INFORMATION TECHNOLOGY

Leveraging Best Practices and Reform Initiatives Can Help Defense Manage Major Investments

Statement of David A. Powner, Director
Information Technology Management Issues
INFORMATION TECHNOLOGY

Leveraging Best Practices and Reform Initiatives Can Help Department of Defense Manage Major Investments

What GAO Found

Information technology (IT) acquisition best practices have been developed by both industry and the federal government to help guide the successful acquisition of investments. For example, GAO recently reported on nine factors that were considered as critical to successful acquisitions (see table).

<table>
<thead>
<tr>
<th>Common Critical Success Factors</th>
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<tr>
<td>Program officials were actively engaged with stakeholders</td>
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One key IT reform initiative undertaken by OMB to improve transparency is a public website, referred to as the IT Dashboard, which provides detailed information on about 700 major IT investments at 27 federal agencies, including ratings that are to reflect the level of risk facing an investment on a scale from 1 (high risk) to 5 (low risk). In October 2012, GAO reported that the Department of Defense (Defense) did not rate any of its investments as high risk on the Dashboard, despite significant cost, schedule, and performance issues reported by GAO and others. As such, GAO recommended that Defense ensure that its risk ratings reflect available investment performance assessments. Defense concurred; nonetheless, the Dashboard currently shows that for Defense’s 93 major investments, 81 are low or moderately low risk (green), 12 are medium risk (yellow), and none are moderately high or high risk (red). GAO also recently reported that OMB and selected agencies have held multiple reviews of selected investments that are failing or not producing results. Included in these reviews was the Expeditionary Combat Support System, an investment eventually canceled after Defense had spent about one billion dollars on it.

To better manage the department’s existing IT systems and ensure their efficient, cost effective operation, Defense is consolidating the department’s almost 2,000 reported data centers which could lead to billions in savings, according to the department. The department is also continuing to identify duplicative spending as part of an OMB initiative known as PortfolioStat, which, among other things, requires agencies to conduct annual reviews of its IT investments and make decisions on eliminating duplication. The department estimates $3.2 to $5.2 billion in savings through fiscal year 2015 and an additional $1.3 to $2.2 billion in efficiencies per year beginning in fiscal year 2016. With a continued focus on this important effort, including obtaining support for estimated cost savings, Defense can realize significant benefits through the elimination of duplicative and inefficient IT investments.

View GAO-14-400T. For more information, contact David A. Powner at (202) 512-9286 or pownerd@gao.gov.
Chairman Shaheen, Ranking Member Ayotte, and Members of the Subcommittee:

I am pleased to be here today to discuss how best practices and major information technology (IT) reform initiatives can help the Department of Defense (Defense) better acquire and manage IT investments. As reported to the Office of Management and Budget (OMB), federal agencies plan to spend at least $82 billion on IT in fiscal year 2014. Of this amount, Defense plans to spend about $39.6 billion, or 48 percent of the government’s total IT spending. Given the size of the department’s investments and the criticality of many of these systems to the security and defense of the nation, it is important that Defense successfully acquire them—that is, ensure that they are acquired on time and within budget, and that they deliver expected benefits and results.

However, as we have previously reported and testified, federal IT projects too frequently fail and incur cost overruns and schedule slippages while contributing little to mission-related outcomes.\(^1\) During the past several years, we have issued multiple reports and testimonies on best practices for major acquisitions and federal initiatives to acquire and improve the management of IT investments.\(^2\) In those reports, we made numerous recommendations to federal agencies and OMB to further enhance the


management and oversight of IT programs. Further, we highlighted several examples of Defense investments that failed to, or only partially delivered results within planned cost and schedule estimates.

