Management and Oversight of IT

> I think FITARA presents a historic opportunity to reform the management of information technology across the Federal government. It is important that we do not underestimate the work and the commitment required by agencies and the broader ecosystem to fully implement this law. And the changes it represents in culture, governance, IT processes, business process, and quite frankly the way we do oversight. Simply replaying pages from our old playbook is not the solution.
>
> — Federal CIO Tony Scott[1]

Summary

Cost	The Federal government has long struggled with acquiring, developing, and managing information technology (IT) investments. For example, although the Federal government spends over $80 billion a year on IT, almost half (43%) of Federal IT projects reported on the IT Dashboard are over budget or behind schedule.
Accountability	Budget, spending, acquisition, and management decisions are frequently made by programs or bureaus of an agency without any CIO visibility or input.
Risk	In the wake of recent security breaches in the public and private sector, improving the government-wide cybersecurity posture is critical. However, inadequate coordination between agency CIOs and bureaus can impede the implementation of related initiatives.
Policy	The Federal Information Technology Acquisition Reform Act (FITARA) can be used to further empower CIOs to be more fully integrated into all agency processes for developing and delivering IT investments. OMB's continued focus and oversight is critical to FITARA's success.

Management and Oversight of IT

Overview

Over two decades ago, then Senator William Cohen of Maine led an investigation into the Federal government's ability to manage its IT investments. The resulting 1994 report, entitled "Computer Chaos," could just as easily been written in 2016 and listed many of the same problems that Federal agencies face today - poor management of IT systems, wasted and duplicative investments, and billions of dollars spent on older, outdated, and expensive "legacy" systems.[2]

The Federal government continues to have a poor track record in acquiring, developing, and managing Federal IT investments. Individually, too many Federal IT projects run over budget, fall behind schedule, or fail to deliver on their promises. For example, in September 2016, the Federal IT Dashboard listed over 4,300 IT projects in 780 major IT investments across Federal government agencies. Nearly half (43%) of those projects were listed as over budget or behind schedule.

In addition to the challenges that agencies face in acquiring and developing specific IT investments, the stove-piped nature of many Federal agencies has led to a proliferation of duplicative IT investments. Many agencies manage their IT in a decentralized manner and Chief Information Officers (CIOs) have limited to no visibility into all of the IT systems in their agency. As a result, agencies are unable to take an enterprise-wide view of their IT investments which frequently results in duplication, waste, and poor outcomes.[3] Too often, agencies, or components, seek to develop new solutions first, before assessing existing options, or identifying ways to achieve shared agency-wide IT solutions. For example, in 2012, OMB reviewed over 7,000 Federal agency IT investments that had been reported to OMB and found many potential redundancies and billions of dollars in potential savings that could be achieved through either consolidation or a shared approach to IT service delivery.[4]

To improve the management of IT across the Federal government, Congress and OMB have repeatedly attempted to empower the agency CIO to serve as the key leader for the management and oversight of agency IT systems. In 1996, Congress passed the Clinger-Cohen Act which, among other things, established the position of agency CIO.[5] This seminal piece of legislation also set forth OMB's overall responsibility for improving Federal IT, outlined detailed requirements for IT capital planning, investment control, performance, and results-based management. Several years later, the E-Government Act of 2002 reiterated the CIO's responsibility for IT management and information security at their respective agencies.[6]

More recently, the Federal Information Technology Acquisition Reform Act (FITARA) was enacted in 2014 to further strengthen the authority of a CIO.[7] For example, the law specifies that agencies may not submit an IT budget, enter into IT acquisitions, or hire bureau CIOs without the approval of the agency CIO. OMB translated these statutory requirements into an overall framework of responsibilities called the "Common Baseline for IT Management" (Common Baseline) and is working with agencies to take actions which would ensure CIOs had all the responsibilities described in FITARA.

With the passage of FITARA and the creation of the Common Baseline, agencies now have new levers that can be used to more fully integrate their CIOs into all aspects of IT management, budgeting, and decision-making. Even with these tools, though, the maturation of an agency's IT management practices is something that will always present challenges.

Ultimately, there are many factors that must be in place for an agency to successfully acquire, implement, and manage its IT investments, including senior executive support for the program, active end-user involvement in developing requirements and testing, having skilled program managers and teams, and having consistent and qualified personnel. The transformational changes that must take place in agencies will take time, resources, energy, and, most importantly, consistent engagement and oversight from agency leadership, OMB, and Congress.

The rest of this policy chapter provides more information about the specific initiatives and strategies that OMB has employed to strengthen the role of the CIO in IT decisions, improve IT management practices, and ultimately improve the Federal government's return on its IT investments.

The CIO position at my agency is not a member of the Working Capital Fund (WCF) - nor is there anything planned to change that. Decisions are made in the WCF that have IT impact without having the CIO there to provide input or insight.

— Agency CIO

Policy Evolution

Various strategies have been employed over the years to examine an agency IT portfolio and assess the business justification for specific new investments. Led by an increased desire for transparency into government spending, more of these results were shared with the public thereby bringing more attention and accountability to agency performance. In many agencies, CIOs do not have direct supervision, budget authority, or management control of the IT activities of the agency. However, CIO authority over an agency's IT portfolio was recently strengthened in FITARA.

Key Initiatives

1996 – present — Strategic Business Management Framework

Reports to OMB major IT investment business cases, spending on IT investments, information resource management plans, and enterprise architecture materials.

2002 – 2008 — President's Management Agenda - E-Government

Developed a quarterly score for agency capital planning materials, IRM plan, and enterprise architecture plans. Tracked high risk projects through the High Risk List & Management Watch List.

2009 — Federal IT Dashboard and TechStat

A data-driven dashboard that provides monthly status updates for major IT investments and data-driven reviews of underperforming investments.

2012 — PortfolioStat

Portfolio-wide review of an agency's IT investments.

2013 — Benchmarking Initiative / FedStat

Measurement of key management services, including IT, at each agency and bureau.

2014 — Federal Information Technology Acquisition Reform Act (FITARA) and FITARA Common Baseline

Legislation to strengthen CIO authorities. The Common Baseline established a framework of the responsibilities and authorities expected of agency CIOs and other senior agency officials involved in the management of IT.

1996 — present

Strategic Business Management Framework

An integrated strategic business management framework for Federal agencies consists of agencies' Information Resources Management (IRM) Strategic Plan, Enterprise Architecture (EA), Capital Planning and Investment Control (CPIC), and the Government Performance and Results Act (GPRA) Strategic Plan.[8] Since 1996, CIOs have used some of these tools to establish internal reporting requirements and governance mechanisms. As a result, CIOs were able to increase their involvement with IT budget, acquisition, and project management decisions at their agency.

