, 2012

On Wednesday, February 8, 2012 at 1:00 pm in Room 2360 of the Rayburn House Office Building, the Committee on Small Business will meet for the purpose of examining the Small Business Administration's (SBA) efforts to modernize the computer systems used to manage its loan portfolios. The systems, originally developed in the 1970s, are outdated and multiple administrators determined that they need to be updated. Given the problems plaguing the systems, the Chairman requested the Government Accountability Office (GAO) review the modernization efforts. This hearing will review the GAO audit and hear what steps, if any, the Administrator will take to improve the modernization of its loan management accounting systems.

SBA Loan Programs

The SBA oversees five major lending programs: 1) the 7(a) Business Loan Guarantee Program; 2) loans made by Certified Development Companies pursuant to the authority of Title V of the Small Business Investment Act of 1958; 3) disaster loans made pursuant to the authority of Article I of § 7(b) of the Small Business Act; 4) guarantees of debentures issued by small business investment companies pursuant to title III of the Small Business Investment Act; and 5) loans made to microloan intermediaries who in turn lend to small businesses as authorized by § 7(m) of the Small Business Act. Of those programs, only disaster and microlending involve the SBA providing capital directly to small businesses or their lenders. The other programs operate through the issuance of federal guarantees on money provided by non-federal government lenders to small businesses. If the small business is unable to repay the financing, the government reimburses the private sector provider of the capital to the small business. The total amount of outstanding loans and guarantees made by the SBA exceeds \$80 billion. If this loan portfolio is not properly managed, the risks to the federal taxpayer need no further expatiation.

This type of financial portfolio requires sophisticated information technology so the SBA can properly manage the portfolio. To ensure the adequacy of these systems, Congress and the Executive Branch developed some 50 separate laws, regulations, and guidance documents that cover the computer systems managing federal financial programs.¹ Some of the laws and guidance apply to all computer systems operated by the government while others are focused on those that contain financial information like the SBA's loan portfolios. We first turn our attention to the overall framework by which the federal government manages computer systems and then will examine the more narrow issue of federal financial systems.

Framework for Management of Federal Information Technology

The Paperwork Reduction Act

In 1980, Congress enacted the Paperwork Reduction Act.² Although primarily an effort to reduce reporting and recordkeeping on the private sector,³ the PRA also addressed a lesser-known problem of federal management of the information it produced and received.⁴ The initial step was modest and simply required agencies to designate a senior information resources management officer.⁵

Congress supplemented that initial foray in the 1986 amendments to the PRA. This Act required agencies to develop plans that demonstrated how the agencies were using the management of information resources to improve agency productivity, efficiency, and effectiveness.⁶ In making sure that these plans worked effectively, Congress directed that the management of information resources include the management of automated data processing equipment.⁷ Thus, the 1986 PRA amendments represent the first edict from Congress to all agencies to manage properly their use of automated data processing equipment that was acquired pursuant to the Brooks Act.⁸

A confluence of three significant events led to Congressional modification of the PRA. First, the Supreme Court determined that the PRA does not apply when a federal agency

¹ *Global Computer Enter. v. United States*, 88 Fed. Cl. 350, 439 (2009).

² 44 U.S.C. §§ 2904-05, 3501-21 (PRA).

³ See Pineles, *The Small Business Regulatory Enforcement Fairness Act: New Options in Regulatory Relief*, 5 COMM. L. CONSP. 29, 29-30 (1997).

⁴ See Trauth, *The Evolution of Information Resource Management*, 16 INFORMATION & MANAGEMENT 257, 260-61 (1989).

⁵ GAO, CHIEF INFORMATION OFFICERS: IMPLEMENTING EFFECTIVE CIO ORGANIZATIONS 3 n. 3 (2000) (GAO/T-AIMD-00-128).

⁶ *Id.*

⁷ Relyea, *E-gov: Introduction and Overview*, 19 GOV'T INFO. Q. 9, 10 (2002).

⁸ Automated data processing equipment was defined in the Brooks Act, which authorized the GSA to manage the acquisition of such equipment for the federal government. See *United States v. IBM Corp.*, 892 F.2d 1006, 1008 (Fed. Cir. 1989). These provisions of the Brooks Act, since repealed as will be discussed shortly, defined automatic data processing equipment as "any equipment or interconnected system or subsystems of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching interchange, transmission or reception of data or information...." 40 U.S.C. § 759(a)(2)(A) (repealed).

mandates disclosure of information from an entity regulated by the agency to a third party.⁹ Second, the changes made by the PRA with respect to information resource management showed no signs of improving the utilization of such technology even though the federal government had spent over \$200 billion on it from the early 1980s to the early 1990s.¹⁰ Finally, rapid changes were occurring in the use of information resource management as the adoption of the personal computer (both in the workplace and at home) was spreading. While any one of these events might not have been sufficient to roust Congress into action, all three events coalesced into a clarion call that the legislature could not ignore.

