



March 2024

INFORMATION TECHNOLOGY

IRS Needs to Complete Planning and Improve Reporting for Its Modernization Programs

GAO Highlights

Highlights of [GAO-24-106566](#), a report to congressional committees

Why GAO Did This Study

IRS relies extensively on IT to annually collect trillions of dollars in taxes, distribute hundreds of billions of dollars in refunds, and carry out its mission of providing service to America's taxpayers in meeting their tax obligations. In August 2022, Congress appropriated tens of billions to IRS through fiscal year 2031 to bolster taxpayer services and enforcement of the tax code, and modernize IT, among other things.

The Joint Explanatory Statements accompanying the Financial Services and General Government Appropriations Bills for 2022 and 2023 include provisions for GAO to review the status of IRS's IT investments. This report, among other things, summarizes the technology objective of IRS's strategic plan, determines the extent to which the agency has updated plans for its IT modernization programs, and assesses IRS progress made on its modernization programs in fiscal years 2022 and 2023.

GAO reviewed IRS's strategic operating plan and associated program documentation. In addition, GAO assessed IRS's progress on its reported modernization program cost and schedule performance for fiscal years 2022 and 2023. GAO also interviewed cognizant IRS officials.

What GAO Recommends

GAO is making three recommendations to IRS to complete a technology roadmap, update individual modernization plans, and improve its reporting on modernization progress. IRS agreed with all three recommendations.

View [GAO-24-106566](#). For more information, contact David B. Hinchman at (214) 777-5719 or hinchmand@gao.gov

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What GAO Found

In April 2023, the Internal Revenue Service (IRS) issued its agency-wide strategic operating plan outlining its vision to use billions of dollars contained in the Inflation Reduction Act of 2022 appropriation to transform the administration of the tax system and services provided to taxpayers. The plan identified five objectives, including a technology objective underpinning the other four.

Figure: Inflation Reduction Act Strategic Operating Plan Transformation Objectives



Sources: GAO analysis of Internal Revenue Service information and illustrations. | [GAO-24-106566](#)

The IRS plan, among other things, states that it will use the technology objective to retire and replace legacy systems and update programming languages, give taxpayers tools to access their data and use online services, and ensure continued security and privacy of taxpayer data. IRS identified eight initiatives and 38 key projects for the technology objective but noted the list of projects was not comprehensive. This is consistent with the Treasury Inspector General for Tax Administration 2023 report stating that the technology objective had a total of 142 projects. These 142 represent about 30 percent of the 475 projects for all five objectives.

Projects under the technology objective include ongoing modernization programs that have been modified to account for the new appropriations. However, plans showing changes to the scope of future work, milestones, and efforts to retire legacy systems have not yet been updated. IRS officials stated that updating these plans is contingent on completing a roadmap to implement the strategic plan. These officials added that the first version of the roadmap was completed in December 2023. However, this roadmap did not include the technology objective. They said that this objective would be included in version two of the roadmap which they expected would be completed very soon. Completing the roadmap and then updating ongoing IT modernization plans to reflect revisions driven by the strategic plan are essential to the transformation's success.

Regarding cost and schedule performance of IT modernization programs, IRS reported meeting most of its quarterly targets for fiscal years 2022 and 2023. These reports, however, could be improved by including programs' historical cost and schedule goals and how quarterly performance compares to overall program goals. For example, GAO previously reported that a key IT investment was within schedule estimates for 2019 and 2020 but that IRS had changed its overall program plans several times. These changes led to a 9-year milestone delay--from 2014 to 2023. However, the quarterly reports did not show this lengthy delay because they do not include programs' historical cost and schedule goals.

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Abbreviations

BSM	Business Systems Modernization
CADE 2	Customer Account Data Engine 2
COBOL	Common Business Oriented Language
EUSS	End User Systems and Services
IDRS	Integrated Data Retrieval System
IMF	Individual Master File
IRA	Inflation Reduction Act of 2022
IRS	Internal Revenue Service
MSSS	Main Frames and Servers Services Support
OA	operational analysis
OMB	Office of Management and Budget
SOP	Strategic Operating Plan
TSS	Telecommunications Systems and Support
WebApps	Web Applications

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March 19, 2024

The Honorable Chris Van Hollen
Chair
The Honorable Bill Hagerty
Ranking Member
Subcommittee on Financial Services and General Government
Committee on Appropriations
United States Senate

The Honorable Steve Womack
Chairman
The Honorable Steny Hoyer
Ranking Member
Subcommittee on Financial Services and General Government
Committee on Appropriations
House of Representatives

Information technology is critical to the Internal Revenue Service’s (IRS) mission to provide America’s taxpayers top quality service by helping them understand and meet their tax responsibilities and enforce the law with integrity and fairness to all. IRS spent about \$4.4 billion in fiscal year 2023 on developing, modernizing, and maintaining its technological infrastructure. While the agency has been modernizing its IT for well over a decade, we recently reported that it had legacy hardware, software, and applications that continued to contribute to security risks, unmet mission needs, staffing issues, and increased costs.¹

IRS also recently received additional appropriations to help with its technology modernization efforts. Specifically, in August 2022, Congress appropriated \$79.4 billion to IRS through the Inflation Reduction Act (IRA) of 2022 appropriation.² This includes \$4.8 billion to be used for its

¹GAO, *Information Technology: IRS Needs to Complete Modernization Plans and Fully Address Cloud Computing Requirements*, [GAO-23-104719](#) (Washington, D.C.: Jan. 12, 2023).

²Inflation Reduction Act of 2022, Pub. L. No. 117-169, title I, subtitle A, part 3, § 10301, 136 Stat. 1818 (2022). A portion of the overall amount appropriated was rescinded in June 2023, resulting in a total of more than \$78 billion. Specifically, the Fiscal Responsibility Act of 2023 rescinded over \$1.389 billion of amounts appropriated for the IRS by Public Law 117-169. See Pub L. No. 118-5, § 251, 137 Stat. 10, 30 (2023). However, according to IRS officials the rescission was not applied to IT modernization.

business systems modernization and over \$25.3 billion for operations support, which includes funding for the operations and maintenance of IRS's IT systems. The appropriation also includes funds to bolster taxpayer services and enforcement of the tax code. The appropriated amounts are to remain available through the end of fiscal year 2031. IRS stated that it plans to use the appropriation to transform the way the agency carries out its mission and, in April 2023, it developed an agency-wide IRA Strategic Operating Plan (SOP), including a technology objective, to articulate its vision.³

The Joint Explanatory Statements accompanying the Financial Services and General Government Appropriations Bill, 2022 and 2023 include provisions for us to annually review the status of IRS's IT investments.⁴ Our objectives for this review were to (1) summarize the technology objective of IRS's strategic plan and determine the extent to which the agency has updated plans for its ongoing modernization efforts; (2) determine to what extent has IRS made progress on its IT modernization programs in fiscal years 2022 and 2023; and (3) determine to what extent has IRS achieved expected performance from IT investments in operations and maintenance in fiscal years 2022 and 2023.

For our first objective, we reviewed the IRA SOP and related documentation and summarized what they described about the technology objective. We also reviewed our prior work summarizing industry and government best practices for developing modernization plans.⁵ We interviewed IRS IT officials on the status of plans for the ongoing modernization programs to determine whether they met these best practices.

³Internal Revenue Service, *Inflation Reduction Act Strategic Operating Plan, FY2023 – 2031*, (Washington, D.C.: April 5, 2023).

⁴Explanatory Statement for Financial Services and General Government Appropriations Bill, 2022, page 22, accompanying Pub. L. 117-103, available at https://www.appropriations.senate.gov/download/fsggrept_final (last accessed Dec. 4, 2023). Explanatory Statement for Financial Services and General Government Appropriations Bill, 2023, page 23, accompanying Pub. L. 117-328, available at <https://www.appropriations.senate.gov/download/fsggfy23rpt> (last accessed Dec. 4, 2023). In communication with committee staff, we agreed to focus on the objectives detailed in this report.

⁵GAO-23-104719; and GAO, *Information Technology: Agencies Need to Develop Modernization Plans for Critical Legacy Systems*, GAO-19-471 (Washington, D.C.: June 11, 2019).

For the second objective, we analyzed and summarized IRS's reported planned versus actual cost, schedule, and scope for its modernization program capabilities delivered for fiscal years 2022 and 2023, as reported in quarterly IT status reports to Congress. We also reviewed and verified the performance data by comparing draft quarterly reports to finalized quarterly reports to ensure all project data was accounted for. If any anomalies were detected in the performance data, we followed up with IRS officials.

For the third objective, we identified IRS's 16 major IT investments in the operations and maintenance phase of their life cycle (referred to as operational investments), for fiscal years 2022 and 2023. From this list we selected five based on factors including (1) mission criticality, and (2) highest levels of funding for fiscal years 2022 and 2023. They are: End User Systems and Services (EUSS), Individual Master File (IMF), Integrated Data Retrieval System (IDRS), Main Frames and Servers Services Support (MSSS), and Telecommunications Systems and Support (TSS). These investments are described later in this report.

We compared the investments' actual operational performance metrics to targets for fiscal years 2022 and 2023 up to June 2023. We also reviewed IRS's operational analyses—internal assessments of performance required by the Office of Management and Budget (OMB)—for the five selected investments to determine whether they addressed key factors specified in OMB's capital programming guidance. These factors included analyzing how well the investments contribute to achieving the organization's strategic goals and determining the extent to which the investments support customer processes, as designed. We rated each factor as addressed if the operational analysis fully addressed the factor; partially addressed if the operational analysis addressed some, but not all, of the factor, or not addressed if the operational analysis did not address the factor.

For all objectives, we also interviewed relevant officials in IRS's IT organization and Transformation and Strategy Office.

As part of our work, we also reviewed IT budget documentation to identify and summarize IRS's actual spending from the IRA appropriation and other appropriations for fiscal years 2022 and 2023. We did this for both investments in development, including modernization programs, and operational investments. A detailed discussion of our objectives, scope, and methodology can be found in appendix I.