IRM Strategic Planning. OMB requires agencies to write "information resources management plans" focusing on improving the efficiency and effectiveness of each agency's management of information and IT resources. The contents of these plans has varied over the years but the plans generally provide a description of how IRM activities help agency's accomplish their missions and seek to ensure that IT planning, budget, and program decisions are integrated across an organization. The IRM Strategic Plan, in turn, informs the EA and CPIC processes described below.

Enterprise Architecture. EA facilitates the CPIC process by providing recommendations to streamline investments, eliminating duplication of effort, and encouraging adoption of technologies that are required to achieve the future state. EA requirements were augmented in 2002 by the establishment of government-wide Federal Enterprise Architecture (FEA) guidance and reporting. FEA established government-wide standard reference models for identifying businesses, services, technical components, and other aspects of each agency's overall IT environment. FEA was designed to describe each agency's current and future architecture in a common way in order to help agencies share resources, lessons learned, and management approaches that could be applied to similar types of activities across the government.

Capital Planning and Investment Control. A key tool in the oversight of IT investments is the CPIC process which was first introduced in 1996 through the Clinger-Cohen Act as a series of high-level guidelines.[9] The CPIC process describes the agency's previous, current, and future fiscal year spending plans on each investment and its impact on mission and establishes a continuing role for OMB in the development and review of agency IT budget requests. Each year as OMB produces the President's Budget, a team of analysts reviews agencies' overall list of all IT investments and the detailed business cases for major investments.[10] This led to the increasingly detailed "Capital Planning Guidance" updated annually in OMB Circular A-11.[11] For example, the guidance being developed for FY 2019 explores changes to help standardize data submissions across the Government and make agency IT spending more comparable. It also includes a new emphasis on "IT Security and Compliance" to ensure visibility into how agencies are managing their spending on cybersecurity.

Strategic Business Management Framework	
Key Strengths	• Provided a common language for agencies to describe their enterprise architecture and IT investments • Reporting requirements provided the agency CIO increased visibility into IT investments
Key Challenges	• Agency IT spending levels are self-reported by CIO staff, not an export from agency financial systems, often leading to data quality questions • The CPIC and EA reporting requirements are frequently treated as compliance exercises and are not consistently used to improve IT management and oversight
Policy Impact	• Provided a baseline for CIOs to improve their IT investment decision making • Future updates, such as the CPIC enhancements underway, provide a known process to drive continued change

2002 — 2008

President's Management Agenda - E-Government

The President's Management Agenda (PMA) Scorecard was introduced in 2001 as a method of providing oversight over five major management areas, including E-Government and IT.[12] The PMA Scorecard aggregated evaluations of agency IT business cases, enterprise architecture plans, and IRM strategic plans into an overall assessment for the agency.

In addition, OMB established a Management Watch List and High Risk List that focused on individual programs or investments that needed more attention and oversight.[13] The Management Watch List and agency PMA Scorecards were posted online, thus requiring agencies to publicly post justifications for their major IT investments.

President's Management Agenda - E-Government	
Key Strengths	• Provided a regular (quarterly) measurement of each agency's progress on key OMB initiatives, allowing OMB to see where more work was needed and target follow-up efforts • Shared government-wide results with the public • Provided clear communication to agencies of OMB management priorities and how agencies' progress would be measured over time
Key Challenges	• Translating qualitative agency artifacts (business cases, plans) into quantitative scores every quarter required significant staff time • By prohibiting changes to categories from period-to-period in order to improve the consistency over time, it was difficult to incorporate new priorities into the framework as they emerged • The compliance-oriented focus on the scorecard detracted from efforts to implement new strategies and make fundamental outcome-oriented improvements
Policy Impact	• Repeated feedback to agencies around consistent strengths and weaknesses reinforced clear understanding of OMB's expectations regarding business cases which endured even after PMA ended • Provided a model for how the priorities of OMB's management offices' could be incorporated into an agency's budget review

2009

Federal IT Dashboard and TechStat

In 2009, OMB publicly launched the Federal IT Dashboard with information as to whether major IT investments were on schedule and within budget, as well as an assessment by the agency CIO of the investment's overall level of risk. Using the data in the Federal IT Dashboard, OMB launched TechStat Accountability Sessions ("TechStat") as a "face-to-face, evidence-based review" designed to identify and turnaround underperforming IT investments.[14]

- The majority of OMB-led TechStat sessions were conducted in 2010,[15] and led to $3 billion in total cost implications and an average acceleration of project deliverables from over 24 months to 8 months.[16]
- In 2010-2011, OMB shifted the leadership of TechStat reviews to agency CIOs, and agencies then identified an additional $930 million in cost implications by the end of 2011.[17]
- Under FITARA, OMB is required to continue both the IT Dashboard and TechStat sessions.
- In 2015, agencies began to indicate on the Dashboard whether they used incremental or agile development practices when describing each IT project.
- OMB's 2015 FITARA implementation memo updated its requirements for agency-led TechStat sessions, requiring agencies to notify OMB of each session.

Federal IT Dashboard and TechStat	
Key Strengths	• Improved transparency into major IT investments • Made data available so the public could see how agencies spend taxpayer dollars • Early TechStats saved money and turned around underperforming investments
Key Challenges	• The IT Dashboard draws from data that is self-reported by agencies leading to questions about data quality and completeness • Unclear if OMB has performed any TechStats in recent years • Shifting TechStats from OMB to agencies diminished the executive scrutiny and impact of the initiative
Policy Impact	• The IT Dashboard represents a major shift away from the static, document-driven approaches, toward live data visualizations • The public could download and analyze the data themselves increasing citizen engagement and oversight • The IT Dashboard and TechStat sessions helped agencies, OMB, and Congress identify at-risk IT projects and implement corrective measures • When asked about OMB's current approach to management and oversight of IT, none of the agency CIOs mentioned TechStat efforts

2012

PortfolioStat

When IT systems are managed in a decentralized manner, the result is a proliferation of duplicative IT investments across agencies and the broader Federal government. To address this problem, the Administration implemented the PortfolioStat process in March 2012, requiring agency Chief Operating Officers to meet annually with the agency CIO and the Federal CIO to evaluate the agency's overall IT performance.[18] In comparison to the TechStat reviews which examine IT performance at the specific project or investment-level, PortfolioStat was designed to examine an agency's IT portfolio as a whole.

- PortfolioStat requires agencies to take a holistic view of IT investments to identify duplication and investments that do not appear to be well-aligned with agency missions.
- The first year of PortfolioStat focused on the consolidation of duplicative commodity IT systems (e.g., email, desktops, mobile devices).
- In 2015, PortfolioStat sessions stopped including agency Deputy Secretaries, became less formal discussions, and were held quarterly rather than annually.[19]
- FITARA requires a CIO to work with the Deputy Secretary of their agency and the Federal CIO to "conduct an annual review of the [IT] Portfolio" of the agency.