The 1995 amendments (technically a full recodification) imposed significant responsibilities on the Office of Information and Regulatory Affairs (OIRA) (the office created by the original PRA to implement that statute) including oversight of: agency collection and release of information; agency maintenance of statistics; management of archival records; agency systems to insure privacy and confidentiality of records; and, for the purposes of this hearing, the acquisition and use of information technology.¹¹ In addition, Congress defined the term “information resources” to be coextensive with the definition of automatic data processing equipment in the Brooks Act.¹²

The Administrator of OIRA, in conjunction with other officials of the government, was, among other things, required to: develop standards for information technology functions; evaluate periodically major information systems; oversee development of standards for federal computer systems as required by the Brooks Act; monitor compliance with directives issued under the Brooks Act; coordinate federal acquisition policy with respect to information systems; and review agency information resource management plans, including the budgets for such plans.¹³

The heads of federal agencies were required to designate a senior official reporting to the head of the agency to ensure optimal utilization of information resource management and compliance with the directives issued to comply with the PRA. This senior official, among other responsibilities, had to: ensure integration of information resource management with organizational planning and budgets; maintain accurate accounting of information technology expenditures; enforce government-wide information technology standards; assume responsibility for information technology investment; and manage risks associated with the development of information technology systems.¹⁴

⁹ *Dole v. United Steelworkers of Amer.*, 494 U.S. 26, 34-35 (1990). The changes made in the PRA as a result of this case are beyond the scope of this hearing.

¹⁰ GAO, PAPERWORK REDUCTION ACT: OPPORTUNITY TO STRENGTHEN GOVERNMENT’S MANAGEMENT OF INFORMATION AND TECHNOLOGY 2-4 (1994) (GAO/T-AIMD/GGD-94-126). The GAO investigated agency mismanagement of information resource technology on 41 separate occasions in the early 1990s. *Id.* at App. I.

¹¹ 44 U.S.C. § 3504; see Lubbers, *Recent Developments: Regulatory Reform & the 104th Congress: Paperwork Redux; The (Stronger) Paperwork Reduction Act of 1995*, 49 ADMIN. L. REV. 111, 112 (1997).

¹² Paperwork Reduction Act of 1995, Pub. L. No. 104-13, § 3502(9), 109 Stat. 163, 166.

¹³ *Id.* § 3504(h), 109 Stat. at 169-70.

¹⁴ *Id.* § 3506(b)(2), (h), 109 Stat. at 172, 175-76.

Although the 1995 recodification established a framework for overall management of information technology by the federal government, it did not resolve fully the issues associated with the acquisition of such technology. By the mid-1990s, information technology had drastically moved on from a centralized mainframe environment to a decentralized desktop environment. Despite the rapid changes in computing technology, the federal government's purchase of information technology remained centralized in the General Services Administration through the Brooks Act. In 1996, Congress decided to modernize the acquisition of information technology.

*The Information Technology Management Reform Act*¹⁵

The Clinger-Cohen Act (CCA) amended both the 1995 PRA and made substantive changes to the statutes governing the acquisition of information technology, including the Brooks Act.¹⁶ The Act decentralized the purchase of federal government information technology by repealing the Brooks Act and its authorization of the General Services Administration as the sole purchaser of computer equipment.¹⁷ To ensure that this power is exercised in a judicious manner, the CCA requires federal agencies to “develop a comprehensive plan for their information technology systems and acquisitions....”¹⁸ As already described, the PRA required agency heads to designate senior agency officials to oversee the use of information technology. The CCA redesignated those officials as Chief Information Officers (CIOs) and detailed job responsibilities and qualifications.¹⁹ One specific responsibility of the CIOs, which is of particular importance to the topic of this hearing, is to develop, maintain, and facilitate the implementation of a sound information technology architecture for the agency.²⁰ Information technology architecture is defined as an “integrated framework for evolving or maintaining existing information technology to achieve the agency’s strategic goals and information management goals”²¹ and is generally referred to as enterprise architecture.

These statutes placed the CIO at the epicenter of managing federal utilization of information technology. While placing CIOs in a primary role, Congress ensured that overall direction still would come from directives by the Director of the Office of Management and Budget (OMB) and the Administrator of OIRA. In order to fully

¹⁵ Pub. L. No. 104-106, Div. E. 110 Stat. 186, 679 (1996). The Act, along with the Federal Acquisition Reform Act (enacted as Div. D in the same public law), are commonly referred to as the Clinger-Cohen Act after their primary House and Senate sponsors. This memorandum will adopt the more colloquial approach and refer to the Clinger-Cohen Act.