We conducted this performance audit from January 2023 to March 2024 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 that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

IT Plays a Critical Role in Supporting IRS's Mission

IRS relies extensively on IT to carry out its mission. In fiscal year 2022, IRS relied on IT to collect more than \$4.9 trillion in taxes, process approximately 260 million tax returns, and issue more than \$640 billion in refunds and outlays. IRS also relies on IT to annually process more than 5 billion information returns (e.g., the Form 1099 series and Form W-2) and to verify information taxpayers report on their income tax returns. IT is also critical to securing sensitive taxpayer information.

IRS reported that it spent approximately \$3.3 billion on its IT investments during fiscal year 2022. This includes \$944 million for development, modernization, and enhancement (development), and \$2.4 billion for operations and maintenance. For fiscal year 2023, IRS reported it spent approximately \$4.4 billion on IT investments, including nearly \$2 billion from the IRA appropriation. Details regarding actual spending and plans are described later in this report.

Examples of investments in development include the following.⁶

- Customer Account Data Engine 2 (CADE 2) is being developed to replace core functions of the IMF⁷ and generally modernize the technology environment that enables the IRS to process individual tax

⁶In August 2023, IRS informed us of its effort to restructure its investments, to among other things, organize IT resources by function rather than organizational structure. Under this new structure, which IRS began to transition to toward the end of our review, CADE 2 will be part of the Tax Account Management investment, the Enterprise Case Management will be part of the Case Management investment, and Web Applications (WebApps) will be part of the Digital Services investment.

⁷IMF is IRS's authoritative data source for individual taxpayer account data which accounts for a large portion of tax processing activities. IRS uses this system to update accounts, assess taxes, and generate refunds, as required, during each tax filing period.

returns each year.⁸ CADE 2 data is also expected to be made available for access by downstream systems, such as the Integrated Data Retrieval System for online transaction processing by IRS customer service representatives. In September 2020, we identified CADE 2 as one of the federal government's most critical IT acquisitions.⁹ According to IRS, as of May 2023, it had completed one hundred percent of the code conversion needed to retire IMF's legacy code and was testing new code as part of CADE 2's Individual Tax Processing Engine program.

- Enterprise Case Management program is an enterprise solution for performing case management across IRS's business units. According to the agency, it has over 60 existing case management systems that provide limited visibility into case management practices among programs and caused process redundancies as well as multiple handoffs that can lead to, among other things, increased risks. IRS reported that it established a cloud-based platform for the Enterprise Case Management program in fiscal year 2021, and, as of July 2023, was continuing to migrate legacy applications to it.
- Web Applications (WebApps) establishes an online account for individual taxpayers that links the taxpayer to various IRS services. WebApps allows taxpayers to check their account balance, payment history, and resolve a variety of tax issues using the IRS website or mobile app.

Examples of operational investments include the following.

- EUSS provides desktops, laptops, mobile devices, software, incident management services, and asset management services to end users in IRS. The investment began operating in 2002.
- IMF, as noted above, is IRS's key system for processing individual taxpayer account data. Virtually all IRS information system applications and processes depend on output, directly or indirectly,

⁸IRS initially intended for CADE 2 to fully replace the Individual Master File. However, in May 2019, IRS noted that it had changed the scope of the investment to focus on modernizing only the most complex and critical aspects of the Individual Master File.

⁹GAO, *Information Technology: Key Attributes of Essential Federal Mission-Critical Acquisitions* [GAO-20-249SP](#) (Washington, D.C.: Sept. 8, 2020).

from this data source. IRS uses assembly language code¹⁰ and Common Business Oriented Language (COBOL),¹¹ languages that were developed in the late 1950s and early 1960s, to program this system, which began operation in the late 1960s. IRS has reported that modernizing this system is critical to providing the foundation for real time digital taxpayer interactions, agile responses to legislative changes, and rapid access to data for enhanced customer service, compliance, and fraud detection services. Accordingly, the agency has been working to modernize and retire this system for over two decades. As a result, efforts to develop CADE 2, a significant component of the modernization, have taken longer and cost more than initially planned.¹² IRS recently announced that it would retire the IMF in fiscal year 2028.

- IDRS is used by IRS employees to review tax information, issue notices to taxpayers, and update taxpayer records. The IDRS investment began in 1973.
- MSSS supports a vast array of IRS's IT infrastructure. Specifically, this investment encompasses the design, development, and deployment of servers, middleware and large systems, and enterprise storage infrastructures, including systems software products, databases, and operating systems. The MSSS investment began in 1970.
- TSS provides the voice and data network infrastructure services, video services, and engineering throughout IRS. The TSS investment began in 2001.

IRS has reported that modernization is needed to improve its core tax administration systems, operations, and cybersecurity. The agency has also reported that modernization is critical to improving customer

¹⁰As we reported in May 2016, assembly language code is a low-level computer language initially used in the 1950s. Programs written in assembly language are conservative of machine resources and quite fast; however, they are much more difficult to write and maintain than other languages. Programs written in assembly language may only run on the type of computer for which they were originally developed.

¹¹COBOL, which was introduced in 1959, became the first widely used, high-level programming language for business applications. The Gartner Group, a leading IT research and advisory company, has reported that organizations using COBOL should consider replacing the language, as procurement and operating costs are expected to steadily rise, and because there is a decrease in people available with the proper skill sets to support the language.

¹²GAO, *Information Technology: Cost and Schedule Performance of Selected IRS Investments*, [GAO-22-104387](#) (Washington, D.C.: Oct. 19, 2021).

experience and providing the kind of service taxpayers have come to expect. For example, IRS has previously reported that modernization will help address business and technical challenges due to constraints with the IMF program it has been using since 1970. These challenges include the inability to get a real-time view of the taxpayer account, quickly respond to tax code changes, provide enhanced analytical capabilities, and provide additional taxpayer account information to combat fraud and identity theft more effectively. Currently, IRS employees and taxpayers use more than 600 applications, many of which are over 20 years old. With some of the oldest information systems in the federal government, modernization is essential for IRS to get the full value of its data.

IRS Issued a New Modernization Plan and Continues to Report on Its Progress

To support its IT modernization efforts, in April 2023 IRS publicly issued its agency-wide IRA SOP. According to IRS, the plan combined and evolved several existing plans, including the April 2019 Integrated Business Modernization Plan that previously guided IRS's IT modernization work.¹³ The IRA SOP identifies five objectives the agency plans to accomplish through year 2031:

1. Dramatically improving services to help taxpayers meet their obligations and receive the tax incentives for which they are eligible
2. Quickly resolving taxpayer issues when they arise
3. Focusing expanded enforcement on taxpayers with complex tax filings and high-dollar noncompliance to address the tax gap
4. Delivering cutting-edge technology, data, and analytics to operate more effectively
5. Attracting, retaining, and empowering a highly skilled, diverse workforce and developing a culture that is better equipped to deliver results for taxpayers

The fourth objective focuses on IRS's improvements to its IT infrastructure, including the agency's plans to retire legacy applications and modernize IT. The SOP states that the key dependency for many programs identified in the plan is the modernization of IRS's core IT infrastructure. We provide additional information on the fourth objective later in the report.

¹³Internal Revenue Service, *IRS Integrated Modernization Plan Business Plan*, (Washington, D.C.: April 2019).

IRS reports to Congress and other stakeholders on the status of its modernization efforts through quarterly reports as mandated in legislation. These quarterly reports summarize accomplishments for the quarter and identify key milestones for the upcoming quarter. The agency identifies changes to program cost, schedule and scope in the detailed program information and baseline change requests within the quarterly reports.

Further, the agency provided a detailed annual status report to the Department of the Treasury, which it makes publicly available. In July 2022, IRS issued its third such report on work identified in its 2019 modernization plan. In August 2023, the agency released a high level “one-year” summary of its accomplishments using IRA funding. This summary included updates to systems that allow taxpayers to respond to notices online, self-service options that offer around the clock aid, and more options for paperless tax processing.

In addition, the SOP states that the agency’s Transformation and Strategy Office will provide an annual update on IRS’s status in implementing the SOP objectives. These updates are to include renewed and current guidance on strategic priorities and lessons learned and identify any changes to priorities.¹⁴

GAO Previously Reported on Opportunities for IRS to Improve the Management of Its IT Investments

Over the years, we have reported on IRS’s management of IT investments and identified many opportunities for improvement. For example:

- In June 2018, we reviewed the performance of selected IRS investments.¹⁵ We evaluated the extent to which IRS had identified and taken steps to address the risks associated with three mission critical legacy systems—IMF, IDRS, and MSSS. We also reviewed IRS’s implementation of key IT workforce planning practices. We found, among other things, that these legacy systems were facing significant risks due to their reliance on legacy programming languages, outdated hardware, and a shortage of IT staff with critical skills. In addition, IRS had not fully implemented key risk management practices to effectively mitigate those risks.

¹⁴IRS’s Transformation and Strategy Office is led by a Chief Transformation and Strategy Officer who reports directly to the IRS Commissioner. The office is responsible for, among other things, monitoring and reporting progress, identifying and solving implementation challenges, and managing enterprise-wide change efforts.

¹⁵GAO, *Information Technology, IRS Needs to Take Additional Actions to Address Significant Risks to Tax Processing*, [GAO-18-298](#) (Washington, D.C.: June 28, 2018).

As a result of these and other findings in our report, we made 21 recommendations to IRS. As of February 2024, IRS had implemented all of the recommendations.

- In October 2021, we reported on IRS’s use of outdated assembly language code and COBOL for its IMF, and on the status of the agency’s efforts to replace the program.¹⁶ We noted that IRS had a plan for replacing and retiring IMF, with a 2030 milestone for full replacement. The milestone, however, meant that for many years IRS would still have to contend with the numerous challenges associated with the system’s age and reliance on an old programming language warranting consistent high-level management attention.