As discussed with subcommittee staff, I am testifying today on how best practices and major IT reform initiatives can help Defense better acquire and manage IT investments. Accordingly, my testimony specifically focuses on the critical success factors of major IT acquisitions and their importance to improving IT investment oversight and management. I will also address several initiatives put into place by OMB to address the transparency of IT investments and to review troubled and duplicative existing projects. All work on which this testimony is based was performed in accordance with generally accepted government auditing standards or all sections of GAO’s Quality Assurance Framework that were relevant to our objectives. Those standards and the framework require that we plan and perform our audits and engagements to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives; the framework also requires that we discuss any limitations in our work. We believe that the information, data, and evidence obtained and the analysis conducted provide a reasonable basis for our findings and conclusions based on our objectives. A more detailed discussion of the objectives, scope, and methodology of this work is included in each of the reports on which this testimony is based.3

Background

Information technology should enable government to better serve the American people. However, despite spending hundreds of billions on IT since 2000, the federal government has experienced failed IT projects and has achieved little of the productivity improvements that private industry has realized from IT. Too often, federal IT projects run over

budget, behind schedule, or fail to deliver results. In combating this problem, proper oversight is critical.

Both OMB and federal agencies have key roles and responsibilities for overseeing IT investment management and OMB is responsible for working with agencies to ensure investments are appropriately planned and justified. However, as we have described in numerous reports, although a variety of best practices exist to guide their successful acquisition, federal IT projects too frequently incur cost overruns and schedule slippages while contributing little to mission-related outcomes.

Agencies have reported that poor-performing projects have often used a “big-bang” approach—that is, projects that are broadly scoped and aim to deliver capability several years after initiation. For example, in 2009 the Defense Science Board reported that Defense’s acquisition process for IT systems was too long, ineffective, and did not accommodate the rapid evolution of IT. The board reported that the average time to deliver an initial program capability for a major IT system acquisition at Defense was over 7 years.

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As previously mentioned, and as seen in figure 1, Defense accounts for 48 percent of the fiscal year 2014 federal government's IT budget.

**Figure 1: Defense Percentage of Federal Fiscal Year 2014 IT Spending (dollars in billions)**

Of the department's $39.6 billion IT budget, approximately 14 percent is to be spent on classified systems. Of the remaining $34 billion, about one-quarter is to be spent on acquiring new investments, and the rest is to be spent operating and maintaining existing or legacy systems. This is illustrated in figure 2.
Further, over the past several years, we have reported that overlap and fragmentation among government programs or activities could be harbingers of unnecessary duplication.\(^6\) Thus, the reduction or elimination of duplication, overlap, or fragmentation could potentially save billions of tax dollars annually and help agencies provide more efficient and effective services.

OMB Has Launched Major Initiatives for Overseeing Investments

OMB has implemented a series of initiatives to improve the oversight of underperforming investments, more effectively manage IT, and address duplicative investments. These efforts include the following:

- **IT Dashboard.** Given the importance of transparency, oversight, and management of the government’s IT investments, in June 2009 OMB established a public website, referred to as the IT Dashboard, that provides detailed information on approximately 700 major IT investments at 27 federal agencies, including ratings of their performance against cost and schedule targets. The public dissemination of this information is intended to allow OMB; other oversight bodies, including Congress; and the general public to hold agencies accountable for results and performance. Among other things, agencies are to submit Chief Information Officer (CIO) ratings, which, according to OMB’s instructions, should reflect the level of risk facing an investment on a scale from 1 (high risk) to 5 (low risk) relative to that investment’s ability to accomplish its goals. Ultimately, CIO ratings are assigned colors for presentation on the Dashboard, according to the five-point rating scale, as illustrated in table 1.

<table>
<thead>
<tr>
<th>Rating (by agency CIO)</th>
<th>Color</th>
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<tr>
<td>1-High risk</td>
<td>Red</td>
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<tr>
<td>2-Moderately high risk</td>
<td>Red</td>
</tr>
<tr>
<td>3-Medium risk</td>
<td>Yellow</td>
</tr>
<tr>
<td>4-Moderately low risk</td>
<td>Green</td>
</tr>
<tr>
<td>5-Low risk</td>
<td>Green</td>
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Source: OMB’s IT Dashboard.