¹⁶ See Relyea, *supra* note 7, at 13-14.

¹⁷ See *Knowledge Connections, Inc. v. United States*, 79 Fed. Cl. 750, 754 (2007).

¹⁸ *Corel Corp. v. United States*, 165 F. Supp. 2d 12, 16 (D.D.C. 2001).

¹⁹ Pub. L. No. 104-106, Div. E., § 5125, 110 Stat. 684-86 (1996) (codified at 44 U.S.C. § 3506). For a detailed examination of the CIO position and its private sector antecedents, see Scott A. Bernard, *Evaluating Clinger-Cohen Act Compliance in Federal Agency Chief Information Officer Positions* 42-116 (2001) (unpublished Ph.D. dissertation, Virginia Polytechnic Institute and State University), available at http://scholar.lib.vt.edu/theses/available/etd-04272001-191740/unrestricted/Dissertation_Final_Copy.pdf.

²⁰ Pub. L. No. 104-106, Div. E., § 5125(b)(2), 110 Stat. 685 (1996) (codified, as amended, at 40 U.S.C. § 11315(b)(2)).

²¹ *Id.* at § 5125(d), 110 Stat. 686 (1996) (codified, as amended, at 40 U.S.C. § 11315(a)).

understand the environment in which the SBA developed its information technology, a brief exegesis of Executive Branch edicts implementing the PRA and CCA is necessary.

Executive Directive on Information Resource Management

Circular A-130²² was issued by OMB in response to the PRA and CCA to establish a uniform, government-wide information resources management policy.²³ Section 8(b) of the Circular spells out the requirements for agency acquisition and management of information technology.²⁴ Appropriate management of information technology resources requires: 1) development of a properly evaluated capital investment plan; 2) establishment of an enterprise architecture to include both the current and desired rules, standards and systems for information technology; 3) creation of appropriate security for information systems; and 4) formation of an acquisition plan that is narrow in scope, reduces risk, promotes flexibility, and ensures a better match between mission need and current technology.²⁵

Further guidance to implement the CCA was provided by President Clinton with the issuance of Executive Order 13,011.²⁶ The Order establishes several goals for the management of information technology: using improved acquisition (as mandated by the PRA and CCA); refocusing management of information technology to align utilization with agency needs; rethinking agency processes before investing in information technology; granting CIOs sufficient management responsibility to advise agency heads; and establishing accountability for the CIO and other agency staff.²⁷ The Order also established a Council of Chief Information Officers in order to improve agency management of information technology through identification of common problems and sharing of best practices.²⁸ An Information Technology Resources Board was created by the Order to provide independent assessments of major information technology investments.²⁹ Finally, the Order allocated responsibilities among various federal executives, including the Director of OMB, the Administrator of the General Services Administration, and the Secretary of Commerce (for standard setting).³⁰ Although the Order was revoked by President Bush, it was in effect when the SBA began planning the

²² The circular is available at http://www.whitehouse.gov/omb/circulars_default.

²³ Brian S. Munoz, Information Resources Management: An Exploratory Study of Policy 19 (1998) (unpublished master's thesis, Air Force Institute of Technology), available at <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA354242>.

²⁴ Management of Federal Information Resources, Revision of OMB Circular No. A-130, Transmittal No. 4, 65 Fed. Reg. 77,677, 77,681-85 (Dec. 12, 2000). The December 2000 publication represents the last revision to the Circular (it is still in effect, *see* note 22, *supra*) and was undertaken to incorporate changes made by the CCA to federal management of information technology. *Id.* at 77,677.

²⁵ Circular A-130, § 8(b), *reprinted in* 65 Fed. Reg. at 77,681-84.

²⁶ Federal Information Technology, Executive Order 13,011, 61 Fed. Reg. 37,657 (July 19, 1996). The Executive Order was revoked by President Bush on May 12, 2006. 71 Fed. Reg. 28,543 (May 16, 2006). Even though the Order was revoked, the CIO Council continues as a result of codification of that body in the E-Government Act of 2002, 44 U.S.C. § 3603.

²⁷ *See Relyea, supra* note 7, at 14-15.

²⁸ *Id.* at 15-16.

²⁹ *Id.* at 16.

³⁰ *Id.* at 16-17.

modernization of its loan accounting system in 2005 and early 2006; as a result, discussion of the contents of the Order will prove useful in examining the initial plans to modernize the loan accounting systems.

The PRA, CCA, and Circular A-130 provide the overall framework for acquiring and utilizing information technology by the federal government. However, the systems under examination in this hearing represent a subset of that information technology – those devoted to financial management. There are additional statutes and executive directives addressing the special requirements of financial management information technology that build upon the foundation created in the PRA, CCA, and Circular A-130.