In addition, we found that while CADE 2 had lower than expected costs for 2020 and was within schedule parameters for 2019 and 2020, IRS had changed its plans for the investment several times. This led to a 9-year delay in a key schedule milestone for replacing selected IMF functions—from 2014 to 2023.

- More recently, in January 2023, we reported on IRS legacy environment modernization plans and cloud computing efforts.¹⁷ We noted that IRS had documented plans for 21 modernization programs that were underway, including nine associated with legacy systems. All 21 plans addressed two key elements related to including *milestones to complete modernization and describing the work needed to modernize the system*.¹⁸ However, the plans for six of the nine programs associated with legacy systems did not address the third key element related to including *plans for disposing of the legacy systems*. Further, we reported that IRS had suspended operations of six modernization programs, including two which are essential to replacing the 60-year-old Individual Master File, and the completion dates for these programs was unknown.

As a result of these and other findings in our report, we made nine recommendations to IRS. IRS agreed with the recommendations and described efforts underway and plans to address them. As of February 2024, IRS was working to address these recommendations.

¹⁶[GAO-22-104387](#).

¹⁷[GAO-23-104719](#).

¹⁸According to best practices, agencies should develop modernization plans that should, at a minimum, include three key elements: (1) milestones to complete the modernization, (2) a description of the work necessary to complete the modernization, and (3) details regarding the disposition of the legacy system, if applicable. See [GAO-19-471](#).

IRS's IT Activities Were Funded Through Several Appropriations in Fiscal Years 2022 and 2023

IRS's IT activities have historically been funded through the annual Business Systems Modernization (BSM) appropriation for modernization activities and annual Operations Support appropriation for operations.¹⁹ In fiscal years 2022 and 2023, IRS also used supplemental appropriations, such as the American Rescue Plan Act appropriation, that were available to support its activities.²⁰ In addition, the agency relied on user fees and other sources as needed. Below is a timeline of key events IRS experienced in fiscal years 2022 and 2023 that affected its IT budget.

- In the second quarter of fiscal year 2022, IRS reallocated \$416 million of the American Rescue Plan Act appropriation it had planned to use for IT modernization to higher organizational priorities. As a result of these priorities, IRS suspended six modernization programs, including the CADE 2 Target State and IMF Retirement Acceleration; reduced the funding for six others; added one program; and increased funding for two programs. Six other programs remained at the same funding level. The changes to the portfolio were reflected in the fiscal year 2022 third quarter report to Congress.
- As previously noted, in August 2022 Congress appropriated \$4.8 billion for business systems modernization through fiscal year 2031 through the IRA. IRS allocated \$89 million of the IRA appropriations on investments in development for fiscal year 2022, and \$1.3 billion for fiscal year 2023 through quarter 3. Using these funds, IRS made plans to accelerate some programs and add new ones to help achieve the vision outlined in the IRA SOP. IRS attributed several recent advancements to the IRA funding, including launching the paperless processing initiative, adding more chatbots and expanding customer callback to improve service, launching the first-ever online business tax account, using artificial intelligence and improved technology to identify sophisticated schemes to avoid taxes, and strengthening cybersecurity.
- Along with appropriating funds through the IRA, Congress eliminated the BSM appropriation for fiscal year 2023.

With these funds, IRS made changes to the number of modernization programs in its portfolio for fiscal years 2022 and 2023 and to the programs' planned cost, schedule, and scope. Appendix II provides a

¹⁹The annual BSM appropriation provided IRS funds that were available for spending over three years (i.e., three-year money).

²⁰Pub. L. No. 117-2, title IX, subtitle G, § 9611(b), 135 Stat. 4, 145 (2021).

quarterly breakdown of IRS's modernization programs. Appendix III provides a breakout of IRS's IT spending for the two fiscal years by appropriation.

IRS Defined a New Vision for IT Modernization, but Implementation Plans Have Not Yet Been Completed

IRS's April 2023 IRA SOP for fiscal years 2023 to 2031 articulates the agency's new vision for how it plans to modernize IT to transform the administration of the tax system and the services provided to taxpayers.²¹ The plan includes a technology objective that, according to IRS will, among other things, retire and replace legacy systems and update programming languages, give taxpayers tools to access their data and use online services, and ensure continued security and privacy of taxpayer data. IRS identified eight initiatives for this objective, such as modernizing the systems used to access and process taxpayer data and improving technology operations, and 38 supporting key projects. IRS noted that the 38 key projects were not a comprehensive list of all projects included in the technology objective. The Treasury Inspector General for Tax Administration reported last year that the objective had 142 supporting projects, about 30 percent of the total of 475 projects across all five objectives.²² The projects include ongoing modernization programs which have been modified to account for the new appropriations.

IT also plays a key role in initiatives beyond the technology objective. For example, the taxpayer services objective has several initiatives that are dependent on IT being delivered. These initiatives include expanding digital services, enabling taxpayers to access their data, and ensuring employees have the right tools and information to meet taxpayer needs. For example, under the tools and information initiative, IRS says it will create a secure centralized information system that will provide a history of all interactions.

IRS restructured its investments to, among other things, organize IT resources by function rather than organizational structure. According to IRS officials, the new structure aligns IT resources to the SOP objectives

²¹In February 2024, we issued a report that summarizes the SOP and determines the extent to which IRS has developed plans to apply leading agency reform practices to implement it. GAO, *IRS Reform: Following Leading Practices and Improving Cost Estimation Policies Could Benefit Agency Efforts*, [GAO-24-106091](#) (Washington, D.C.: Feb. 14, 2024).

²²Treasury Inspector General for Tax Administration, *Strategic Plan: Oversight of the IRS's Transformation Efforts* (Oct. 12, 2023).

and is consistent with the Technology Business Management framework.²³

However, IRS has not yet developed plans to reflect the updated modernization programs that include three elements that according to best practices are needed to ensure their success. As previously noted, according to government and industry best practices, and prior GAO reports on the modernization of federal IT,²⁴ these plans should, at a minimum, include three key elements: (1) milestones to complete the modernization, (2) a description of the work necessary to complete the modernization, and (3) details regarding the disposition of the legacy system, if applicable.

We reported on our assessment of modernization program plans for consistency with best practices in January 2023, however, these plans pre-dated the IRA, and therefore did not account for the work underway and planned with the new appropriation. In October 2023, IRS IT officials stated that they were waiting for the completion of an SOP integration roadmap to update the individual plans for the modernization programs. They stated that the Transformation and Strategy Office was developing this roadmap, and that it was expected to be completed at the end of November.

In a January 2024 update, IRS Transformation and Strategy Office officials provided an overview of the first version of an enterprise roadmap they stated had been completed in December 2023. They stated the roadmap was a two-year plan (covering filing seasons 2024 and 2025) that converts the vision laid out in the SOP to an implementable roadmap identifying outcomes and key results. Officials stated that the initial version of the enterprise roadmap did not address the technology

²³Technology Business Management is an approach to budgeting that OMB began requiring agencies to use in fiscal year 2019. Established by the Technology Business Management Council, the framework includes a taxonomy that, according to the Council, provides a common language for categorizing, comparing, and reporting IT spending.

²⁴General Services Administration, Unified Shared Services Management, *Modernization and Migration Management (M3) Playbook* (Washington, D.C.: Aug. 3, 2016); *M3 Playbook Guidance* (Washington, D.C.: Aug. 3, 2016); American Technology Council, *Report to the President on Federal IT Modernization* (Washington, D.C.: Dec. 13, 2017); Office of Management and Budget, *Management of Federal High Value Assets*, M-17-09 (Washington, D.C.: Dec. 9, 2016); American Council for Technology-Industry Advisory Council, *Legacy System Modernization: Addressing Challenges on the Path to Success* (Fairfax, VA: Oct. 7, 2016); Dr. Gregory S. Dawson, Arizona State University, IBM Center for The Business of Government, *A Roadmap for IT Modernization in Government* (Washington, D.C.: 2018); [GAO-23-104719](#), and [GAO-19-471](#).

objective. They said that this objective would be included in version two of the roadmap which they expected would include planning through filing season 2026 and be completed very soon.

Until IRS completes the roadmap addressing the technology objective, it may lack the detailed planning needed to successfully operationalize the SOP. In addition, until it updates or develops new plans for its modernization programs that include the three key elements described above, the agency runs the risk of cost overruns, schedule delays, and overall project failure. Further, completing the plans is important for ensuring accountability, and facilitating oversight of IRS's IT modernization efforts.

IRS Reported Most Modernization Work Completed as Planned, but Reports Lacked Key Data

IRS reported that it met cost and schedule goals for almost all its modernization capabilities for fiscal year 2022 and fiscal year 2023 through June 2023.²⁵ However, while IRS's quarterly status reports provide important information on modernization progress, they lack key data that could improve their usefulness.

IRS Reported That Almost All of Its Modernization Capabilities Met Cost and Schedule Goals

Best practices highlight the importance of timely reporting on performance relative to schedule and cost (both planned and actual).²⁶ IRS reported schedule and cost performance information for fiscal years 2022 and 2023 for its modernization programs in its quarterly reports to Congress. In these reports, IRS considers capabilities delivered within 15 days of the planned completion date to be on time. In addition, IRS and OMB consider variances within 10 percent of planned cost not to be significant.

Fiscal Year 2022

Schedule. IRS reported that it delivered 59 capabilities supporting 23 programs during fiscal year 2022.²⁷ Of the 59 capabilities, 58 were delivered on schedule, and one was delivered late. Specifically, one capability associated with the WebApps program was delivered about 30 days later than the planned date. According to the fiscal year 2022 first

²⁵IRS began reporting the status of its modernization programs under a new IT investment structure in the fourth quarter of fiscal year 2023. Since this realignment included modernization program name changes and new investment categories, we did not include the fourth quarter in the scope of our review.

²⁶GAO, *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Program Costs*, [GAO-20-195G](#) (Washington, D.C.: March 12, 2020).

²⁷IRS has consistently delivered around the range of 20-40 capabilities in prior fiscal years.

quarter report to Congress, this was due to a change in scope to modify planned short messaging service features.