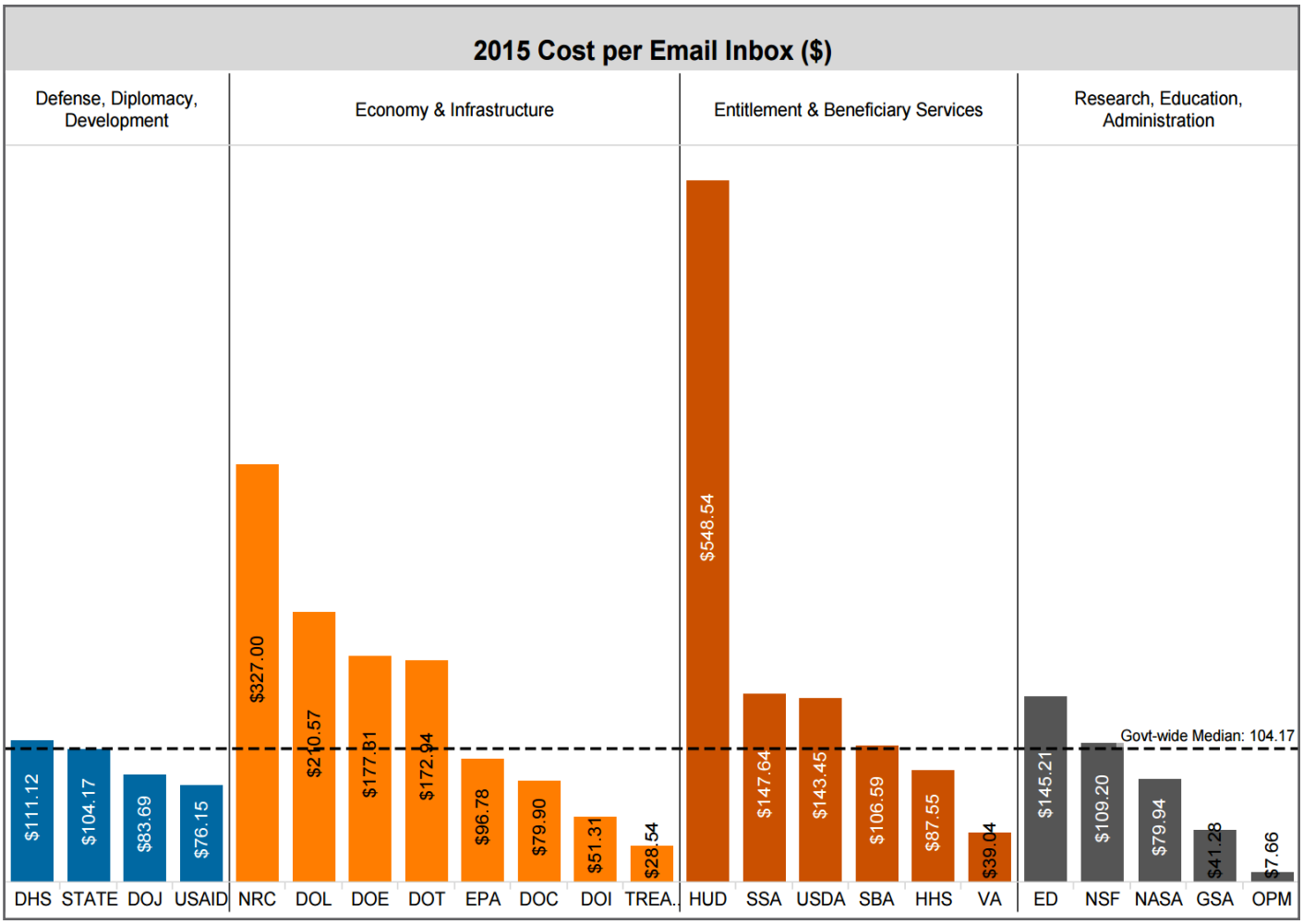
PortfolioStat	
Key Strengths	• Applied the same Key Performance Indicators (KPIs) and data assessments for all agencies, which allowed for benchmarking and peer comparison • Significant quantitative detail improved CIOs' awareness of peers' performance • Sessions which included Deputy Secretaries succeeded in bringing executive attention to significant IT management issues, but were ended in FY 2015
Key Challenges	• The KPIs used in PortfolioStat varied from year to year which made it more challenging for agencies to implement and mature management and measurement programs • Unclear how strongly the discussions between OMB and agencies are connected with KPIs and briefing books • The removal of agency Deputy Secretaries from the PortfolioStat meetings in 2015 may have diminished the executive focus and impact of the initiative • While agencies and OMB have attributed cost savings to PortfolioStat, it is hard to tell what savings would exist in the absence of PortfolioStat • Unclear how opportunities identified in PortfolioStat factored into agency budget requests or OMB budget review
Policy Impact	• In November 2015, OMB reported that PortfolioStat, TechStat, "and related reform efforts have saved the Federal government at least $3.44 billion dollars since FY 2012."[20] • Future updates, such as enhancements to CPIC reporting, provide a known process to drive continued change • PortfolioStat sessions have been held from 2012 - 2016, one of the more enduring approaches to IT oversight in recent years • Impact and follow-up on "PortfolioStat Action Items" has varied widely between agencies • Other "-Stat" oversight efforts at OMB and GSA are in part modeled on PortfolioStat's process (e.g., CyberStat, FedStat, ProviderStat, AcqStat)

2013

Benchmarking Initiative / FedStat

Launched in 2013 as a part of the the President's Management Agenda, the Benchmarking Initiative focused on several key management functions: human capital, financial management, real property, and IT. Within IT, the first year of the Benchmarking Initiative focused on collecting data on overall spending on IT help desk operations and email. In subsequent years additional IT services metrics, operational effectiveness metrics (e.g., "number of help desk tickets closed per month"), and customer satisfaction scores (from a standard survey of users and stakeholders) were added.

Figure A1: 2016 Cost Per Email Inbox ($)[21]



The Benchmarking Initiative shares its metrics with agencies at Benchmarks.GSA.gov. This screenshot shows the cost per email inbox at each agency.