Federal Financial Management System Information Technology Planning

A financial system is an information system used, for among other purposes, to track and report on agency financial events or provide information significant to the financial management of an agency.³¹ The financial system is comprised of hardware, software, procedures (be they automated or manual) and personnel needed to ensure proper system function.³² A financial management system consists of financial systems and the financial portions of other information systems.³³ Given this definition, the SBA's management of its loan portfolio is directly related to the financial management of the agency and thus constitutes a financial management system.

*Federal Managers' Financial Integrity Act (FMFIA)*³⁴

Concerns about the quality of federal financial systems arose in the early 1980s. The FMFIA mandates the establishment of systems to properly account for funds, property, and other assets for which the agency is responsible.³⁵ Specific requirements of the Act include: 1) obligations and costs comply with applicable law; 2) assets are protected against fraud, waste, and mismanagement; and 3) revenues and expenditures are accounted and recorded properly.³⁶ Accounting systems related to the SBA's management of its loan portfolio are covered by the FMFIA.³⁷

³¹ *Global Computer Enter., Inc.*, 88 Fed. Cl. at 358.

³² *Id.*

³³ *Id.*

³⁴ 31 U.S.C. §§ 3512(b), (c).

³⁵ GAO, THE SMALL BUSINESS ADMINISTRATION'S SECOND-YEAR IMPLEMENTATION OF THE FEDERAL MANAGERS' FINANCIAL INTEGRITY ACT 1 (1985) (GAO/RCED-86-24). GAO's audit of the SBA's compliance with the FMFIA found significant weaknesses – a result that will unfortunately repeat itself with respect to SBA's use of information technology to manage its lending.

³⁶ *Id.*

³⁷ *Id.* at 42.

*The CFO Act*³⁸

When Congress examined implementation of the FMFIA, it still found significant problems. Agency managers still were not getting the financial information that they needed. Financial systems used outdated information technology. Internal controls on financial systems remained weak. Finally, few agencies obtained audits financial reports.³⁹ That led Congress to enact the CFO Act.

In enacting the CFO Act, Congress aimed to modernize federal financial management systems.⁴⁰ The Act required 24 federal agencies (including the SBA) to provide annual, audited financial statements.⁴¹ The 24 CFOs meet in a council, akin to the Council of CIOs, to advise and coordinate the activities of agencies on, among other things, modernization of financial management systems.⁴² More significantly, the Act established a leadership structure (through appointment of agency chief financial officers) for long-range planning that included improvements in the financial management systems.⁴³

*Federal Financial Management Improvement Act of 1996 (FFMIA)*⁴⁴

Despite the enactment of the FMFIA and the CFO Act, financial systems of the federal government continued to be inadequate. Although the CFO Act provided the basis for the reformation of financial management systems, including appointment of Chief Financial Officers with responsibilities for performing financial audits, federal agencies still did not have adequate and reliable information.⁴⁵ This led to the enactment of the FFMIA.⁴⁶

The FFMIA recognized that agency CFOs need adequate financial management systems in order to obtain reliable, useful, and timely information.⁴⁷ FFMIA requires the agencies covered by the CFO Act (which includes the SBA) to develop and maintain financial management systems that comply with federal financial management system

³⁸ Pub. L. No. 101-576, 104 Stat. 2838 (1990) (codified in scattered sections of Title 31, United States Code). CFO stands for Chief Financial Officer.

³⁹ L.R. Jones & J. McCaffery, *Financial Management Reform in the Federal Government* 9-14 (1992), available at <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA258795&Location=U2&doc=GetTRDoc.pdf>.

⁴⁰ Block, *Congress and Accounting Scandals: Is the Pot Calling the Kettle Black?*, 82 NEB. L. REV. 365, 388 (2003).

⁴¹ *Id.*

⁴² GAO, *IMPROVING THE FEDERAL GOVERNMENT'S FINANCIAL MANAGEMENT SYSTEMS* 11 n. 11 (2008) (GAO -08-447SP) (Financial Management Systems Report).

⁴³ *Id.* at 5.

⁴⁴ FFMIA, Title VIII, Treasury, Postal Service, and General Government Appropriations Act, 1997 of the Omnibus Consolidated Appropriations Act, 1997, Pub. L. No.104-208, 110 Stat. 3009-389-93 (1996).

⁴⁵ S. Rep. No. 104-339, at 2 (1996).

⁴⁶ See Block, *supra* note 40, at 389-90.

⁴⁷ Financial Management Systems Report, *supra* note 42, at 5.

requirements, federal accounting standards (some of which were developed by GAO), and the United States Standard General Ledger at the transaction level. Finally, the FFMIA requires that the audits required by the CFO Act include a statement concerning whether the financial management systems comply with the requirements of the FFMIA.⁴⁸

The statutes governing financial systems, like those for information resource management, were not self-explanatory. Significant additional gloss and guidance was necessary. That guidance was and is provided in OMB Circular A-127, to which we know turn our attention.