IRS also reported that it “deferred or removed” 18 capabilities associated with the Cloud Execution, Enterprise Data Platform, and six programs it suspended due to reductions in funding. As previously noted, the suspended programs were CADE 2 Target State, Enterprise Anomaly Detection / Return Review Program, Individual Master File Retirement Acceleration, Robotics Process Automation / Intelligent Automation, Enterprise Tax Calculator Service, and Workforce Infrastructure.²⁸ In addition, IRS removed the Next Generation Infrastructure program from the portfolio to incorporate it into another IT investment with which it was closely aligned.

Examples of the modernization capabilities IRS reported as delivered in fiscal year 2022 include the following.

- Tax Pro Account Release 2 within the WebApps provided new features to modernize certain paper-based processes to help third parties resolve issues with the IRS on behalf of clients. It also included improved ability to view and cancel pending authorization requests, email alerts, and performance improvements. IRS reported benefits from this capability to include a reduced amount of paper forms, reduced taxpayer burden, and reduced time to submit authorizations.
- Network Layer Threat Detection within the Security Operations and Management program deployed infrastructure enhancements across the three common computing gateways/trusted internet connections to update and significantly expand the existing packet capture technology. IRS reported that this technology improves visibility and threat detection at the network layer for threat analysis, detection, and response, while gaining visibility into system traffic flows.

Cost. IRS reported that it spent \$541.7 million on its 23 IT modernization programs, \$18.4 million less than it had planned. The agency reported that of its 23 modernization programs, 21 were within 10 percent of planned cost goals. Two programs reported having a significant cost variance.

²⁸As a result of new priorities, in July 2022, IRS officials stated that agency leadership had reallocated American Rescue Plan Act funds to cover IT operations and maintenance needs and address taxpayer assistance needs with record paper inventory levels.

-
- Digitalization reported a negative cost variance of about 42 percent, spending \$3.15 million less than planned. The agency stated that this variance was due to a lower-than-expected contractor support cost and a task order that was not awarded. Negative cost variances under 10 percent for the other 22 programs collectively account for the remaining \$15.4 million underspend.
 - Return Review Program / Enterprise Anomaly Detection reported a negative cost variance of about 14 percent, spending \$0.2 million less than planned. The agency stated that this was due to rescinded procurement contracts.

The 21 other programs' non-significant negative cost variances collectively account for the remaining \$15.4 million underspend.

Fiscal Year 2023

Schedule. IRS reported that it delivered 27 capabilities supporting 20 modernization programs, for fiscal year 2023 through the third quarter. Of the 27 capabilities, 26 capabilities were delivered on schedule, and one capability was delivered late. Specifically, a capability associated with the Live Assistance program was delivered on January 5, 2023, 31 days past the planned completion date of December 5, 2022. According to the fiscal year 2023 first quarter report to Congress, the capability was delayed to the next quarter to accommodate integration with tax season changes.

In addition, according to IRS, a capability associated with Information Technology Service Management was projected to be completed late. Specifically, the capability, Service Manager Migration from E-Help Support System, was projected to be completed at the end of fiscal year 2023, about 100 days after its planned completion date. According to IRS, this was due to scope revision, infrastructure security configurations challenges, and delay in contractor onboarding.

Included in the 20 programs are five new programs IRS added to its portfolio in the third quarter of the fiscal year. According to the quarterly reports, these programs were added to better align the portfolio with the IRA SOP.

Examples of modernization capabilities IRS reported that it delivered in fiscal year 2023 include:

- Filing Season 2023 Production Release -Planning and Development / Enhancements to Legacy Systems within the Information Returns Modernization program modernized information returns processing

systems and enhanced legacy systems to interface with the new Form 1099 portal.

- Automated Collection System Conversational Interactive Voice Response -Phase Four -View Debit within the Live Assistance program allows taxpayers calling via authenticated collection services phone lines to request prior year transactions on their account through a voice bot. This completes a request from small business and self-employed taxpayers to implement voice bot for automated collection systems phone services.

Cost. In fiscal year 2023, as of June 2023, IRS spent \$847 million on its 20 active modernization programs out of the \$1.3 billion planned for the fiscal year.²⁹

In reporting costs in its quarterly reports to Congress, IRS made changes to multiple programs' planned costs from one quarter to the next as it reassessed its modernization program priorities in response to the funding changes discussed earlier in this report. See table 1 below for examples of how costs changed for modernization programs from quarter to quarter.

Table 1: Examples of Quarterly Changes in Modernization Programs' Planned Costs for Fiscal Years 2022 and 2023 (dollars in millions)

Program	Fiscal year	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Web Applications (WebApps)	2022	\$78.00	\$85.00	\$49.83	\$45.82
Live Assistance	2023	\$1.10	\$10.09	\$42.89	—

Legend: — = The fourth quarter of fiscal year 2023 was not included in the scope of this review

Source: GAO analysis of Internal Revenue Service data. | GAO-24-106566

Since IRS adjusted its planned costs (and scope) to account for the various changes in funding it experienced during fiscal years 2022 and 2023, it is difficult to assess the agency's true performance in completing planned work. Relatedly, IRS officials stated that changes to programs' baseline were approved by the appropriate governance boards.

²⁹IRS sets its cost goals for the fiscal year. As of June 2023 (end of the third quarter) the agency planned to spend an additional \$449 million during the last quarter of fiscal year 2023.

IRS's Quarterly Reports Lacked Data That Would Improve Their Usefulness

In its quarterly status reports to Congress, IRS includes an executive summary which identifies overall accomplishments for the quarter including the number of actual versus planned capabilities delivered and noteworthy actions and accomplishments for the quarter. The executive summary also includes a dashboard report showing the red/ yellow/ green status of health indicators (overall, cost, schedule, scope, and risk) for each modernization program, as well as a list of key accomplishments highlights.

The quarterly status reports also include detailed cost, schedule, risk information, as well as accomplishments for the quarter and key milestones for the upcoming quarter for each program. The cost information shows planned costs for the fiscal year by appropriation and provides an update of costs to date and remaining costs for the fiscal year. The schedule information includes planned and actual start dates and planned and actual completion dates for the capabilities that have been identified to complete the programs. The quarterly reports also include a baseline change request log which lists a history of baseline changes for programs that experienced change, as well as a chart showing cumulative costs from inception through the current quarter for each program.

Federal standards for internal controls state that agencies should report quality information externally so that external parties can help agencies achieve their objectives and address related risk.³⁰

While the reports provide important information on the status of IRS's programs, data that includes historical cost and schedule goals and shows how quarterly cost and schedule performance compares to both fiscal year and overall program goals could improve their usefulness. For example, GAO previously reported that the CADE 2 investment was within schedule estimates for 2019 and 2020 but that IRS had changed its overall program plans several times. These changes led to a 9-year milestone delay—from 2014 to 2023. However, the quarterly reports did not show this lengthy delay because they do not include programs' cost and schedule history. As another example, according to the SOP, the Individual Master File modernization, which IRS has been working on for decades, has now been accelerated with a completion date of fiscal year

³⁰GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 2014).

2028.³¹ However, this early completion date is not apparent in the quarterly reports because they do not include overall schedule goals.

While IRS is not mandated to include programs' cost and schedule history and fiscal year and overall goals in quarterly reports, this information would assist Congress and other stakeholders in both assessing IRS's long-term performance and providing a "big picture" view of IRS's modernization efforts which is now missing.

IRS Met Nearly All Performance Targets and Operational Analysis Requirements for Its Operational Investments

IRS met almost all of the fiscal years 2022 and 2023 performance targets set by the agency for five selected operational investments. In addition, IRS completed operational analyses for the investments that met all of OMB requirements for fiscal year 2022.

IRS Reported That Selected Operational Investments Met Almost All Performance Metric Targets

OMB's fiscal year 2022 Capital Planning guidance states that the ongoing performance of operational investments should be monitored to demonstrate that the investments are meeting the needs of the agency, delivering expected value, and that the modernized and replaced systems are consistent with the agency's enterprise architecture.³² To achieve these targets, OMB requires agencies to define and publicly report on five operational performance metrics specific to each major IT investment, as well as target and actual performance against these metrics. According to OMB, these five required metrics should address four broad areas: customer satisfaction, financial performance, strategic and business results, and innovation.³³

IRS defined and reported on operational performance metrics for five selected IT operational investments. Specifically, four of the five investments met all five of their performance targets in both fiscal years.

³¹As previously noted, the Individual Master File modernization is dependent on the completion of CADE 2.

³²Office of Management and Budget, *FY 2022 IT Budget – Capital Planning Guidance* (Washington, D.C.: 2022).

³³According to OMB's capital planning guidance, reporting on metrics for innovation is optional.

The remaining investment, EUSS, met three out of five of its operational performance targets in fiscal year 2022 and met four out of five targets in fiscal year 2023.³⁴ Table 2 identifies EUSS’s operational performance metrics, and whether each performance target was met during fiscal years 2022 and 2023. A detailed summary on the status of IRS’s reported efforts to implement performance metric targets can be found in appendix IV.

Table 2: End User Systems and Services (EUSS) Performance Metrics, Descriptions, and Status for Fiscal Years 2022 and 2023 (up to June 2023)

Investment	Focus of metric	Operational performance metric	Metric condition for fiscal year 2022	Metric condition for fiscal year 2023
EUSS	Customer satisfaction	Timeliness of priority incident resolution	●	●
	Financial performance	Percentage of information technology interactions closed at the first level of support	●	●
	Strategic and business results	Percentage of properly configured workstations passing baseline security scans	●	○
	Strategic and business results	Amount of time it takes a customer service representative to complete a service call	○	●
	Strategic and business results	Amount of time IRS employees wait before reaching telephone support	○	●

Legend: ● performance metric target met; ○ performance metric target not met

Source: GAO analysis of Internal Revenue Service (IRS) data. | GAO-24-106566

Specifically, in fiscal year 2022, the EUSS investment did not meet its targets for the amount of time IRS employees wait before reaching telephone support for 7 of the 12 months and the amount of time to handle a service desk telephone call for 8 of the 12 months. Further, in 5 months of fiscal year 2023, IRS missed its target for the percentage of properly configured workstations passing baseline security scans.

