



OFFICE OF INSPECTOR GENERAL

Audit Report

2014-IT-B-003

Opportunities Exist to Achieve Operational Efficiencies in the Board's Management of Information Technology Services

February 26, 2014

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
CONSUMER FINANCIAL PROTECTION BUREAU

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Abbreviations

Board	Board of Governors of the Federal Reserve System
EA	enterprise architecture
Division of IT	Division of Information Technology
IT	information technology
ITIL	Information Technology Infrastructure Library
OIG	Office of Inspector General
SDLC	systems development life cycle
SDM	systems development methodology



Executive Summary:

Opportunities Exist to Achieve Operational Efficiencies in the Board's Management of Information Technology Services

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Purpose

Our audit objective was to determine how information technology (IT) services are managed across the divisions of the Board of Governors of the Federal Reserve System (Board) and identify areas where operational efficiencies could be achieved.

Background

The Board relies on a variety of IT services to accomplish its mission. The Board has developed a strategic framework for 2012–2015 that highlights as key priorities the achievement of operational efficiencies and the reduction of costs. In support of these strategic priorities, the Board recently completed a survey of the scope and costs of IT services performed by individual divisions.

Findings

We identified three challenges that could hinder the Board's ability to achieve operational efficiencies and cost savings in its management of IT services. First, we found that Board divisions do not track costs for IT services in a consistent manner. Second, we found that over half of Board divisions perform their own applications development and help-desk activities, often utilizing differing processes, procedures, and tools. Third, we found that the Board has not completed actions to define IT standards, services, and technologies currently in use across Board divisions; those needed to meet future goals and objectives; and a plan to transition to the future state. A key contributing cause of our findings is the Board's decentralized governance structure for managing IT services.

Recommendations

To assist the Board in achieving operational efficiencies in its management of IT services, we recommend that the Director of the Division of Information Technology (Division of IT) work with the Chief Operating Officer and the Division of Financial Management to identify and define specific cost centers for IT in consultation with Board divisions and implement a consistent process to account for and track costs for IT services across Board divisions. We also recommend that the Director of the Division of IT implement across Board divisions a common systems development life cycle policy and associated procedures. Finally, we suggest that the Director of the Division of IT work with Board divisions to identify IT standards, services, and technologies currently in use across Board divisions and those needed to meet future strategic goals and objectives, and then define a transition plan. The Director of the Division of IT concurred with our recommendations and outlined actions that have been taken or will be implemented to address our recommendations.

Access the full report: <http://www.federalreserve.gov/oig/files/Board-IT-services-operational-efficiencies-Feb2014.pdf>

For more information, contact the OIG at 202-973-5000 or visit <http://www.federalreserve.gov/oig>.

Summary of Recommendations, OIG Report No. 2014-IT-B-003

Rec. no.	Report page no.	Recommendation	Responsible office
1	5	Work with the Chief Operating Officer and the Division of Financial Management to identify and define specific cost centers for information technology in consultation with Board divisions and implement a consistent process to account for and track costs for information technology services across Board divisions.	Division of Information Technology
2	7	Implement across Board divisions a common systems development life cycle policy and associated procedures.	Division of Information Technology



OFFICE OF INSPECTOR GENERAL
BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
CONSUMER FINANCIAL PROTECTION BUREAU

February 26, 2014

MEMORANDUM

TO: Sharon Mowry
Director, Division of Information Technology
Board of Governors of the Federal Reserve System

FROM: Andrew Patchan Jr. *Andrew Patchan Jr.*
Associate Inspector General for Information Technology

SUBJECT: OIG Report No. 2014-IT-B-003: *Opportunities Exist to Achieve Operational Efficiencies in the Board's Management of Information Technology Services*

Attached is the Office of Inspector General's report on the subject audit. Our audit objective was to determine how information technology services are managed across the divisions of the Board of Governors of the Federal Reserve System (Board) and identify areas where operational efficiencies could be achieved.

We provided you with a draft of our report for review and comment. In your response, you concurred with our recommendations and outlined actions that have been taken or will be implemented to address our recommendations. We have included your response as appendix B to our report.