*OMB Circular A-127*⁴⁹

The Circular, first issued in 1993,⁵⁰ provides the guidance for agencies to determine whether they are in compliance with the FFMIA.⁵¹ The guidance covers: 1) capabilities of commercial-off-the-shelf financial systems that meet certain pre-determined standards;⁵² 2) specifications with respect to the adequacy of commercial vendors providing the financial systems;⁵³ 3) delineation of the actions needed for FFMIA compliance along with risk factors that act as barriers to such compliance;⁵⁴ and 4) allocation of responsibilities for compliance within the requirements of the Circular and the FFMIA in agencies.⁵⁵ In order to assist agencies to meet the directives set forth by OMB, the GAO developed checklists,⁵⁶ including one for financial systems on guaranteed loans programs which, of course, would include the SBA.

*OMB Memorandum M-10-26*⁵⁷

Despite various statutes and guidance documents from OMB, federal technology projects, particularly those associated with financial systems, were still subject to cost and schedule overruns.⁵⁸ As a result, OMB issued a new memorandum, M-10-26, supplementing the principles in OMB Circular A-127 for project management and acquisition of financial system information technology. The memorandum provided for: 1) splitting modernization projects into smaller segments; 2) focusing on critical needs; 3)

⁴⁸ *Id.* at 5-6.

⁴⁹ http://www.whitehouse.gov/omb/circulars_a127.

⁵⁰ *Global Computer Enter., Inc.*, 88 Fed. Cl. at 358.

⁵¹ GAO, GUARANTEED LOAN SYSTEM REQUIREMENTS: CHECKLIST OF REVIEWING SYSTEMS UNDER THE FEDERAL FINANCIAL MANAGEMENT IMPROVEMENT ACT 6 (2001) (GAO-01-371G) (hereinafter "Checklist").

⁵² Circular A-127, § 6. This section of the Circular is further subdivided into a series of actions steps needed to ensure the adequacy of the commercial system obtained by an agency.

⁵³ *Id.* at § 7. These steps, including the development of appropriate acquisition strategies, that agencies must follow in obtaining systems from commercial vendors.

⁵⁴ *Id.* at § 8.

⁵⁵ *Id.* at § 9.

⁵⁶ *E.g.*, Checklist, *supra* note 51.

⁵⁷ http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_2010/m-10-26.pdf.

⁵⁸ GAO, EXPERIENCE WITH PRIOR MIGRATION AND MODERNIZATION EFFORTS PROVIDES LESSONS LEARNED FOR NEW APPROACH 8-10, 18 (2010) (GAO-10-808) (hereinafter "Financial Systems Migration").

establishing transparent project oversight; 4) cessation of all financial system modernization projects with an estimated annual value of more than \$20 million pending further review by the agencies and OMB; and 5) creation of a Financial Systems Advisory Board within the CFO Council to provide advice to OMB when undertaking review of financial system modernizations.⁵⁹

Both the overall federal information resource management framework and the more granular federal financial system requirements apply to the SBA and, in particular, to the SBA's oversight of an approximately \$80 billion loan portfolio. We now turn our attention to the long history of SBA use of information technology to control, audit, and otherwise ensure that taxpayers are protected from undue risks of SBA lending.

SBA Use of Information Technology to Manage its Loan Portfolio

Although the SBA first commenced use of information technology to manage its loan portfolio in the early 1970s, our story begins in 1960. Computers were first invented in the late 1940s.⁶⁰ Early computer languages were difficult to use and computer scientists developed procedural languages that require the programmer to specify step-by-step instructions for the computer to carry out a specific task (which then had to be translated by the computer using something called machine language).⁶¹ These languages were processed on mainframe computers.⁶² In 1960, the computer industry developed COBOL, which utilizes language closely resembling plain English to run business applications on mainframes.⁶³

The SBA began running its financial systems on mainframe computers in the 1970s that utilized COBOL. The mainframes were not owned by the SBA but rather by an outside contractor and at the time were state-of-the-art.⁶⁴ The system consisted of 19 separate subsystems and serves as the main data processing system for loan monitoring, servicing, and accounting.⁶⁵

⁵⁹ OMB Memorandum M-10-26 at 2-3.

⁶⁰ Mislow, *Computer Microcode: Testing the Limits of Software Compatibility*, 65 B.U. L. REV. 733, 742 n. 34 (1985).

⁶¹ C. BROWN, D. DEHAYES, J. HOFFER, E. MARTIN & W. PERKINS, *MANAGING INFORMATION TECHNOLOGY* 43-44 (7th ed. 2012) (hereinafter "Information Technology").