IRS provided several reasons for not meeting its operational metrics’ targets for EUSS. According to IRS, in fiscal year 2022, it did not meet the time to answer performance metric for EUSS because of, among other things, higher call volumes related to network printer issues and the migration to cloud printing services. IRS did not provide a reason for not meeting the metric on how long employees wait before reaching support.

³⁴We reviewed monthly Performance Metrics as of June 2023 for fiscal year 2023.

In fiscal year 2023, IRS met the time to answer and call handle time performance metric targets for EUSS that the investment failed to meet in the previous fiscal year. The agency attributed its improvement to several factors, including forecasting call volumes to help optimize assignments of available help desk specialists, and assuring specialist resources were efficient and effective by providing continuous training, and replacing specialists lost to attrition.

In fiscal year 2023, according to IRS officials, the investment did not meet the baseline security scan target due to the transition to a new compliance and configuration management software, which raised false positive warnings, among other things, during its implementation.

Although IRS did not meet the baseline security scan target for five months at the beginning of fiscal year 2023, officials informed us that the metric target was met from April to June 2023. The agency attributed its improvement to its cybersecurity team documenting risk-based decisions, non-compliant findings, false positives, and exceptions within its new security compliance and configuration management software. By continuing to meet this metric, IRS will have better assurance that it is proactively addressing risks before they can impact the agency's ability to carry out its mission.

Required Operational Analyses for Selected Investments Addressed Relevant Requirements

OMB's fiscal year 2023 Capital Programming guidance states that agencies should conduct an operational analysis (OA) for operational investments.³⁵ To evaluate investment performance, agencies should address the following six factors in these analyses:

- the extent to which the investment supports customer processes as designed,
- how well the investment contributes to achieving the organization's strategic goals,
- a comparison of current performance with a pre-established cost baseline,
- alternative methods for achieving the same mission needs and strategic goals,

³⁵Office of Management and Budget, *Capital Programming Guide V 3.1: Supplement to Office of Management and Budget Circular A-11, Planning, Budgeting, and Acquisition of Capital Assets* (Washington, D.C.: 2022).

- greater (i.e., increased) utilization of technology or consolidation of investments to better meet organizational goals, and
- annual performance of operational analyses.

In addition, the guidance states that only current, complete, accurate, and relevant investment data can help the agency to make informed decisions regarding the allocation of resources, compare actual versus planned results, and provide meaningful feedback to improve the planning process. Further, according to the Department of the Treasury’s Capital Planning and Investment Control guide used by IRS, the evaluation of investments for an OA is to occur once per year.³⁶ The evaluation should include sufficient time for the outcomes to be considered as part of the bureau’s annual planning process leading to the next budget submission. Specifically, analyses should be completed during the last quarter of the current fiscal year or the first quarter of the following fiscal year. This means that fiscal year 2022 OAs should have been completed by December 2022.

To its credit, IRS finalized and released its OAs for the five operational investments for fiscal year 2022 and all five of the investments fully addressed the content required by OMB for an OA. See table 3 for GAO’s analysis of the completeness of the five completed OAs.

Table 3: Selected Internal Revenue Service Operational Analysis of Fiscal Year 2022 IT Operational Investment

Operational analysis factors	Operational investments				
	IDRS	IMF	EUSS	MSSS	TSS
Deliver Goods or Services as Designed	●	●	●	●	●
Contribute to Achieving Organizational Strategic Goals	●	●	●	●	●
Performance against pre-established cost baseline	●	●	●	●	●
Assess Alternate Methods	●	●	●	●	●
Greater use of Technology or Consolidation of Investments to better meet organizational goals	●	●	●	●	●
Conduct Analysis Yearly	●	●	●	●	●

Legend: IDRS = Integrated Data Retrieval System; IMF = Individual Master File; EUSS = End User Systems and Services; MSSS = Mainframes and Servers Services Support; TSS = Telecommunications Systems and Support

● Operational analysis fully addressed the factor; ● operational analysis partially addressed some, but not all, of the factor; ○ operational analysis did not address the factor

Source: GAO analysis of agency data. | GAO-24-106566

³⁶United States Department of the Treasury, *Information Technology Capital Planning and Investment Control Guide*, June 2023.

The OAs for these investments met the required factors in various ways. Examples of how these factors were met are provided below:

- **Deliver goods or services as designed.** The OA for IDRS stated the investment collected about \$190 million of installment agreement user fees and about \$6 billion with direct deposit IA payments during fiscal year 2022. In addition, the OA for EUSS noted the investment provisioned over 21,000 workstations to new hire employees, reduced the number of inactive workstations by 80 percent, and implemented an enterprise self-service reporting system to provide visibility into inventory data. Further, the OA for TSS documented that the investment provided about 99.9 percent local area network and wide area network availability.
- **Contribute to achieving organizational strategic goals.** The OA for IMF stated the investment supported the agency's goals related to service, enforcement, and transformation. According to the OA, the investment implemented the Where's My Return and Refund Inquiry functionalities to allow taxpayers to request three years of refund status. Also, the OA stated IMF posted 153 million returns and issued 115 million refunds totaling \$1.25 billion. In addition, the OA for MSSS stated the investment supported the agency's goals related to service and transformation. Specifically, the OA stated MSSS delivered a successful filings season through the efficient management and maintenance of infrastructure operations and delivered programs under the American Rescue Plan and Child Tax Credit initiatives. The OA also noted that MSSS adopted a number of technologies to improve its performance including cloud and other large-scale analytics and data warehousing.
- **Performance against pre-established cost baseline.** The OA for the five investments included a comparison between planned and actual fiscal year costs. For example, the OA for IDRS stated that the investment's actual cost was \$0.57 million less than planned. The OA indicated the cost variance is due in part to employee attrition and an inability to hire replacement staff. In addition, the OA for TSS stated that the investment's planned and actual costs were about \$300 and \$306 million, respectively. The OA stated the increased actual costs was due in part to supply chain delays and travel restrictions.
- **Assess alternate methods.** The OA for EUSS stated that alternatives were vetted prior to making decisions, which were based on providing increased business value, expanded capabilities, and increased operational and resource capacity.

-
- **Greater use of technology or consolidation of investments to better meet organizational goals.** The OA for IDRS documented that a new configuration management and transmittal system is scheduled to replace the aged system in fiscal year 2023. Also, the OA for MSSS indicated that the investment introduced several technologies to improve the investment. For example, IRS implemented endpoint management and data protection software.
 - **Conduct analysis yearly.** All five of the selected investments have continued to conduct annual operational analyses.

Conclusions

To IRS's credit, the agency's strategic plan for its IRA funding articulates a vision for modernizing IT that addresses many of the agency's critical needs. However, IRS has not yet completed the roadmap to support its technology objective. As a result, it may lack the detailed planning needed to successfully operationalize the SOP. Further, individual modernization program plans have not been modified to account for the SOP. These supporting plans, as called for by best practices, can help position IRS for the long-term success of the agency's important IT modernization efforts and ensure accountability for the billions of dollars IRS intends to spend on modernizing its information technology infrastructure.

While IRS reported that it completed almost all modernization activities as planned during fiscal years 2022 and 2023, its reports to Congress could be improved by including a history of programs' cost and schedule goals and comparing quarterly progress to fiscal year or overall program goals. This information would provide a better gauge of IRS's long-term performance and perspective on how much time and money are needed to "get to done" on its programs.

Recommendations

We are making the following three recommendations to IRS:

The Commissioner of the IRS should complete the enterprise roadmap and ensure it addresses the strategic operating plan's technology objective. (Recommendation 1)

The Commissioner of the IRS should complete plans for its modernization programs that include (1) milestones to complete the modernization, (2) a description of the work necessary to complete the modernization, and (3) details regarding the disposition of the legacy system, if applicable. (Recommendation 2)

The Commissioner of the IRS should include information including a history of programs' cost and schedule goals and showing how the quarterly cost and schedule performance aligns with fiscal year and overall goals for the programs in its quarterly reports to Congress. (Recommendation 3)

Agency Comments and Our Evaluation

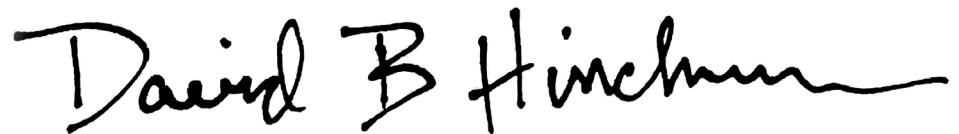
In written comments reprinted in appendix V, IRS concurred with all three of our recommendations and provided comments on all three.

- IRS noted plans to address our recommendation to complete its enterprise roadmap and stated that the work to complete the roadmap was well underway. However, the agency did not provide a time frame for when it plans to complete the roadmap.
- IRS also stated that the recommendation to provide the disposition of legacy systems is not applicable for every modernization program associated with the SOP, noting that some modernization programs will be new to IRS. Consequently, the agency stated that, for each program, it will document the milestones to complete the modernization, describe the work necessary to develop the new system or to modernize the legacy system, and detail the disposition of the legacy system, if applicable. We agree that some programs will not involve modernizing legacy systems and have modified the language in the report and recommendation accordingly.
- Regarding the recommendation to include additional data in its quarterly reports to Congress, IRS stated that the performance history of cost and schedule goals that we believe should be included is readily available upon request. However, in our report, we do not state that IRS does not have this information. Rather, we are recommending that IRS proactively include this information in the quarterly Congressional reports. This would provide additional background and clarity on IRS's efforts to modernize the agency's IT.