This data is used as the basis for FedStat meetings between OMB and agencies. Since 2015, OMB has used FedStats as an annual "single, coordinated...meeting covering a prioritized set of mission and management issues" which combines lessons learned from PortfolioStat and the Benchmarking initiative.[22] Furthermore, the Benchmark and Improve Mission-Support Operations Cross-Agency Priority (CAP) Goal includes KPIs evaluating the data completeness and agency articipation in Benchmarking.[23]

Benchmarking Initiative / FedStat	
Key Strengths	• Provided CIOs with data to make arguments about spending levels based on peers' experience • Calculated bureau-level spending benchmarks for IT services • Increased executive awareness and use of agency data, leading to improvements in data quality over time
Key Challenges	• Data quality and comparability across the government have been called into question (services and calculation methods varied between agencies)
Policy Impact	• Helped agencies identify management and contracting issues (such as with double-counting help desk ticket closures) • Established potential cost savings which helped make the case for government-wide initiatives around Financial Management shared services and Unified Shared Services Management (USSM)

2014

Federal Information Technology Acquisition Reform Act (FITARA) and FITARA Common Baseline

In creating the position of the CIO, Congress intended for that person to serve as a senior decision-maker, providing leadership and direction for the development, procurement, and management of IT. Despite statutory requirements and OMB policy guidance, many CIOs do not have the necessary authority and are frequently not recognized as the key leaders in managing IT at an agency. For example, in a 2011 survey of agency CIOs, the Government Accountability Office (GAO) found that many CIOs faced limitations in their ability to influence agency decisions on IT investments because a significant portion of an agency's IT funding is allocated and spent at the component, or bureau level, of an agency.[24]

Figure A2: Summary of Common Baseline for IT Management[25]

Common Baseline for IT Management

Section / Responsibility	Budget Formulation	Budget Execution	Acquisition	Organization & Workforce
Visibility	**A1**: Visibility of IT resource plans/decisions to CIO **A2**: Visibility of IT resource plans/decisions in budget materials	**F1, F2**: Visibility of IT expenditures reporting to CIO		
Planning	**B1,B2.** CIO role in pre-budget submission for programs **C1,C2:** CIO role in planning program management		**I1**: Shared acquisition and procurement responsibilities	**P1,P2**: IT Workforce planning
Governance		**H1,H2**: CIO role on program governance boards **F2**: Participate with CIO on governance boards **J1.** CIO role in modification, termination, or pause of IT **G1**: CIO defines IT processes and policies	**K2**: CAO is responsible for ensuring contract actions which require IT are consistent with CIO-approved plans and strategies **I1,I2**: Shared acquisition and procurement responsibilities	**Q1**: CIO reports to agency head (or to Deputy/COO)
Program Collaboration		**E1,E2**: Ongoing CIO engagement with program managers		**N1,N2**: CIO role in ongoing bureau CIOs' evaluations **O1,O2**: Bureau IT leadership Directory
Certifications & Approvals	**D1, D2**: CIO reviews and approves major IT investment portion of budget request	**L1,L2:** CIO approval of reprogramming requests	**K1.** CIO review and approval of acquisition strategy and acquisition plan.	**M1**: CIO approval of new bureau CIOs

CIO ASSIGNMENT PLAN (optional)

This summary of the 17 elements of OMB's Federal Information Technology Acquisition Reform Act (FITARA) Common Baseline matches each element with an overall category of agency management and the objective of improvement in that element.

Congress passed the FITARA in 2014 to clarify and strengthen the role of the agency CIO by providing them with more authority over the budget, governance, and personnel processes for agency IT investments. Among other things, the law specifies that agencies may not submit an IT budget, enter into IT acquisitions, or hire bureau CIOs without the approval of the agency CIO.

In 2015, OMB translated the statutory requirements of FITARA into a framework of IT responsibilities called the "Common Baseline for IT Management" and required agencies to:

- Conduct a self-assessment of current IT management capabilities in four areas: (1) budget formulation; (2) budget execution; (3) acquisition; and (4) organization and workforce; and
- Create an implementation plan to improve an agency's management practices in each of these areas.

OMB also emphasized that leadership from across the agency (e.g., Human Resources, Financial Management, Information Technology, and Acquisition) are expected to collaborate together to implement the responsibilities in the Common Baseline. Agencies are required to report progress on their implementation plans on a quarterly basis. As of September 2016, no agency had fully implemented all elements of the Common Baseline and no single element has been fully implemented at all agencies. OMB makes a dashboard of agency progress available through monthly FITARA implementation meetings coordinated on Management.cio.gov.

FITARA and FITARA Common Baseline	
Key Strengths	• Statutorily reinforced that CIOs have the authority and responsibility for all IT at an agency • The Common Baseline provided a standard, government-wide framework for evaluating and improving agency CIOs' involvement with IT decisionmaking • Emphasized partnership between CIO and CXO peers as a key expectation in agency management • Required agencies to commit to specific, verifiable actions over time to improve overall IT management • Codified the IT Dashboard, TechStat sessions, and the PortfolioStat process
Key Challenges	• Agency commitment to closing gaps identified through FITARA self-assessments has varied significantly • Agency leadership and CXOs have often left FITARA implementation to the CIO, though certain gaps require broader changes to agency business processes • Agency plans and commitments varied in level of detail, potentially allowing some agency weaknesses to go unaddressed • There are no Common Baseline-related KPIs in PortfolioStat, Benchmarking, or FedStat in 2015 or 2016 • It is unclear how OMB will assess agencies' ongoing FITARA implementation • There is currently no government-wide method for measuring improved mission, business, or public outcomes due to improvements in management of IT
Policy Impact	• Agency implementation has varied, with some agencies using FITARA to help centralize IT from bureaus, while others focus primarily on compliance with reporting requirements • Public conversation about agency progress has often been driven by GAO and Congress • OMB has not released an evaluation of each agency's progress publicly, or shared its evaluation of agency progress with Congress