- **TechStat reviews.** In January 2010, the Federal CIO began leading TechStat sessions—face-to-face meetings to terminate or turnaround IT investments that are failing or are not producing results. These meetings involve OMB and agency leadership and are intended to increase accountability and transparency and improve performance. Subsequently, OMB empowered agency CIOs to hold their own TechStat sessions within their respective agencies. According to the former Federal CIO, the efforts of OMB and federal agencies to improve management and oversight of IT investments have resulted in almost $4 billion in savings.
• **Federal Data Center Consolidation Initiative.** Concerned about the growing number of federal data centers, in February 2010 the Federal CIO established the Federal Data Center Consolidation Initiative. This initiative’s four high-level goals are to promote the use of “green IT”\(^7\) by reducing the overall energy and real estate footprint of government data centers; reduce the cost of data center hardware, software, and operations; increase the overall IT security posture of the government; and shift IT investments to more efficient computing platforms and technologies. OMB believes that this initiative has the potential to provide about $3 billion in savings by the end of 2015.

• **PortfolioStat.** In order to eliminate duplication, move to shared services, and improve portfolio management processes, in March 2012 OMB launched the PortfolioStat initiative. Specifically, PortfolioStat requires agencies to conduct an annual agencywide IT portfolio review to, among other things, reduce commodity IT\(^8\) spending and demonstrate how their IT investments align with the agency’s mission and business functions.\(^9\) PortfolioStat is designed to assist agencies in assessing the current maturity of their IT investment management process, making decisions on eliminating duplicative investments, and moving to shared solutions in order to maximize the return on IT investments across the portfolio. OMB believes that the PortfolioStat effort has the potential to save the government $2.5 billion over the next 3 years by, for example, consolidating duplicative systems.

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\(^7\)“Green IT” refers to environmentally sound computing practices that can include a variety of efforts, such as using energy efficient data centers, purchasing computers that meet certain environmental standards, and recycling obsolete electronics.

\(^8\)According to OMB, commodity IT includes services such as IT infrastructure (data centers, networks, desktop computers and mobile devices); enterprise IT systems (e-mail, collaboration tools, identity and access management, security, and web infrastructure); and business systems (finance, human resources, and other administrative functions).

Opportunities Exist to Improve Defense’s Acquisition and Management of Major IT Investments

Given the magnitude of Defense’s annual IT budget, which was $39.6 billion in fiscal year 2014, it is important that the department leverage all available opportunities to ensure that its IT investments are acquired in the most effective manner possible. To do so, the department can rely on IT acquisition best practices, and initiatives such as OMB’s IT Dashboard, and OMB-mandated TechStat sessions.

Best Practices Are Intended to Help Ensure Successful Major Acquisitions

In 2011, we identified seven successful investment acquisitions and nine common factors critical to their success, and noted that the factors support OMB’s objective of improving the management of (1) large-scale IT acquisitions across the federal government, and (2) wide dissemination of these factors could complement OMB’s efforts. Specifically, we reported that federal agency officials identified seven successful investment acquisitions, in that they best achieved their respective cost, schedule, scope, and performance goals. Notably, all of these were smaller increments, phases, or releases of larger projects. For example, the Defense investment in our sample, Defense Global Combat Support System-Joint (Increment 7), was a smaller portion of an ongoing investment. The common factors critical to the success of three or more of the seven investments are generally consistent with those developed by private industry and are identified in table 2.

10GAO-12-7.

Table 2: Common Critical Success Factors

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<th>Factor</th>
<th>Description</th>
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<td>Program officials were actively engaged with stakeholders</td>
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<td>contractor</td>
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Source: GAO analysis of agency data.

Regarding Defense’s Global Combat Support System-Joint (Increment 7), officials cited six factors that were critical to this investment’s success. Among others, officials noted that senior department executives supported the program, end users and stakeholders were involved in the development of requirements which were then prioritized, and government and contractor staff were consistent and stable.

**IT Dashboard Can Improve the Transparency Into and Oversight of Defense IT Investments**

The IT Dashboard serves an important role in allowing OMB and other oversight bodies to hold agencies accountable for results and performance. However, we reported in October 2012 that opportunities existed to improve transparency and oversight of investment risk at selected agencies, including Defense. Specifically, we found that among the agencies we reviewed, Defense was unique in that its CIO ratings on the Dashboard reflected additional considerations beyond OMB’s instructions. For example, briefing slides prepared for DOD’s 2011 CIO rating exercise identified the need to “balance” CIO ratings, and advised that yellow or red ratings could lead to an OMB review. That report further noted that Defense did not rate any of its investments as either high or moderately high risk and that in selected cases, these ratings did not appropriately reflect significant cost, schedule, and performance issues reported by GAO and others.