In addition, IRS requested that we highlight that the substantial multi-year funding from the IRA has enabled them to accelerate IT modernization. Although our report already noted the significance of this funding source in the Background section, we added specific examples of accelerated modernization efforts that IRS attributed to the funding.

We are sending copies of this report to the appropriate congressional committees, the Commissioner of IRS, and other interested parties. In addition, this report will be available at no charge on the GAO website at <https://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (214) 777-5719 or hinchmand@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix VI.

A handwritten signature in black ink that reads "David B Hinchman". The signature is written in a cursive style with a long, sweeping underline.

David B. Hinchman
Director, Information Technology and Cybersecurity

Appendix I: Objectives, Scope, and Methodology

Our objectives were to (1) summarize the technology objective of the Internal Revenue Service's (IRS) strategic plan and determine the extent to which the agency has updated plans for its ongoing modernization efforts; (2) determine to what extent has IRS made progress on its IT modernization programs in fiscal years 2022 and 2023; and (3) determine to what extent has IRS achieved expected performance from IT investments in operations and maintenance in fiscal years 2022 and 2023.

For our first objective, we reviewed IRS's April 2023 Inflation Reduction Act Strategic (IRA) Operating Plan (SOP)¹ and related documentation and summarized what they described about the technology objective. We also reviewed our prior work summarizing industry and government best practices for developing modernization plans. We interviewed IRS IT officials on the status of plans for the ongoing modernization programs to determine whether they met these best practices.² We requested the agency's modernization plans but IRS was still in the process of developing them and could not provide a time frame for completion.

For the second objective, we analyzed and summarized quarterly IT reports to Congress showing planned versus actual cost, schedule, and scope for the agency's modernization programs for fiscal years 2022 and 2023 through the third quarter (i.e., June 2023).³ IRS reported its modernization programs' capabilities planned cost for the fiscal year, not programs' planned cost by quarter. For fiscal year 2023, we reported actual costs through the third quarter because IRS started reporting the status of its modernization programs under a new IT investment structure in the fourth quarter. We also interviewed IRS IT program officials to understand causes for variances between planned and actual performance.

To assess the reliability of the performance data for the modernization programs, we confirmed our understanding of the processes used to

¹Internal Revenue Service, *Inflation Reduction Act Strategic Operating Plan, FY2023 – 2031*, (Washington, D.C.: April 5, 2023).

²[GAO-23-104719](#); and GAO, *Information Technology: Agencies Need to Develop Modernization Plans for Critical Legacy Systems*, [GAO-19-471](#) (Washington, D.C.: June 11, 2019).

³IRS began transitioning to reporting the status of its modernization programs under a new investment structure in the fourth quarter of fiscal year 2023. Since the realignment included modernization program name changes and new investment categories, we did not include the quarter in the scope of our review.

generate the data by interviewing portfolio management officials to go over the process for developing the quarterly reports. We also reviewed and verified the data by comparing draft quarterly reports to finalized quarterly reports to ensure all project data was accounted for. Further, we followed up with officials to discuss any detected anomalies we found in the performance data. We determined the data to be sufficiently reliable for our purposes.

For the third objective, we identified a sample of five major IT investments out of 16 that were primarily in operations and maintenance for fiscal years 2022 and 2023. We selected them based on the following factors including: (1) mission criticality as deemed by IRS; and (2) highest levels of funding for fiscal years 2022 and 2023. The five investments we selected were End User Systems and Services, Individual Master File, Integrated Data Retrieval System, Main Frames and Servers Services Support, and Telecommunications Systems and Support.

For these selected investments, we determined if the operational performance metrics that the Office of Management and Budget require were met for fiscal years 2022 and 2023. We did this by comparing the average of the actual monthly operational performance measures found in the agency's monthly investment performance reports for each year to the performance target for the year. We reviewed program documentation and interviewed relevant officials in IRS's IT organization to determine the causes for not meeting targets. We also compared the results of our assessment to our assessments from prior years to determine whether there were any patterns. For each selected investment, we also determined the extent to which an operational analysis was performed in accordance with relevant Office of Management and Budget (OMB) guidance.⁴ To do so, we obtained operational analyses for fiscal year 2022 and compared the analyses to key factors specified in OMB's fiscal year 2022 capital programming guidance. We rated each requirement as addressed if the operational analysis fully addressed the factor; partially addressed if the operational analysis addressed some, but not all, of the factor, or not addressed if the operational analysis did not address the factor. We also interviewed relevant officials in IRS's IT organization to discuss deficiencies with the operational analyses.

⁴Office of Management and Budget, *Capital Programming Guide V 3.1: Supplement to Circular A-11, Planning, Budgeting, and Acquisition of Capital Assets* (Washington, D.C.: 2022).

As part of work, we also reviewed IT budget documentation to identify and summarize IRS's actual spending from the IRA appropriation and other appropriations for fiscal years 2022 and 2023. We did this for both investments in development, including modernization programs, and operational investments.

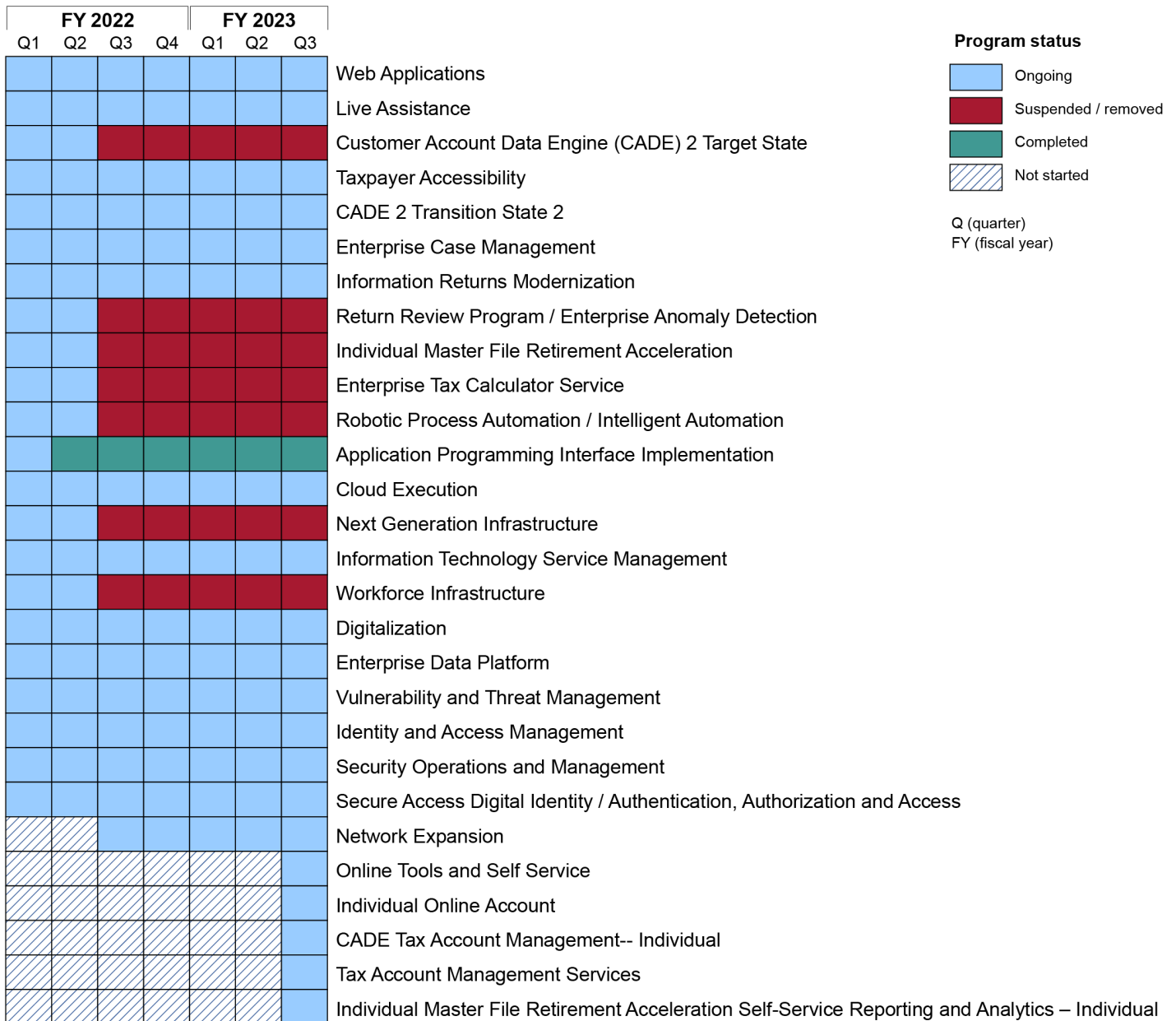
We conducted this performance audit from January 2023 to March 2024 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Quarterly Breakdown of Status of IRS's Modernization Programs

As we have previously discussed, the Internal Revenue Service (IRS) has continued to adjust its modernization portfolio to account for changes in funding and priorities. Figure 1 below provides a quarterly breakdown of the status for IRS's modernization programs in fiscal years 2022 and 2023.