Metrics and Oversight

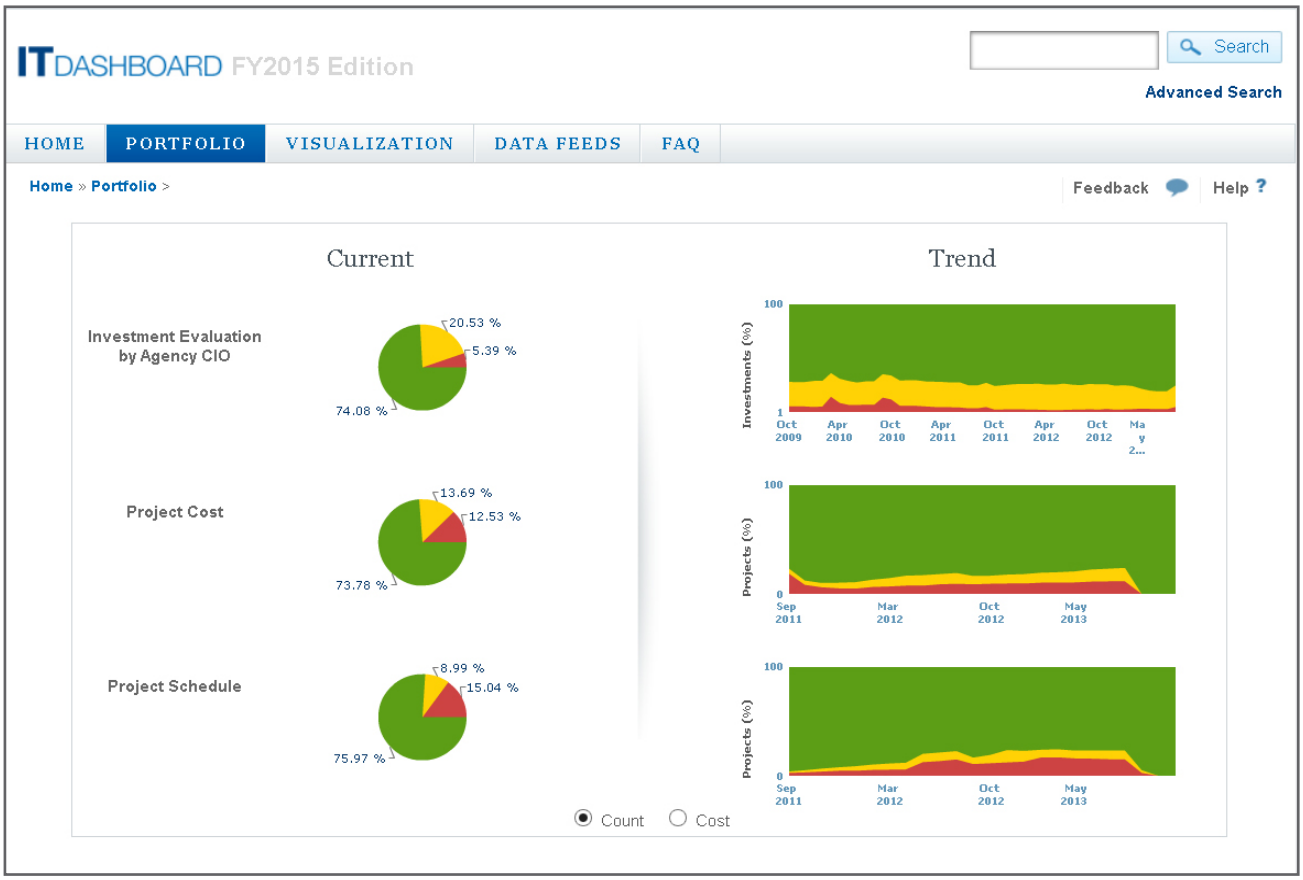
Primary Objective Emphasized in Metrics and Oversight

The primary objective of OMB's oversight and metrics in this policy area is successful delivery of IT projects ("on time," "on budget," and with a higher level of success). By improving the success of IT projects, CIOs would increase the value IT provides to the rest of the agency. A history of schedule and budget overruns in high profile IT systems plagued the Federal government for decades – increasing CIO oversight of these projects, adopting common planning methods, and greater OMB scrutiny of business cases were intended to lead to more reliable delivery.

Examples

Federal IT Dashboard. OMB launched the Federal IT Dashboard in part to make smarter use of IT project information reported through the CPIC process. By turning agency project plans and execution reports into simple, color-coded summaries of overall schedule and cost variance, both OMB and agency CIOs could more easily identify trouble spots in IT portfolios. Over time, OMB incorporated performance metrics based on these scores into agencies' overall oversight conversations.

Figure A3: IT Dashboard Portfolio Investment and Project Schedule



The Federal IT Dashboard had a Portfolio view which illustrated the proportion of investments across the Federal government which were rated high risk by the agency CIO, or were over budget or behind schedule. (Screenshot from July 2014, prior to a redesign of the IT Dashboard)

Customer value. Recognizing that timely delivery is not the only factor in IT success, OMB also developed other metrics designed to measure if delivered IT systems would meet customers' needs. For example, the IT Dashboard incorporated an "Evaluation by Agency CIO" score and comment into every major IT investments' reporting. This allowed the CIO to provide feedback about the likely overall customer success, impact, and risk. Additionally, based on research showing that more rapid delivery allows IT project teams to learn from customer feedback and better meet customer needs, PortfolioStat began to measure how quickly IT systems made it from requirements gathering to delivery. Finally, beginning with PortfolioStat's 2015 sessions, OMB measured what percent of IT projects at each agency used agile or incremental development. Using these metrics allowed for evaluation of value delivered to the customer.

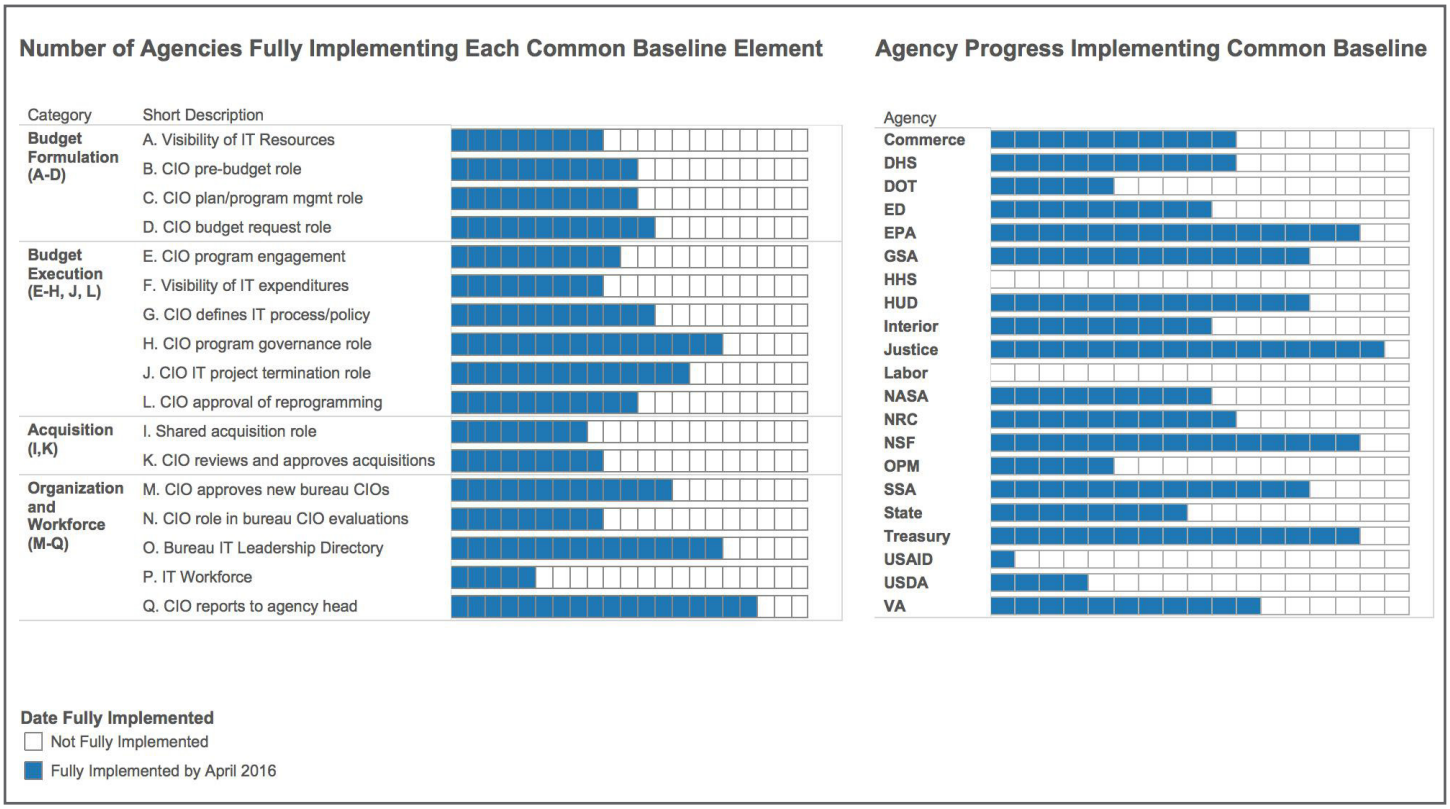
TechStat. TechStat Accountability Sessions used IT Dashboard cost variance, schedule variance, CIO evaluations, and CIO research to identify underperforming IT investments and hold data-driven reviews. OMB categorized the results of each OMB-led TechStat effort from the first year (2010) and tracked agency commitments for follow-through as "TechStat Action Items." Agencies reported the results of each of their agency-led TechStat efforts, but there was limited follow-up after a TechStat to evaluate the real impact of these sessions. FITARA restores and expands TechStat reporting requirements, but as of November 2016, OMB has not incorporated TechStat results into the current version of the IT Dashboard.