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12 GAO-13-98.
We also highlighted three Defense investments that experienced significant performance problems and were part of a GAO high-risk area (business systems modernization); however, they were all rated low risk or moderately low risk by the Defense CIO. For example, in early 2012, we reported that Air Force’s Defense Enterprise Accounting and Management System faced a 2-year deployment delay and an estimated cost increase of about $500 million from an original life-cycle cost estimate of $1.1 billion (an increase of approximately 45 percent), and that assessments by Defense users had identified operational problems with the system, such as data accuracy issues, an inability to generate auditable financial reports, and the need for manual workarounds. In July 2012, the Defense Inspector General reported that the system’s schedule delays were likely to diminish the cost savings it was to provide, and would jeopardize the department’s goals for attaining an auditable financial statement. Defense’s CIO rated the Defense Enterprise Accounting and Management System low risk or moderately low risk from July 2009 through March 2012.

Moreover, Defense did not apply its own risk management guidance to the ratings, which reduces their value for investment management and oversight. Therefore, we recommended that Defense ensure that its CIO ratings reflect available investment performance assessments and its risk management guidance. Defense concurred with our recommendation. Nonetheless, the Dashboard currently shows that for Defense’s 93 major investments, 81 are low or moderately low risk (green), 12 are medium risk (yellow), and none are moderately high or high risk (red).

TechStat Reviews Can Help Highlight and Evaluate Poorly Performing Investments

TechStat reviews were initiated by OMB to enable the federal government to intervene to turnaround, halt, or terminate IT projects that are failing or are not producing results. In 2013, we reported that OMB and selected agencies had held multiple TechStats, but that additional OMB oversight was needed to ensure that these meetings were having the appropriate impact on underperforming projects and that resulting cost savings were

valid.\textsuperscript{14} We noted that OMB and selected agencies had tracked and reported positive results from TechStats, with most resulting in improved governance. Agencies also reported projects with accelerated delivery, reduced scope, or termination. We also found that OMB reported in 2011 that federal agencies achieved almost $4 billion in life-cycle cost savings as a result of TechStat sessions. However, we were unable to validate OMB’s reported results because OMB did not provide artifacts showing that it ensured the results were valid. Among other things, we recommended that OMB require agencies to report on how they validated the outcomes. OMB generally agreed with this recommendation.

We also found that as of April 2013, OMB reported conducting 79 TechStats on 55 investments at 23 federal agencies, including Defense. The four Defense investments that were reviewed included the Expeditionary Combat Support System, which received three TechStats. We recently testified that in December 2012, Defense canceled the Expeditionary Combat Support System after having spent about a billion dollars and missing multiple milestones, including failure to achieve deployment within 5 years of obligating funds.\textsuperscript{15} The system was to provide the Air Force with a single, integrated logistics system that was to control and account for about $36 billion of inventory. We issued several reports on this system and found that, among other things, the program was not fully following best practices for developing reliable schedules and cost estimates.\textsuperscript{16} Among other things, we had recommended that Defense ensure that any future system deficiencies identified through independent assessments be resolved or mitigated prior to further deployment of the Expeditionary Combat Support System.

In addition to efficiently acquiring IT investments, it is also important for Defense to efficiently manage its existing IT systems, especially since the agency plans to spend about $25 billion in fiscal year 2014 on these systems. To do so, Defense can rely on federal initiatives designed to reduce inefficiencies, redundancy, and duplication in IT investments, as discussed in the following section.

\textsuperscript{14}GAO-13-524.
\textsuperscript{15}GAO-13-796T.
Defense Could Consolidate Hundreds of Data Centers, Leading to Billions in Savings

In an effort to consolidate the growing number of federal data centers, in 2010, OMB launched a data center consolidation initiative. As part of this initiative, agencies developed plans to consolidate data centers; however, these plans were incomplete and did not include best practices. In addition, although we reported that agencies had made progress on their data center closures, OMB had not determined initiative-wide cost savings, and oversight of the initiative was not being performed in all key areas. Among other things, we recommended that agencies complete inventories and plans, with which most agencies agreed. Finally, as part of ongoing follow-up work, we determined that agencies closed additional data centers, but that the number of federal data centers was significantly higher than previously estimated by OMB. Specifically, we testified in 2013 that OMB reported approximately 3,133 data centers in December 2011. However, as of July 2013, 22 of the 24 agencies had collectively reported 6,836 data centers in their inventories, an increase of approximately 3,700. Of these, Defense reported 1,922 facilities. Since Defense’s original goal was to consolidate from 936 data centers to 392 and to save an estimated $2.2 billion, this increase in inventory opens the possibility of consolidating even more centers and realizing billions in cost savings.