Appendix II: Quarterly Breakdown of Status of IRS's Modernization Programs

Figure 1: Quarterly Status of Internal Revenue Service's Modernization Programs for Fiscal Years 2022 and 2023

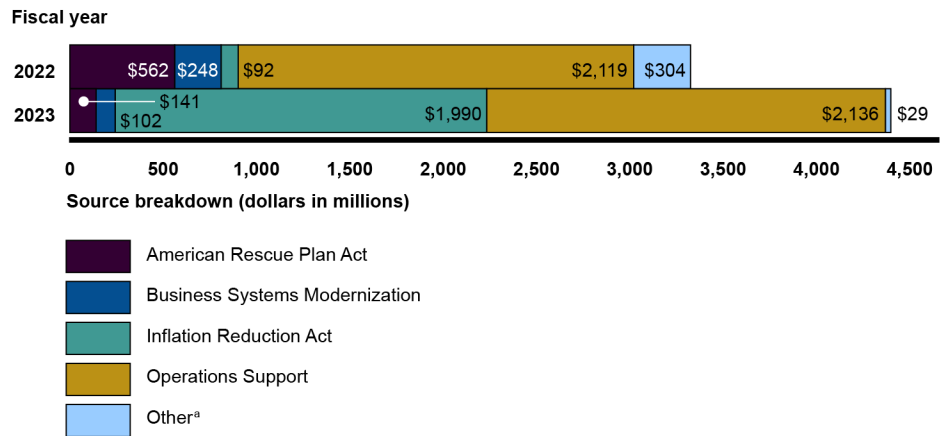


Source: GAO analysis of Internal Revenue Service data. | GAO-24-106566

Appendix III: IRS's IT Spending for Fiscal Years 2022 and 2023

From fiscal year 2022 to fiscal year 2023, the Internal Revenue Service's (IRS) IT spending increased by \$1.07 billion (from \$3.325 billion to \$4.398 billion), largely due to the influx of funding from the Inflation Reduction Act of 2022 (IRA) appropriation. IRS also used funding from other appropriations to cover its IT costs. Figure 2 shows IRS's spending for each of the fiscal years by appropriation.

Figure 2: Internal Revenue Service's IT Spending by Appropriation for Fiscal Years 2022 and 2023



Source: GAO analysis of Internal Revenue Service data. | GAO-24-106566

^aOther is comprised of User Fees, IT Award Management Operations Support, Earned Income Tax Credit Operations Support and Private Collection Agency Special Compliance funds.

During this period, IRS's spending for investments in development increased significantly. Specifically, it increased by 76 percent (from \$944 million to \$1,658 million) while IRS's spending for investments in operations and maintenance did not change significantly from one year to the next. Table 4 provides a breakdown of IRS's spending for investments in development and operations and maintenance by appropriation for each fiscal year.¹

¹The totals in table 4 might not match those in figure 1 due to rounding.

**Appendix III: IRS's IT Spending for Fiscal
Years 2022 and 2023**

Table 4: Internal Revenue Service IT Spending by Appropriation for Fiscal Years 2022 and 2023 (dollars in millions)

Appropriation	Fiscal year 2022			Fiscal year 2023		
	Development	Operations and maintenance	Total	Development	Operations and maintenance	Total
American Rescue Plan Act	310	252	562	141	0	141
Business Systems Modernization (BSM)	248	0	248	102	0	102
Inflation Reduction Act	89	3	92	1,254	736	1,990
Operations Support ^a	185	1,934	2,119	138	1,998	2,136
Other ^b	112	192	304	23	6	29
TOTAL	\$944	\$2,381	3,325	\$1,658	\$2,740	4,398

Source: GAO analysis of agency data. | GAO-24-106566

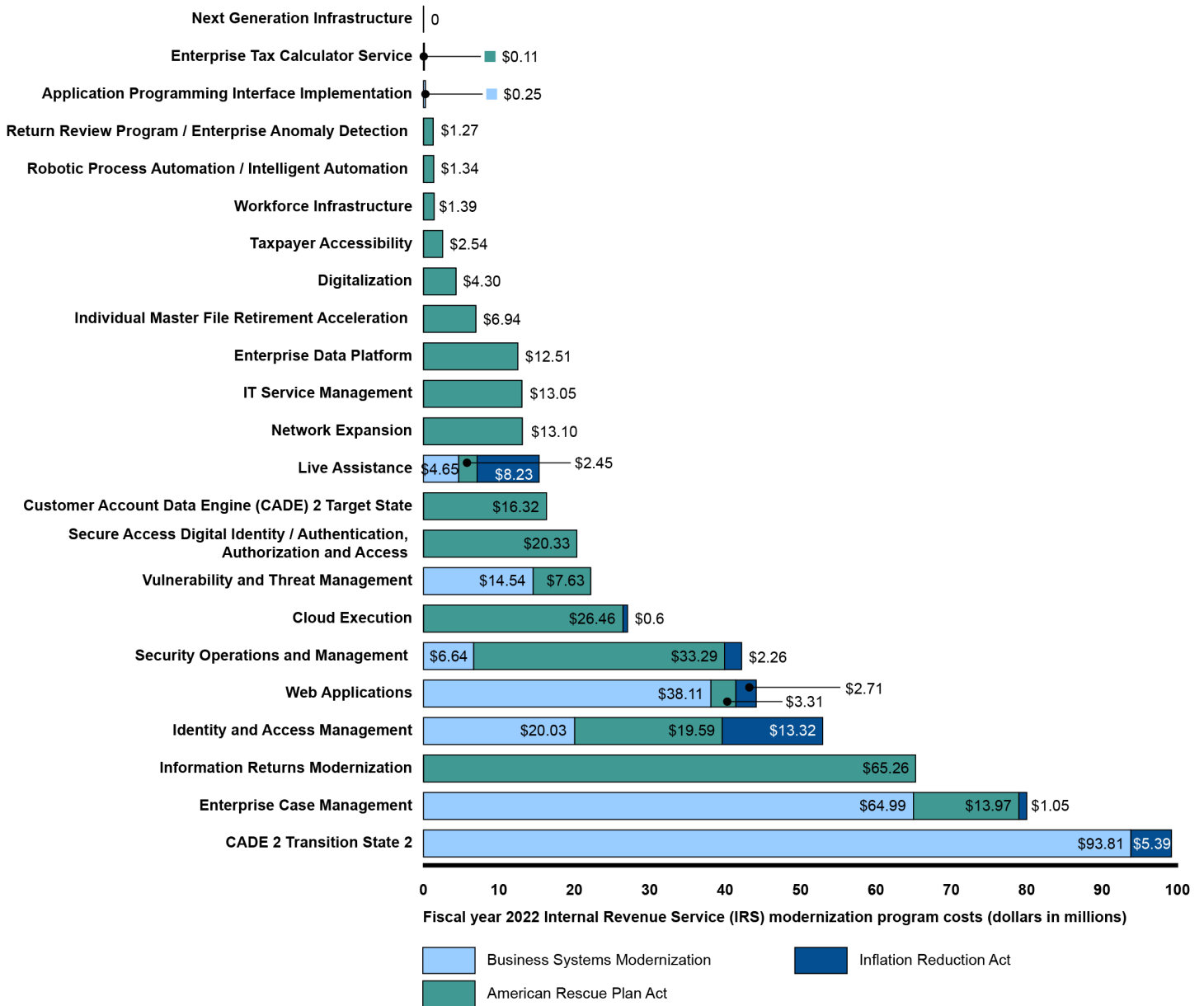
^aOperations Support is comprised of cancelled, carryover, reimbursable, no year, one year, and multi-year funds.

^bOther is comprised of User Fees, IT Award Management Operations Support, Earned Income Tax Credit Operations Support and Private Collection Agency Special Compliance funds.

Figure 3 provides a breakdown of the spending for each of IRS's IT 23 modernization programs in fiscal year 2022.

Appendix III: IRS's IT Spending for Fiscal Years 2022 and 2023

Figure 3: Internal Revenue Service's IT Modernization Program's Fiscal Year 2022 Costs

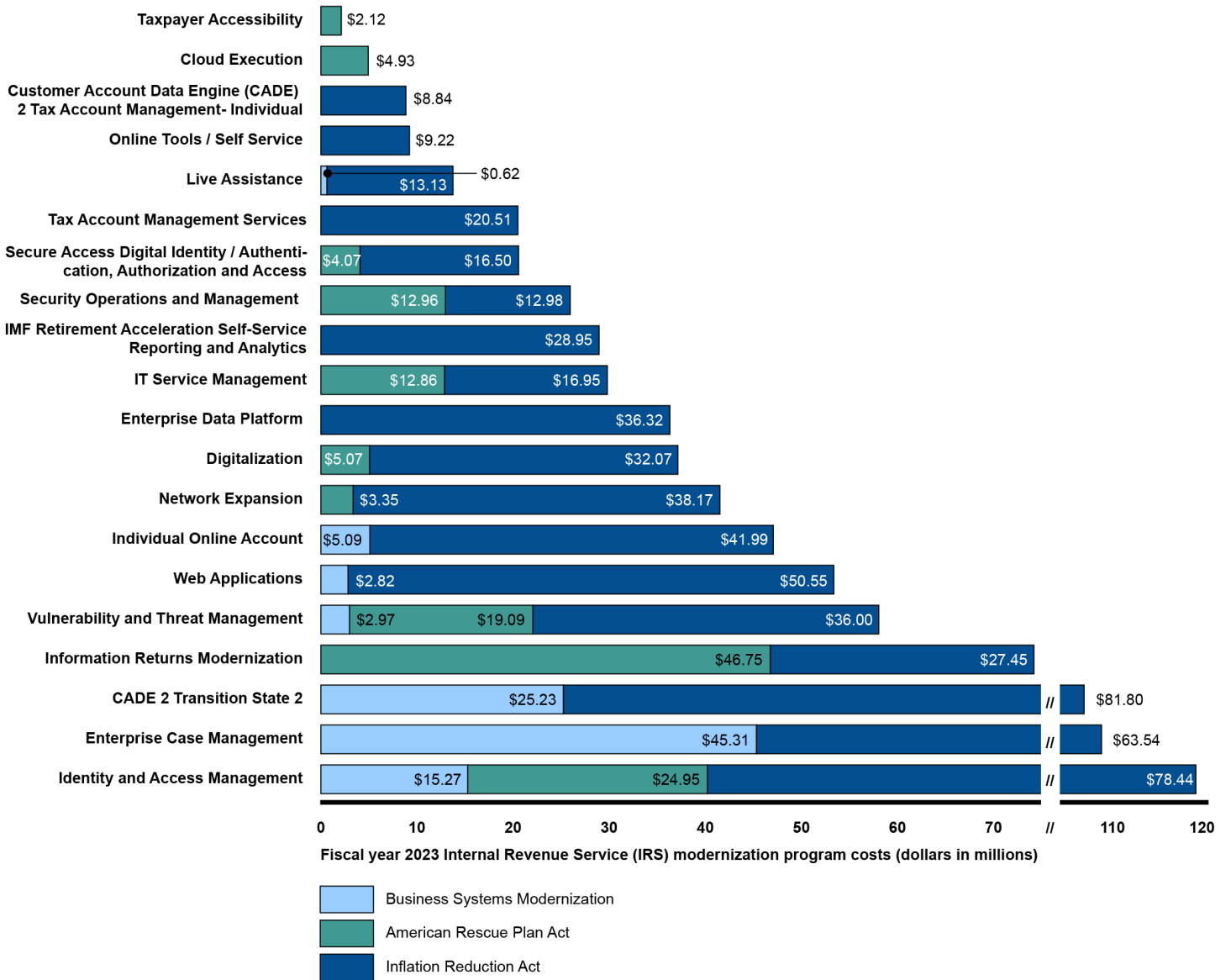


Source: IRS reported data. | GAO-24-106566

Figure 4 provides a breakdown of the spending for each of IRS's 20 modernization programs in fiscal year 2023.