⁶² Mainframes are relatively large computers that can handle multiple languages and procedures. *Id.* at 28. Categorization of computers is based on the number of floating point operations that the computer can perform in a second (denominated MFLOPs). The standard laptop or desktop can perform between 500 and 5,000 MFLOPs. A mainframe can perform between 2,500 and 1,000,000 MFLOPs. On the extreme high end, you are going to have to deal with supercomputers that can perform up to 3,000,000,000 MFLOPs. Price increases depending on the number of MFLOPs, with mainframes costing anywhere from \$500,000 to \$20,000,000. *Id.*

⁶³ *Id.* at 44. For those interested, COBOL is an acronym for Common Business Oriented Language.

⁶⁴ SBA OFFICE OF INSPECTOR GENERAL, *SBA NEEDS TO IMPLEMENT A VIABLE SOLUTION TO ITS LOAN ACCOUNTING SYSTEM MIGRATION PROBLEM 1* (2005) (Audit Rep. No. 05-29) (hereinafter "IG Migration Report").

⁶⁵ *Id.*

While this system was state-of-the-art, Congress nevertheless was concerned about its ability to provide adequate information. In 1996, Congress determined that the financial systems utilized by the SBA collected data but did not collate it “in a form that the Committee [on Small Business] believes adequately serves the needs of the agency [SBA].”⁶⁶ Congress required the SBA to have this “risk management database” operational by July, 1997.⁶⁷

As Congress was mandating that the SBA improve its data collection, major changes were occurring in the utilization of information technology. Desktop computers were first invented in the 1970s but their use skyrocketed in the 1980s, when IBM, utilizing operating software created by Bill Gates and Paul Allen (Microsoft) began producing them en masse.⁶⁸ This began a shift from a mainframe environment to a distributed system environment in which processing is allocated to multiple computers at multiple sites.⁶⁹ The movement towards distributed systems accelerated with the deployment of internet protocol and other advanced technologies enabling distant computers to seamlessly communicate with each other.⁷⁰ These distributed systems used fourth-generation languages that were even easier to use than COBOL.⁷¹

Despite these advances, the SBA continued to use a contractor-owned mainframe-based financial system using antiquated COBOL programming language. The use of this mainframe computer technology led to the utilization of numerous manual procedures for data collection and analysis.⁷² In 2002, an outside contractor determined that the existing mainframe-based financial system represented a substantial risk to the agency.⁷³ These risks included the age of the systems and the age of the workforce that maintains the system (presumably related to the antiquated COBOL computer language),⁷⁴ and lack of interoperability between various jerry-rigged subsystems.⁷⁵ Modernization of this system to eliminate manual processes and utilize distributed system technology represented the single largest challenge facing the agency.⁷⁶

⁶⁶ H. Rep. No. 104-750 at 26 (1996).

⁶⁷ Small Business Improvement Act of 1996, Div. D. § 102 of the Omnibus Consolidated Appropriations Act, 1997, Pub. L. No. 104-208, 110 Stat. 3009-724, 3009-725 (1996) (codified at 15 U.S.C. § 633(b)(3)). It remains unclear whether the SBA has complied with the requirements of this mandate. The GAO investigation that is the subject of this hearing did not fully examine compliance with this mandate.

⁶⁸ See Information Technology, *supra* note 61, at 2.

⁶⁹ *Id.* at 62.

⁷⁰ *Id.* at 4, 61-62.

⁷¹ *Id.* at 47.

⁷² IG Migration Report, *supra* note 64, at 3.

⁷³ *Id.*, citing KPMG, LEGACY APPLICATION REPORT (May 22, 2002).

⁷⁴ *Id.*

⁷⁵ GAO, SBA NEEDS TO STRENGTHEN OVERSIGHT OF ITS LOAN MANAGEMENT AND ACCOUNTING SYSTEM MODERNIZATION App. 11 (2012) (GAO-12-295) (hereinafter “GAO SBA LMAS Report”).

⁷⁶ IG Migration Report, *supra* note 64, at 3, citing SBA, IT STRATEGIC PLAN 35 (2004).

Initiation of the LMAS Modernization Efforts

The SBA commenced a concerted effort to modernize its financial systems in late 2005.⁷⁷ The agency styled the program as the Loan Management Accounting System (to distinguish from the existing financial systems which historically were denominated as the Loan Accounting Systems) estimated to take nine years and cost about \$217 million.⁷⁸ The aim was to create a “single, integrated system that would provide comprehensive IT support to SBA’s full loan life cycle for all direct and guaranty loan programs....”⁷⁹