PortfolioStat. OMB has used PortfolioStat every year since 2012 to review each agency's IT performance. Each year, OMB crafts a number of KPIs to be used in PortfolioStat. These KPIs are revised each year, and only one KPI has been used in all five years from 2012-2016.[26] While these sessions have been the cornerstone of OMB oversight of agency performance, the impact and results of these sessions have not always been clear. While OMB has cited "cost savings" each year resulting from PortfolioStat, these saving are not always directly connected to the PortfolioStat process itself.

For example, the first year of PortfolioStat required each agency to develop "Commodity IT Consolidation Plans," which it announced would "save the government over $2.5 billion."[27] In subsequent PortfolioStat sessions, however, OMB did not revisit these projects, evaluate their progress, or publish the results. Additionally, while each PortfolioStat session results in PortfolioStat Action Items for the agency to implement over the coming year, there is not a complete internal list of agency items and their status nor a measurement of overall agency progress. Finally, it is not always apparent that the KPIs selected for PortfolioStat match the Administration's IT priorities that year. For example, in 2015 and 2016 there were no KPIs measuring agency implementation of the FITARA Common Baseline.

Role of the CIO and FITARA. As a part of FITARA implementation, OMB published a Common Baseline outlining 17 elements designed to improve IT management at an agency. Agencies annually self-assess their progress and send an update to OMB. OMB makes a visual dashboard of this progress, which is available to agencies through monthly FITARA implementation meetings coordinated on Management.cio.gov. In addition, a public update is posted quarterly. Based on agency self-assessments reported in April 2016, no single element of the Common Baseline had been completely implemented at all agencies and no agency had fully implemented all the elements of the Common Baseline.

Figure A4: FITARA Visual Toolkit Screenshot



No element has been fully implemented at all agencies (left visual), and no agency has fully implemented all elements (right visual). The most fully implemented element is "Q. CIO reports to agency head," a requirement which did not begin with FITARA but was required at all agencies by the Clinger-Cohen Act in 1996. Of all Federal agencies, the Department of Justice is furthest along, having fully implemented 16 of 17 elements, based on their April 2016 self-assessment.

Lessons Learned

Data Issues. Data quality and completeness issues continue to exist. For example, the IT Dashboard relies on agencies reporting accurate data through the CPIC process. However, agencies discovered inaccuracies in their reported data, especially as they shifted from reporting progress once per year to making continuous monthly updates. In response, OMB worked with agencies and GAO to build "submission validations," "submission warnings," and a "data quality report" into the IT Dashboard to flag potential data issues and help agencies correct them.

In addition, following the release of the 25-Point Plan to Reform Federal IT, the CIO Council worked with OMB to modify IT project reporting requirements to more accurately handle in-progress projects without requiring agencies to invest in complex and costly earned-value management systems.[29] These improvements and dialogue between OMB and agencies led to more accurate, timely, and useful data in the IT Dashboard and PortfolioStat. OMB could further improve data quality by working with agencies to connect to agency budget and financial systems instead of relying on CIO staff at the agency to collect spending information. However, this may require significant data standardization to translate general financial information into IT project-specific data.

Executive Involvement in PortfolioStat. A significant shift in PortfolioStat began in 2015 when OMB stopped holding annual sessions with agency Deputy Secretaries and moved to a quarterly meeting with agency CIOs. It is difficult to evaluate the impact of this shift, as it is difficult in general to evaluate the impact of PortfolioStat sessions, but much of OMB's language explaining the importance of PortfolioStat from 2012-2014 mentioned the value of meeting with senior agency leadership. Senior leadership involvement allowed PortfolioStat to surface IT-related issues or opportunities involving resources, programs, and missions outside the CIO's authority. Removing this in 2015 fundamentally changed the role of PortfolioStat in agency communication.

FITARA requires an annual review with each agency CIO, agency Deputy Secretary, and the Federal CIO, similar to the 2012-2014 PortfolioStat structure. OMB could help illustrate the impact of PortfolioStat by making agency KPI scores over the years and the status of all PortfolioStat Action Items assigned over the years publicly available.

Next steps for FITARA. OMB required agencies to develop plans to meet the FITARA Common Baseline, but has not incorporated oversight of these plans into PortfolioStat. It is unclear how OMB follows-up with agencies on FITARA, or what actions it plans to take to address persistent gaps in implementation. December 2016 will mark two years since Congress passed the law, but none of OMB's Common Baseline elements have been implemented at all agencies. OMB could improve follow-up on agency progress and plans by making the scores summarized in the FITARA Visual Toolkit publicly available, using the same public pressure and transparency that OMB harnessed with the Federal IT Dashboard.