We appreciate the cooperation that we received from Board staff during our review. Please contact me if you would like to discuss this report or any related issues.

cc: Donald Hammond
Michell Clark
William Mitchell
Geary Cunningham
Wayne Edmondson

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Introduction

Objectives

The Board of Governors of the Federal Reserve System (Board) has developed a strategic framework for 2012–2015 that highlights as key priorities the achievement of operational efficiencies and the reduction of costs. In support of these strategic priorities, our audit objective was to determine how information technology (IT) services are managed across Board divisions and identify areas where operational efficiencies could be achieved. Appendix A provides our detailed scope and methodology.

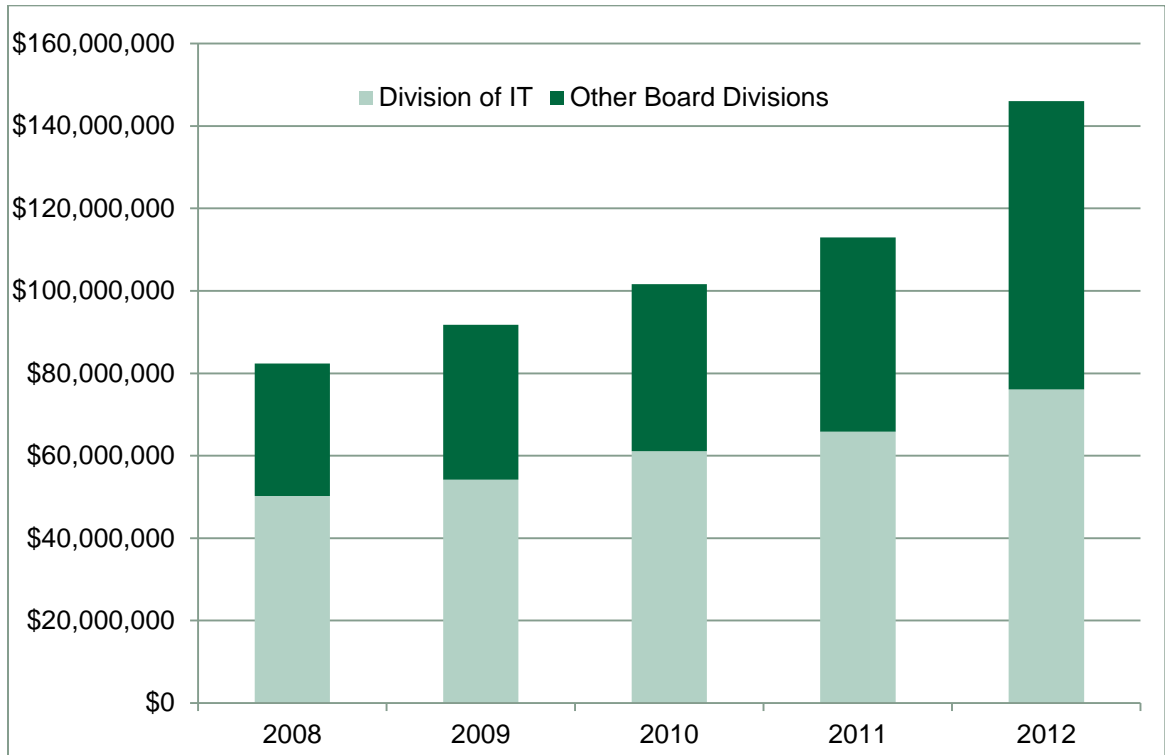
Background

The Board relies on a variety of IT services to accomplish its mission. These services include applications management, help-desk operations, compliance management, and technical operations management. The Board's governance structure for managing IT services consists of centralized and decentralized organizational responsibilities. The Division of Information Technology (Division of IT) provides centralized IT services that are leveraged by Board divisions. These services include setup and maintenance of Microsoft Windows-based computers, applications development, and help-desk operations. The Director of the Division of IT is responsible for ensuring that these centrally provided IT services are budgeted for and implemented in accordance with the Board's policies and procedures.