The agency commenced work in early 2006 (while Executive Order 13,011 was still in effect). The work, not surprisingly, was behind schedule at which point the SBA had to renew its contracts for the existing legacy systems operated by Unisys Corporation until December 2011.⁸⁰ By the time of the next review of the LMAS review by the Inspector General, in July 2009, the cost of implementation had risen from \$217 million to about \$262 million.⁸¹ The Inspector General found additional weaknesses in the planning and execution of the development of the LMAS.⁸² The findings by the Inspector General were supported by reviews undertaken by OMB. In response, the SBA issued a contract to McKinsey & Co. (a large management consulting firm) in the fall of 2009. McKinsey found numerous problems with the implementation plan that could exacerbate cost overruns and schedule delays.⁸³ Within a few months of the conclusion of the McKinsey contract, OMB scheduled a review (denominated Techstat) of the SBA’s modernization efforts which raised additional concerns about the modernization effort.⁸⁴ That review was then followed by yet another OMB review pursuant to Memorandum M-10-26 in September 2010.⁸⁵

Significant modifications occurred to the LMAS project subsequent to the September 2010 review. Instead of one overarching project, the SBA subdivided the modernization into narrower projects.⁸⁶ These have been denominated as LMAS-Incremental Improvement Projects (or IIPs). The projects now involve the following: 1) upgrade SBA’s internal administrative and accounting management system to a commercial-off-

⁷⁷ GAO SBA LMAS Report, *supra* note 75, at 1.

⁷⁸ *Id.* at App. 13.

⁷⁹ *Id.*

⁸⁰ *Id.* For a discussion of the Unisys contract, see SBA OFFICE OF INSPECTOR GENERAL, PLANNING FOR THE LOAN MANAGEMENT AND ACCOUNTING SYSTEM MODERNIZATION AND DEVELOPMENT EFFORT 3 (2008) (Report No. 8-13).

⁸¹ SBA OFFICE OF INSPECTOR GENERAL, REVIEW OF ALLEGATIONS CONCERNING HOW THE LOAN MANAGEMENT AND ACCOUNTING SYSTEM MODERNIZATION PROJECT IS BEING MANAGED 3 (2009) (Report No. 9-17). By the time the Inspector General issued this report, the SBA had issued blanket purchase agreements (a type of federal procurement initiative that utilizes already existing federal contractors) for monitoring and oversight, project management support, and systems integration. *Id.*

⁸² *Id.* at 4-6.

⁸³ GAO SBA LMAS Report, *supra* note 75, at App. 15.

⁸⁴ *Id.* at 17.

⁸⁵ *Id.*

⁸⁶ *Id.* at 18.

the-shelf product (Oracle Financials); 2) migrate user interfaces from Unisys mainframe to the web-based distributive network; 3) update to a new version of COBOL compatible with UNIX operating system in order to provide greater flexibility to SBA in obtaining software applications and integrating with other SBA computer systems;⁸⁷ 4) move certain existing portions of financial systems that utilize Sybase to an Oracle-based infrastructure; 5) perform root cause analyses to ascertain what additional IIPs need to be implemented; 6) implement IIPs stemming from the root cause analyses; and 7) develop documentation for the new LMAS so that SBA personnel (be they extant or new) will understand how the system operates.⁸⁸

GAO Review of SBA's LMAS Modernization Efforts

Given the SBA's six year history with respect to modernizing its financial systems (and the continued lack of adequate financial data concerning loans that was supposed to be remedied when Congress ordered SBA to create a risk management database in 1996), Chairman Graves, in 2011, requested that GAO conduct an audit of the SBA LMAS modernization efforts. GAO was tasked with: 1) describing the status of the modernization efforts; and 2) determining whether appropriate information resource management procedures and practices are in place to oversee the modernization effort.

With respect to the current IIPs, GAO found that the SBA has completed only one – the switch to Oracle Financials. All of the other IIPs are behind schedule and expected to cost more than original estimates.⁸⁹ Of the six that remain to be performed, only three of them are currently active.⁹⁰

GAO's examination of the SBA's information technology processes and procedures for the active IIPs revealed mixed results. GAO determined that the SBA properly managed change requirements for two of IIPs but did not validate one of them and failed to document these change requirements for one of the IIPs. SBA identified risks for three of the four active IIPs but did not do so for one and failed to develop risk-mitigation plans. Although the SBA assessed human capital needs, it failed to identify gaps in project workforce skills or strategies to alleviate them (which is particularly problematic given the reliance on a very outdated programming language – COBOL). Appropriate levels of SBA management approved movement from the overall LMAS to the more segmented approach (after a significant push by OMB). However, other capital planning

⁸⁷ Operating systems control computer hardware and coordinate the computer use of application software, be it word processing, third generation procedural languages such as COBOL, or fourth generation business intelligence software from Microsoft or Oracle. See Information Technology, *supra* note 61, at 41, 47. While some operating systems are proprietary (those from Microsoft, such as Windows 7, are the most noteworthy), others are open, i.e., the code supporting them are not proprietary, such as UNIX. *Id.* at 42. Writers of application software must make those applications compatible with the operating systems so non-proprietary systems such as UNIX allow for a wider variety of application software to be developed. *Id.*

⁸⁸ GAO SBA LMAS Report, *supra* note 75, at App. 19-20.