Agency Observations and Findings

The power, prominence, and responsibilities of a CIO varies across government agencies. There are numerous stakeholders involved in the management and oversight of agency IT portfolios including the Office of the Federal CIO (OFCIO), OMB budget examiners (known as Resource Management Offices or "RMOs"), the President's Management Council (PMC), and the CIO Council. As a result, centralized oversight and management of IT can be challenging. FITARA is the most recent effort that seeks to address and improve IT management and oversight.

FINDING #1

The Authority and Role of CIOs Varies Between Agencies.

The role of an agency CIO varies greatly by agency, typically due to:

- differences in mission,
- the historical growth of an agency,
- whether a CIO is a political appointee or career position, and
- the scale of direct budget control assigned to the CIO's office.

For example, some CIOs report directly to the agency Under Secretary for Management, or equivalent, while others have reporting structures that place the CIO in a different organizational design.

[PortfolioStat and FedStat were] all good attempts, but we chase symptoms rather than the core underlying problems.

- Agency CIO

Oftentimes, significant IT decisions are made in the agency outside of the CIO's direct control or involvement. A common theme reported by CIOs is that those who have built strong relationships with their executive counterparts and other leaders in their agency have reported being more successful. While the focus on FITARA has raised the profile of the CIO in a number of agencies, implementation has been uneven and many agencies still need to work towards bringing the CIO to a more visible role within the Executive leadership.

FINDING #2

Reaction to FITARA Implementation is Mixed.

A number of CIOs praised OMB's outreach and planning for FITARA guidance, but identified shortcomings in implementation and oversight. While agencies devoted significant resources to preparing FITARA Common Baseline implementation plans and reporting information to OMB, they have not seen a strong continuing focus on follow-up and oversight of FITARA implementation. CIOs reported that continued OMB follow-up could help provide CIOs the necessary high-level cover to allow them to make progress on actions which depend on leaders outside of the CIO organization.

Performance evals for component CIOs haven't worked out quite as well — It's what's keeping us away from being perfect. The language in M-15-14 and in the statute is too vague on this. We have broad categories for evaluation, but the standardization isn't complete.

- Agency CIO

FINDING #3

The FITARA Common Baseline is Only the First Step in a Much Longer Process.

The completion and submission of the initial FITARA self-assessments and implementation plans, while important, is merely the first step in a much longer process. To be successful, the Common Baseline must not be viewed as a checklist for compliance purposes; rather, it must be used as a framework by which an agency's IT management practices can be measured.

A lot of the work I need to get done is about building the right relationships in order to get the work done.

- Agency CIO

Once an agency meets the Common Baseline requirements, the goal should be to further refine management practices to maximize the potential for positive IT outcomes. That is, agencies are not finished with FITARA implementation just because they give themselves a good rating on an element in the Common Baseline. Agencies must continue to conduct honest assessments of agency leadership, program managers, and stakeholders regarding the IT management practices throughout an agency and refine those practices accordingly.

FINDING #4

Successfully Improving Agency IT Management Functions Requires the Participation of All Members of the Executive Suite.

The transformational changes that must take place to improve a number of agencies' IT management functions will take time, resources, energy, and, most importantly, consistent engagement and oversight from agency leadership, OMB, and Congress. For example, integral to nearly every element of the Common Baseline is a strong partnership between CIOs and their peers at both the agency and bureau level. This ensures that management at all levels of the agency has visibility into how IT investments, processes, and resources are managed. However, based on the review of initial agency FITARA submissions, it is clear that close partnerships are not currently in place at many agencies. The establishment of these relationships and processes is necessary to drive change in technology related procurement, workforce development, and budget allocation.

FINDING #5

Agency Operations Do Not Always Align With OMB Reporting.

CIOs have mentioned that the data requested by OMB frequently differs from agencies' own operational data collection efforts. In order to satisfy OMB's requests, agencies have to utilize time intensive workarounds and manual processes. Additionally, once the data from these reporting mechanisms are reported to OMB, CIOs reported that they rarely receive feedback on how their data is used or the value resulting from its collection.

In addition, CIOs reported that data requests from Congress, OMB, and GAO, can often overlap or conflict, creating agency confusion and increasing the reporting burden. In a recent example, the Congressional FITARA scorecard emphasized themes and areas that were different from reporting required in OMB's FITARA Common Baseline self-assessments and milestones.

The reporting for OMB is different from the way I manage my business. OMB reporting doesn't drive my business decisions, but I've tried to avoid "gaming" the system. We need to align how we report based on our business practices.

- Agency CIO

FINDING #6

Agencies Struggle to Apply Government-wide Policies to Their Environments.

As many CIOs noted, government-wide policies and metrics may not always fit for each agency, which vary in mission, structure, and environment. Consequently, many CIOs advocated for OMB policies which provide them the flexibility to define an approach to best fit their environment while advancing broader policy objectives. CIOs stated that OMB's seeking and incorporating feedback from agencies prior to issuing guidance resulted in policies which allowed greater flexibility and had clearer objectives. Moving forward, actively incorporating feedback from agencies may assist OMB in crafting policies that can be applied government-wide, but which contain flexibilities allowing individual agencies to better achieve the policy's objectives in their unique environment.

Notes

1. Testimony of Tony Scott, Federal Chief Information Officer, Office of Management and Budget, before the Committee on Oversight and Government Reform, Subcommittee on Information Technology and Subcommittee on Government Operations, United States House of Representatives. 11/4/2015. https://oversight.house.gov/hearing/the-federal-information-technology-reform-acts-fitara-role-in-reducing-it-acquisition-risk-part-ii-measuring-agencies-fitara-implementation/

2. Computer Chaos: Billions Wasted Buying Federal Computer Systems. Investigative Report of Senator William S. Cohen, Ranking Minority Member, Subcommittee on Oversight of Government Management, Senate Governmental Affairs Committee. 10/12/1994. https://acc.dau.mil/adl/en-US/22163/file/2121/Cohen%20Computer%20Chaos%201994.pdf

3. Inadequate coordination between an agency CIO and the bureaus of an agency can also impede the implementation of cybersecurity initiatives. Several agency CIOs stated that the automated network scanning initiative EINSTEIN required them to direct bureaus to implement network scans, but many lacked visibility or influence on bureau CIOs, leading them to only apply the automated scanning in their own office, rather than the whole agency network. This limitation persisted until the 2009 Cyberspace Policy Review, also known as the 60-day Review, specifically clarified the expectation that bureaus implement this scanning. For more information on EINSTEIN and the 60-day Review, *see Policy Chapter E: Cybersecurity*, as well as "Cyberspace Policy Review: Assuring a Trusted and Resilient Information and Communications Infrastructure". 5/2009. https://www.whitehouse.gov/assets/documents/Cyberspace_Policy_Review_final.pdf

4. Federal Information Technology Shared Services Strategy. 5/2/2012. https://www.whitehouse.gov/sites/default/files/omb/assets/egov_docs/shared_services_strategy.pdf