Individual Board divisions also perform IT services in support of their business needs. In some instances, these services overlap with those provided centrally by the Division of IT. For example, several Board divisions engage in their own systems development and help-desk activities for applications supporting their business processes. In other instances, Board divisions perform IT services to support specific needs. For example, one division maintains a network of Apple Macintosh computers for desktop publishing and video editing. Another division maintains a separate Linux-based infrastructure to support research and statistical applications used by economists and researchers. These decentralized IT services are implemented and managed by the divisions in which they are performed.

An increasing percentage of the Board's total costs for IT services are occurring outside the Division of IT and are thus being managed in a decentralized manner. Figure 1 below highlights the total costs for IT services at the Board from 2008 to 2012. During this time, IT services costs have grown at an average annual rate of 15 percent to a total of \$146 million in 2012. Costs attributable to the Division of IT have grown by about 10 percent per year on average, while those incurred by other Board divisions have grown by approximately 23 percent per year on average. As a result, while the Division of IT accounted for 61 percent of the Board's total expenditures for IT services in 2008, this amount had decreased to 52 percent by 2012.

Figure 1: Board IT Services Costs, 2008–2012



Source: Total costs were obtained from the Board's financial management system by utilizing cost centers used by divisions to track IT services costs.

Finding 1: The Board Does Not Track Costs for IT Services in a Consistent Manner

We found that the Board does not have a consistent process to track costs for IT services across Board divisions. Some divisions account for costs using specific IT services accounting classifications, while others use general program categories. We attribute this inconsistency to the Board's decentralized budgeting processes and the absence of policies and procedures for accounting for IT services costs. As a result, the Board cannot readily and accurately measure the cost and performance of IT services across Board divisions, which impacts the Board's ability to comprehensively identify and prioritize areas for achievement of operational efficiencies and cost savings in IT services.

As part of its budgeting process, the Board uses cost centers to group expenses related to the Board's programs. For example, to account for expenses related to its records management program, the Board has established *02031 Records* as a cost center. However, costs centers for IT services are not used across divisions in a consistent manner, and the cost centers that the majority of divisions use do not reflect the specific IT service activity being performed. With respect to applications development, different cost centers used by divisions include *Research and Information Systems*, *Information Technology*, *Application Design & Development*, and *Applications Analysis*. Similarly, we found that costs for other IT services, such as help desk and technical operations, were being tracked by divisions using different cost centers. Table 1 shows the specific cost centers divisions use to track costs for IT services.

Table 1: Cost Centers Used to Track IT Services Costs at the Board

Board division	Cost centers
Banking Supervision & Regulation	<ul style="list-style-type: none"> • Information Technology • Information Security and Continuity • Technology Delivery & Support
Board Members	<ul style="list-style-type: none"> • Web Communications & Development • Information Solutions
Consumer & Community Affairs	<ul style="list-style-type: none"> • Technology Development • Information Management
International Finance	<ul style="list-style-type: none"> • Research & Information Systems
Management	<ul style="list-style-type: none"> • Technology Governance • Information Systems • Risk Management • Law Enforcement—Tech Services • Admin Systems—Automation Programming • Technology Governance
Reserve Bank Operations & Payment Systems	<ul style="list-style-type: none"> • Information Systems
Research & Statistics	<ul style="list-style-type: none"> • Automation & Research Computing • Application Design & Development • Economic Data Management
Information Technology	<ul style="list-style-type: none"> • Directorate-IT • Management & Software Support • Information Security—IT • Administration & Special Projects • Consumer & PubWeb Systems • General Systems Support • Financial & Regulatory Systems • Network Systems • SECY & FOMC Systems • Financial Systems • Monetary Reports & Internal Accounting • C-SCAPE • Income

Source: OIG compilation of information from Board divisions' annual budget documentation, 2008–2012.

^aThe eight Board divisions listed in the table perform IT services internally or provide them to other divisions. The other four Board divisions rely completely on the Division of IT for IT services and are not listed separately in the table.

^bTo track costs for IT services it performs, the OIG utilizes a General Program Direction cost center. This approach is consistent with that utilized by the other four divisions that rely completely on the Division of IT for IT services.