PortfolioStat Can Be Used to Address Duplicative Defense Investments and Realize Cost Savings

OMB’s PortfolioStat initiative is designed to assist agencies in assessing the current maturity of their IT portfolio management process and making decisions on eliminating duplication—which we reported on in February 2012. Specifically, we found 31 potentially duplicative investments totaling approximately $1.2 billion at Defense, but that the department had begun taking actions to address this duplication. For example, according to Defense officials, four of the Navy acquisition management investments—

18 GAO-13-796T.
two for Naval Sea Systems Command and two for Space and Naval Warfare Systems Command—would be reviewed to determine whether these multiple support systems are necessary. In addition, Defense reported that the Air Force was in the process of developing a single contract writing system to replace the five potentially duplicative investments we had identified. Additionally, in September 2013, we found additional potential duplication within Defense’s health care and dental management investments, totaling over $30 million. Again, department officials described plans to address this. The existence of this potential duplication reinforces the need for the department to continue to take firm actions to address IT duplication and inefficiencies.

We recently reported and testified on PortfolioStat, including Defense’s efforts to address duplication through the initiative. Specifically, we noted that, although OMB had previously stated that PortfolioStat was expected to result in savings of approximately $2.5 billion through fiscal year 2015, the 26 Defense PortfolioStat initiatives alone, including data center consolidation, were expected by the department’s CIO to save between $3.2 billion and $5.2 billion through fiscal year 2015, and to result in efficiencies between $1.3 billion and $2.2 billion per year beginning in fiscal year 2016. However, Defense was unable to show support for how all of these savings were calculated, citing a variety of reasons such as dependence on accurate reporting by departmental components and the lack of granular information from accounting systems. While recognizing the challenges the department faces in obtaining the support for consolidation opportunities identified by its components, we also noted that obtaining this information is critical to ensuring that planned savings and cost avoidance are realized.

Accordingly, we recommended that Defense take steps to improve its PortfolioStat implementation. The department concurred with our recommendation to obtain support for estimated savings, but disagreed with our recommendation to fully describe the consolidation of commodity IT spending under the CIO in future OMB reporting. The department stated that it did not intend to follow OMB’s guidance to consolidate

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22GAO-13-685T and GAO-13-627T.
commodity IT spending under the CIO. However, by not following OMB’s guidance, Defense is missing an opportunity to achieve additional cost savings across the department.

To manage its annual investment of over $39 billion in IT, Defense needs to leverage best practices, improve transparency of its major investments, and review troubled projects through TechStat reviews. To do so, Defense can use the common factors critical to the successful management of large-scale IT acquisitions, which should result in the more effective delivery of mission-critical systems. Further, Defense needs to continue to improve the accuracy of its information on the Dashboard in order to provide greater transparency and even more attention to the billions of dollars invested in troubled projects. In addition, more departmental TechStat reviews are needed to focus management attention on additional troubled projects and establish clear action items to turn the projects around or terminate them.

With the possibility of over $5.3 billion in savings from the data center consolidation and PortfolioStat initiatives, Defense should continue to identify consolidation opportunities in both data centers and commodity IT. In addition, better support for the estimates of cost savings associated with the opportunities identified would increase the likelihood that these savings will be achieved.

Chairman Shaheen, Ranking Member Ayotte, and Members of the Subcommittee, this completes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

GAO Contact and Staff Acknowledgments

If you or your staffs have any questions about this testimony, please contact me at (202) 512-9286 or at pownerd@gao.gov. Individuals who made key contributions to this testimony are Dave Hinchman (Assistant Director), Rebecca Eyler, and Kevin Walsh.
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