5. The Clinger-Cohen Act of 1996 was originally enacted as the Information Technology Management Reform Act of 1996 (Divisions D and E of Public Law No: 104-106). The law was renamed the Clinger-Cohen Act by Public Law No: 104-208,110 Stat. 3009-393 (1996)

6. Public Law 107-347. *The E-Government Act of 2002*. 12/17/2002. https://www.gpo.gov/fdsys/pkg/PLAW-107publ347/pdf/PLAW-107publ347.pdf

7. *Federal Information Technology Acquisition Reform Act*. 12/19/2014. Title VIII, Subtitle D of the *National Defense Authorization Act (NDAA) for Fiscal Year 2015*, Public Law No: 113-291: https://www.congress.gov/113/plaws/publ291/PLAW-113publ291.pdf#page=148

8. The GPRA Strategic Plan is primarily developed and managed outside of the CIO and IT functions, but all other components depend on policy and guidance from OFCIO

9. *Information Technology Management Reform Act of 1996*. 2/9/1996. Division E of the *National Defense Authorization Act for Fiscal Year 1996*, Public Law No: 104-106: https://www.dol.gov/ocfo/media/regs/ITMRA.pdf

10. These were described, respectively, in Exhibit 53 and Exhibit 300 of OMB Circular A-11: *Preparation, Submission, and Execution of the Budget*. 7/2016. https://www.whitehouse.gov/sites/default/files/omb/assets/a11_current_year/a11_2016.pdf

11. OMB Circular A-11: *Preparation, Submission, and Execution of the Budget*. 7/1/2016. https://www.whitehouse.gov/sites/default/files/omb/assets/a11_current_year/a11_2016.pdf and FY 2018 IT Budget – Capital Planning Guidance. 6/30/2016. https://www.whitehouse.gov/sites/default/files/omb/assets/egov_docs/fy18_it_budget_guidance.pdf

12. The PMA Scorecard was a precursor to PortfolioStat key performance indicators. The Scorecard was published quarterly for every agency and evaluated performance across all management areas, not just IT. OMB combined multiple IT policy areas into a single "E-Government" rating for each agency

13. George W. Bush Presidential Archives. "Budget Highlights: FY 2009 IT Budget Spring Update Reflects Sustained Commitment to Improved Service Delivery". 9/7/2016. https://georgewbush-whitehouse.archives.gov/omb/egov/g-9-budget_highlights.html

14. For more information on TechStat, *see* https://cio.gov/what-is-techstat/

15. A 2013 Report by the Government Accountability Office (GAO) summarized: "OMB reported conducting 79 TechStat reviews, with 59 reviews occurring in 2010, 8 in 2011, 11 in 2012, and one so far in 2013. OMB conducted fewer TechStats in recent years because it expected the agencies to increase the number of agency-led TechStats." GAO-13-524. INFORMATION TECHNOLOGY: Additional Executive Review Sessions Needed to Address Troubled Projects. 6/13/2013. http://www.gao.gov/products/GAO-13-524

16. OMB described the impact of TechStat as "cost implications (e.g. cost avoidance, life cycle cost avoidance, and/or reallocation of funding)". 11/4/2016. https://cio.gov/drivingvalue/techstat/

17. "Agency CIOs will take on responsibility for the 'TechStat' governance process within their agencies as of March 2011." Vivek Kundra. *25-Point Implementation Plan to Reform Federal IT Management*. 12/9/2010. https://www.dhs.gov/sites/default/files/publications/digital-strategy/25-point-implementation-plan-to-reform-federal-it.pdf The *25-Point Implementation Plan to Reform Federal IT Management* launched "agency TechStats"; OMB reported the results of agency TechStats in a December 2011 presentation. "Our Moment.". 12/2011. https://www.whitehouse.gov/sites/default/files/omb/assets/egov_docs/december2011update.pdf

18. M-12-10. Implementing PortfolioStat. 3/30/2012. https://www.whitehouse.gov/sites/default/files/omb/memoranda/2012/m-12-10_1.pdf

19. M-15-14. Management and Oversight of Federal Information Technology. Page 21. 6/10/2015. https://www.whitehouse.gov/sites/default/files/omb/memoranda/2015/m-15-14.pdf

20. Testimony of Tony Scott, Federal Chief Information Officer, before the Committee on Oversight and Government Reform, Subcommittee on Information Technology, Subcommittee on Government Operations, United States House of Representatives. 11/4/2015. https://oversight.house.gov/wp-content/uploads/2015/11/Scott-OMB-Statement-11-4-FITARA.pdf. The accuracy of this figure has been disputed by GAO. GAO-15-296. INFORMATION TECHNOLOGY: Additional OMB and Agency Actions Needed to Ensure Portfolio Savings Are Realized and Effectively Tracked. 4/16/2015. http://www.gao.gov/assets/670/669679.pdf

21. General Services Administration. "D2D: Benchmarking Initiative". *11/2/2016*. https://d2d.gsa.gov/report/benchmarking-initiative

22. M-15-11. Fiscal Year 2017 Budget Guidance. 5/1/2015. https://www.whitehouse.gov/sites/default/files/omb/memoranda/2015/m-15-11.pdf

23. Performance.gov. "Cross-Agency Priority Goal: Benchmark and Improve Mission-Support Operations". Quarterly Progress Update. https://www.performance.gov/node/3397/view?view=-public#progress-update

24. GAO-11-634. Federal Chief Information Officers: Opportunities Exist to Improve Role in Information Technology Management. Pages 29-30. 9/15/2011. http://www.gao.gov/assets/590/585305.pdf. See also GAO-04-823. Federal Chief Information Officers: Responsibilities, Reporting Relationships, Tenure, and Challenges. 7/21/2004. http://www.gao.gov/products/GAO-04-823

25. M-15-14. Management and Oversight of Federal Information Technology. 6/10/2015. https://www.whitehouse.gov/sites/default/files/omb/memoranda/2015/m-15-14.pdf

26. The HSPD-12 "Strong Authentication" KPI has been included in all five years of PortfolioStat, though the labelling of the metric has varied: "Percentage of systems which require PIV card usage for logical access for all users"

27. PortfolioStat: Saving Billions in IT Spending. 10/24/2012. https://www.whitehouse.gov/blog/2012/10/24/portfolio-stat-saving-billions-it-spending

28. General Services Administration. "FITARA Visual Toolkit". *11/3/2016*. https://d2d.gsa.gov/report-link/fitara-visual-toolkit-gov-wide-trend

29. Vivek Kundra. *25-Point Implementation Plan to Reform Federal IT Management*. 12/9/2010. https://www.dhs.gov/sites/default/files/publications/digital-strategy/25-point-implementation-plan-to-reform-federal-it.pdf