⁸⁹ *Id.* at 2-3.

⁹⁰ *Id.* at 4, Table 1. The remaining active IIPs are: 1) migration of user interfaces from the Unisys mainframe; 2) updating to a UNIX-based COBOL; and 3) transfer certain financial subsystems from Sybase to Oracle.

requirements (such as baseline schedule approval or review of its risk management plan or documentation of budget estimates) were not performed. Finally, GAO found that the SBA does not have an appropriate enterprise architecture to understand the overall framework for the modernization of its financial systems.⁹¹

More significantly, GAO found that the inconsistencies resulted from the SBA's failure to provide adequate executive oversight of information technology investment. The SBA management of information technology investments includes overlapping responsibilities, unclear lines of authority, unapproved project schedules, and inaccurate cost estimates.⁹² These problems were compounded by the SBA's assertion that some of the procedures identified by GAO actually were completed but left undocumented.⁹³

SBA Management of LMAS Modernization Fails to Comply with Federal Law, Executive Guidance, and Good Information Technology Practices

The GAO investigation confirms that the SBA has significant weaknesses in the modernization of its most significant financial systems. These inadequacies demonstrate that the SBA has failed to comply with various federal statutes and administrative directives concerning the acquisition and deployment of information resource management technology for financial systems.

The cornerstone of federal directives concerning the management of information technology is the CCA's mandate to establish an appropriate enterprise network architecture. Without defining this architecture, it is impossible to determine how the technological resources will be utilized to support the operations of the organization.⁹⁴ Although the SBA identified seven specific projects, there is no overall plan that explicates how the agency will utilize information resources management to increase the provision of capital to small businesses while reducing potential financial risks to the taxpayer. As a result, the SBA cannot comply with the CCA; this failure to comply with the CCA undermines the ability of the agency to comply with the requirements of the PRA mandating optimal utilization of the information resource management.

The failure to identify an enterprise architecture undermines the ability of the SBA to manage information technology acquisition practices as mandated by the CCA; the agency then is unable to comply with Circular A-130. The SBA cannot determine an acquisition management plan for information technology if it is unable to describe what the end result of its modernization efforts should be.

Compliance problems with the PRA, CCA, and Circular A-130 also undermine the SBA's ability to comply with the FMFIA. As already noted, the FMFIA requires that assets be protected against waste and mismanagement. If the SBA is unable to properly

⁹¹ *Id.* at 4-5.

⁹² *Id.* at 5.

⁹³ *Id.*

⁹⁴ *See* Information Technology, *supra* note 61, at 524.

plan for its financial systems, it raises the prospect that the agency will not be able to manage the risks associated with its capital access programs.

The SBA is covered by the CFO Act and that requires the agency to provide audited financial statements. However, a key aspect of providing audited financials is to have appropriate controls to ensure the adequacy of the financial information provided to the auditors.⁹⁵ Since the financial information provided by the SBA to its auditors are generated by its financial systems, inadequate systems and controls could lead to the provision of inaccurate data, thereby undermining the ability of the auditors to provide correct financial statements as required by the CFO Act.

Accurate financial records rest upon the adequacy of financial systems. Outside consultants and the SBA Inspector General both concluded that the current financial systems create risks for the management of its loan portfolio. Absent modernization, the SBA will not be able to comply with the FFMIA's requirement that auditors to state that the systems comply with the statute.

Executive guidance implementing the FFMIA requires the development of an appropriate acquisition plan to obtain the needed information resource technology. Of that guidance, the SBA has complied only with one of the many requirements – splitting modernization projects into smaller elements. However, other requirements have not been met and it remains unclear whether the SBA's effort at modernization will come into compliance with the FFMIA.

In conclusion, the modernization of the SBA's financial systems remains a major concern as determined by outside consultants, the Inspector General, and GAO. Failure to comply with statutory and regulatory requirements in managing information technology, including financial systems, suggests that even greater executive attention (and not necessarily more money) needs to be paid to this modernization effort. Lack of such attention only raises risks to taxpayers on the management of an \$80 billion loan portfolio.

⁹⁵ Cf. *Dronsejko v. Thornton*, 632 F.3d 658, 663-64 (10th Cir. 2011) (noting that companies required to provide auditors accurate information); *Garfield v. NDC Health Corp.*, 466 F.3d 1255, 1266 (11th Cir. 2006) (Sarbanes-Oxley requires corporate officers to attest to accuracy of disclosed financial information including annual reports).