We believe that a consistent approach to accounting for IT services expenses across Board divisions could provide key information on areas in which operational efficiencies and cost savings could be achieved. Best practices for IT services management, as outlined in the Information Technology Infrastructure Library (ITIL),¹ note the importance of developing a cost model for IT services. Specifically, ITIL states that a cost model for IT services can

1. ITIL is a globally recognized best-practices framework for managing IT services. Originally published by the UK government, ITIL has been used by public and private organizations worldwide.

provide a framework to link costs to specific IT services as well as a standard format by which to analyze and report on IT services to facilitate decision making.

Recommendation

We recommend that the Director of the Division of IT

1. Work with the Chief Operating Officer and the Division of Financial Management to identify and define specific cost centers for IT in consultation with Board divisions and implement a consistent process to account for and track costs for IT services across Board divisions.

Management's Response

The Director of the Division of IT agreed with our recommendation and noted that a Board-wide effort to identify IT services provided by all divisions and the expenditures associated with those services will provide a basis for monitoring IT costs centers moving forward.

OIG Comment

In our opinion, the corrective actions described by the Director of the Division of IT are generally responsive to our recommendation. We plan to follow up on the planned corrective actions to ensure that our recommendation is fully addressed.

Finding 2: The Board Has Not Implemented Consistent Processes for Applications Development and Help-Desk Services

We found that over half of Board divisions perform applications development and help-desk services, often using differing processes, procedures, and tools. For example, several Board divisions perform SharePoint development, Intranet and Internet site maintenance, and programming using SQL server and SAS technologies. Several divisions also develop and maintain econometric applications to support research on monetary policy. We found that processes and tools used by Board divisions in support of applications development activities in these areas, such as for project risk assessment, change management, and ensuring section 508 compliance, vary across divisions. We attribute inconsistent application management processes to the absence of a common systems development life cycle (SDLC) policy and associated operating procedures for use across Board divisions. As a result, the Board is not realizing operational efficiencies in applications management that could result from the implementation of consistent processes and standardized tools.

An SDLC refers to the overall process of developing, implementing, maintaining, and retiring information systems. According to the National Institute of Standards and Technology, each agency should have a documented and repeatable SDLC policy and guideline that supports its business need and that complements its unique culture.² The Division of IT has established a systems development methodology (SDM) that provides a framework for development projects managed by the division. The SDM specifically applies to Division of IT projects that result in releases, phases, or versions, and it includes activities for risk assessment, change management, and compliance. However, the other Board divisions are not required to follow the SDM, and two Board divisions told us that they relied largely on best practices and not the SDM when they developed large-scale systems.

During our audit, the Board completed a review of help-desk and other IT services that identified similar concerns regarding differing processes and tools used across Board divisions. The Board has begun evaluating options to standardize help-desk services across Board divisions; thus, we are not providing specific recommendations related to achieving operational efficiencies for help-desk services. The Board also completed a survey of the scope of IT services performed by individual divisions that highlighted the variety of applications management activities being performed across Board divisions. This survey noted that approximately 40 percent of the Board's total IT services costs are for applications management activities. Given that applications management represents a significant portion of total IT services costs at the Board, we believe that consistent processes for applications development, operations, and maintenance could lead to operational efficiencies and cost savings.

2. National Institute of Standards and Technology Special Publication 800-63, Revision 2, *Security Considerations in the Systems Development Life Cycle*, October 2008.

Recommendation

We recommend that the Director of the Division of IT

2. Implement across Board divisions a common SDLC policy and associated procedures.

Management's Response

The Director of the Division of IT agreed with our recommendation and noted that the division will work toward implementing best practices to be used by Board divisions that can promote the use of a common SDLC.

OIG Comment

In our opinion, the corrective actions described by the Director of the Division of IT are generally responsive to our recommendation. We plan to follow up on the planned corrective actions to ensure that our recommendation is fully addressed.

Other Matter for Management's Consideration

The Division of IT has developed a strategic plan that notes the importance of leveraging enterprise architecture (EA) principles to increase IT standardization and effectiveness across Board divisions. EA consists of a blueprint that describes how an organization operates in terms of business processes and technology, how it intends to operate in the future, and how it plans to transition to the future state. EA would also include the development and implementation of Board-wide IT standards that could be leveraged to achieve cost savings. We found, however, that the Division of IT's efforts to develop an EA have not included all the technologies and services used across Board divisions. Further, Board divisions are not required to follow the EA standards that the Division of IT creates, resulting in inconsistent IT services processes, procedures, and tools used across Board divisions.