Appendix III: IRS's IT Spending for Fiscal Years 2022 and 2023

Figure 4: Internal Revenue Service Modernization Program's Fiscal Year 2023 Costs through Quarter 3



IMF = Individual Master File
 Source: IRS reported data. | GAO-24-106566

Appendix IV: Selected Operational Investment Performance Metrics Results for Fiscal Years 2022 and 2023

Table 5 identifies the Internal Revenue Service's (IRS) reported operational performance metrics, as required by the Office of Management and Budget, for the five selected operational investments. The table also includes the metrics areas of focus, as well as the extent to which IRS met the performance targets for fiscal years 2022 and 2023 through June 2023.

Table 5: Five Selected Internal Revenue Service (IRS) Operational Investment's Performance Metrics, Descriptions, and Status for Fiscal Years 2022 and 2023 (up to June 2023)

Investment	Focus of metric	Operational performance metric	Metric condition for fiscal year 2022	Metric condition for fiscal year 2023
End User Systems and Services (EUSS)	Customer satisfaction	Timeliness of priority incident	●	●
	Financial performance	Percentage of information technology interactions closed at the first level of support	●	●
	Strategic and business results	Percentage of properly configured workstations passing baseline security scans	●	○
	Strategic and business results	Amount of time it takes a customer service representative to complete a service call	○	●
	Strategic and business results	Amount of time IRS employees wait before reaching telephone support	○	●
Integrated Data Retrieval System (IDRS)	Customer satisfaction	Percent of IDRS availability as specified by service level agreement	●	●
	Financial performance	Percentage of matching explanation and balance due payoffs results and calculations to Masterfile	●	●
	Strategic and business results	Percentage of accounts and records extracted from IMF, BMF, and EPM to IDRS database	●	●
	Strategic and business results	Percentage of business taxpayers who obtain Employer Identification Numbers online instead of mail	●	●
	Strategic and business results	Percentage of individual taxpayer usage of online or automated feature to check refund	●	●
Individual Master File (IMF)	Customer satisfaction	Amount of errors causing the application to stop running	●	●
	Financial performance	Percentage of scheduled system availability	●	●

**Appendix IV: Selected Operational Investment
Performance Metrics Results for Fiscal Years
2022 and 2023**

Investment	Focus of metric	Operational performance metric	Metric condition for fiscal year 2022	Metric condition for fiscal year 2023
	Strategic and business results	Amount of issues that cannot be resolved during a Service Desk call excluding outages	●	●
	Strategic and business results	Percentage of completed planned processing schedule to meet refund, notice, and on-line access deadlines	●	●
	Strategic and business results	Amount of application changes made to address coding errors	●	●
Mainframes and Servers Services and Support (MSSS)	Customer satisfaction	Percentage of priority tickets triaged and resolved	●	●
	Financial performance	Number of employees with elevated access	●	●
	Strategic and business results	Percentage of successful automated deployment of infrastructure components to production	●	●
	Strategic and business results	Percentage of aged software removed or upgraded	●	●
	Strategic and business results	Percentage of uptime for selected databases, including IDRS	●	●
Telecommunications Systems and Support (TSS)	Customer satisfaction	Percentage of Internet availability through common communication gateways	●	●
	Customer satisfaction	Percentage of wide area network availability	●	●
	Strategic and business results	Percentage of local area network availability	●	●
	Strategic and business results	Percentage of network devices that meet guidelines, standards, and procedures	●	●
	Strategic and business results	Percentage of network rules that meet guidelines, standards, and procedures	●	●

Legend: ● performance metric met; ○ performance metric not met

Source: GAO analysis of IRS data. | GAO-24-106566

Appendix V: Comments from the Department of the Treasury Internal Revenue Service



DEPUTY COMMISSIONER

DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
WASHINGTON, DC 20224

March 4, 2024

Mr. David B. Hinchman
Director, Information Technology and Cybersecurity
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Mr. Hinchman:

This letter is our response to the Government Accountability Office (GAO) report entitled, *Information Technology: IRS Needs to Complete Planning and Improve Reporting for Its Modernization Programs* (GAO-24-106566).

The IRS [Strategic Operating Plan](#) (SOP) reflects the agency's modernization plans. Work to complete the enterprise roadmap addressing the plan's technology objective is well underway. As noted in the report, the IRS has completed most modernization work as planned over the last two fiscal years, met nearly all performance targets for the selected operational investments included in this report, and completed the required operational analyses according to the applicable federal reporting requirements.

The IRS appreciates the opportunity to review GAO's draft report and expresses agreement with the intent of the recommendations, with two clarifications:

- The recommendation to provide details regarding the disposition of legacy systems is not applicable for every modernization program associated with the SOP. Some foundational technology work that will be completed to support this new vision for a modern IRS is not associated with any legacy system because some technology solutions are new to the IRS. For example, the SOP contemplates expanding services for taxpayers and tax professionals with new solutions that do not currently exist in the IRS environment, such as Business Online Account. For these new solutions, there is no legacy system to decommission. The IRS welcomes the opportunity to systemically demonstrate to GAO how implementation of the SOP will follow a standard approach for each respective program. In other words, for each program, we will document the milestones to complete the modernization, describe the work necessary to develop the new system or to modernize the legacy system (if applicable), and detail the disposition of the legacy system (if applicable).
- In accordance with the requirements from the House and Senate Appropriations Committees, the IRS currently provides highly detailed and extensive reports to those Committees on the management and implementation of the agency's IT modernization investments. We have recently enhanced the report to provide

**Appendix V: Comments from the Department
of the Treasury Internal Revenue Service**

2

additional information requested by GAO (Q1 FY 2024). The IRS believes our reports fully address the elements of recommendation #3 and has continued to expand the report beyond the legislative language to accommodate ongoing, informal GAO recommendations. We also note that the data GAO suggests are lacking from these reports are readily available upon request. We would appreciate GAO clarifying this point to avoid the misperception that the IRS is unable or unwilling to provide the level of detail that GAO recommends; we agree with that complete planning and transparency in reporting on IT modernization progress is important.

Finally, we request that GAO highlight that substantial multi-year funding from the Inflation Reduction Act (IRA) has enabled us to accelerate IT modernization. We have made numerous advancements with IRA funding, including launching the paperless processing initiative, adding more chatbots and expanding customer callback to improve service, launching the first-ever online business tax account, using AI and improved technology to identify sophisticated schemes to avoid taxes, and strengthening cybersecurity.

Of notable importance to the House and Senate Appropriations Committees, we also emphasize that although IRA funding has enabled the IRS to make progress, much work remains. In tandem with the critical, multi-year funding from the IRA, the IRS needs its annual discretionary budget to include increases to maintain current levels of staffing, systems, and service to avoid our needing to cannibalize IRA funds just to keep the lights on; and we need the annual Business Systems Modernization (BSM) appropriation restored because successfully executing the SOP depends on both IRA funds and BSM funds. Without restored BSM annual funding, we will not be able to deliver the transformational modernization the IRA promised and taxpayers deserve.

Enclosed are our comments and proposed actions to the GAO's recommendations. If you have any questions, please contact me at 202-317-3281, or your staff may contact Rajiv Uppal, Chief Information Officer, at 202-317-5000.

Sincerely,

Melanie R. Krause  Digitally signed by Melanie R. Krause
Date: 2024.03.04 06:26:26 -05'00'

Melanie Krause
Acting Deputy Commissioner
for Operations Support

Enclosure

**Appendix V: Comments from the Department
of the Treasury Internal Revenue Service**

Enclosure

Recommendations for Executive Action (GAO 23-106566)

Recommendation 1

The Commissioner of the IRS should complete the enterprise roadmap and ensure it addresses the strategic operating plan's technology objective.

Comment

We agree with this recommendation.

Recommendation 2

The Commissioner of the IRS should complete plans for its modernization that include (1) milestones to complete the modernization, (2) a description of the work necessary to modernize the legacy system, and (3) details regarding the disposition of the legacy system.

Comment

We agree with this recommendation.

Recommendation 3

The Commissioner of the IRS should include information including programs cost and schedule history and showing how the quarterly cost and schedule performance of its modernization programs aligns with fiscal year and overall goals for the programs in its quarterly reports to Congress.

Comment

We agree with this recommendation.

Appendix VI: GAO Contact and Staff Acknowledgments

GAO Contact

David B. Hinchman, (214) 777-5719, or hinchmand@gao.gov

Staff Acknowledgments

In addition to the individual named above, the following staff made key contributions to this report: Sabine Paul (Assistant Director), Lori Martinez (Analyst in Charge), Timothy Barry, Susan Bernstein, Chris Businsky, Donna Epler, Sami Ghusn, and Shane Homick.

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Washington, DC 20548

Strategic Planning and External Liaison

Stephen J. Sanford, Managing Director, spel@gao.gov, (202) 512-4707
U.S. Government Accountability Office, 441 G Street NW, Room 7814,
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