The U.S. Government Accountability Office has noted that many successful private and public organizations have utilized EA to implement operations and technology environments that maximize attainment of strategic objectives.³ The Division of IT has developed standards and guidelines for the current and future state of software, hardware, router, and database technologies used within the division. Further, an Architecture Review Board was recently established to ensure that the Division of IT's projects align with these standards and guidelines. However, other Board divisions are not required to adhere to the standards, the guidelines, or the Architecture Review Board's processes.

The absence of a Board-wide EA stems from decentralized IT and strategic management processes that until recently have not prioritized operational efficiencies and cost reduction as Boardwide goals. We recognize that the development and implementation of an EA across Board divisions would entail a concerted effort over a period of time and would require collaboration and coordination; however, such an effort could provide a foundation for achieving operational efficiencies and cost savings.

As such, we suggest that the Director of the Division of IT work with Board divisions to identify IT standards, services, and technologies currently in use across Board divisions and those needed to meet future strategic goals and objectives, and then define a transition plan.

3. U.S. Government Accountability Office, *Enterprise Architecture: Leadership Remains Key to Establishing and Leveraging Architectures for Organizational Transformation*, GAO-06-831, August 2006.

Appendix A

Scope and Methodology

To accomplish our audit objective, we interviewed IT management in Board divisions, developed an inventory of IT services being performed across Board divisions, and analyzed Board divisions' budgets and processes for accounting for IT services costs. To obtain total IT services costs, we queried the Board's financial system by specific cost centers used by Board divisions. We obtained these cost centers by analyzing information contained in the 2008 to 2012 budget documentation prepared by each division and validated this information with division specific staff. We also analyzed the results of internal reviews completed by the Board on IT services, including for help-desk operations and software/hardware provisioning. To identify operational efficiencies, we assessed the Board's management practices for IT services against best practices stipulated in ITIL. ITIL divides IT services into four general categories:

Applications management: Involves the design, development, testing, and improvement of applications

Service (help) desk: Serves as a central point of contact for handling IT support

Compliance management: Ensures compliance with applicable laws and regulations

Technical operations management: Involves control and maintenance of the IT infrastructure required to deliver services (e.g., change control and configuration management)

We based our inventory of IT services across Board divisions on these general IT services categories. We conducted our fieldwork from May 2013 to June 2013.

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

Appendix B

Management's Response



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, DC 20551

DIVISION OF
INFORMATION TECHNOLOGY

February 21, 2014

Mr. Mark Bialek
Office of Inspector General
Board of Governors of the Federal Reserve System
Washington, DC 20551

Dear Mark:

We have reviewed your report entitled "Opportunities Exist to Achieve Operational Efficiencies in the Board's Management of Information Technology Services" prepared as part of your office's review of the implementation of the Board's Strategic Framework.

Upon consultation with the Chief Operating Officer and the Director of the Division of Financial Management, we agree with your first recommendation to identify specific cost centers for information technology in consultation with Board divisions and implement a consistent process to account for and track costs for information technology services across Board divisions. While this will not associate costs with specific information technology activities by type of activity, it will provide a general structure to identify Board resources devoted to the provisioning of information technology services. As you know, considerable progress has been made in this regard through a Board-wide effort to identify IT services provided by all divisions and offices and the expenditures associated with those services. This information provides the basis for monitoring information technology cost centers moving forward.

Regarding your second recommendation, we agree that the implementation of a common SDLC policy and associated procedures across Board divisions may increase operational efficiencies and mitigate risk. We will work towards implementing best practices to be used by the Board Offices and Divisions that can promote the use of a common SDLC.

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We appreciate the professionalism and courtesies provided by the staff of the Office of Inspector General during the review, and we look forward to working with your office in the future. Thank you for the opportunity to provide comments on this report.

Sincerely,



Sharon Mowry
Director, Information Technology

cc: Andrew Patchan
Donald Hammond
Bill Mitchell
Geary Cunningham
Wayne Edmondson



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