



Testimony

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Services, U.S. Senate

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DEFENSE ACQUISITIONS

Better Weapon Program  
Outcomes Require  
Discipline, Accountability,  
and Fundamental Changes  
in the Acquisition  
Environment

Statement of Katherine V. Schinasi, Managing Director  
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Highlights of [GAO-08-782T](#), a testimony before the Committee on Armed Services, U.S. Senate

## Why GAO Did This Study

Since 1990, GAO has designated the Department of Defense's (DOD) management of major weapon system acquisitions a high risk area. DOD has taken some action to improve acquisition outcomes, but its weapon programs continue to take longer, cost more, and deliver fewer capabilities than originally planned. These persistent problems—coupled with current operational demands—have impelled DOD to work outside of its traditional acquisition process to acquire equipment that meet urgent warfighter needs.

Poor outcomes in DOD's weapon system programs reverberate across the entire federal government. Over the next 5 years, DOD plans to invest about \$900 billion to develop and procure weapon systems—the highest level of investment in two decades. Every dollar wasted on acquiring weapon systems is less money available for other priorities.

This testimony describes DOD's current weapon system investment portfolio, the problems that contribute to cost and schedule increases, and the potential impacts of recent legislative initiatives and DOD actions aimed at improving outcomes. It also provides some observations about what is needed for DOD to achieve lasting reform. The testimony is drawn from GAO's body of work on DOD's acquisition, requirements, and funding processes, as well as its most recent annual assessment of selected DOD weapon programs.

To view the full product, including the scope and methodology, click on [GAO-08-782T](#). For more information, contact Katherine V. Schinasi at (202) 512-4841 or [schinasi@gao.gov](mailto:schinasi@gao.gov).

## DEFENSE ACQUISITIONS

### Better Weapon Program Outcomes Require Discipline, Accountability, and Fundamental Changes in the Acquisition Environment

#### What GAO Found

DOD's portfolio of weapon system programs has grown at a pace that far exceeds available resources. From 1992 to 2007, the estimated acquisition costs remaining for major weapons programs increased almost 120 percent, while the annual funding provided for these programs only increased 57 percent. Current programs are experiencing, on average, a 21-month delay in delivering initial capabilities to the warfighter—often forcing DOD to spend additional funds on maintaining legacy systems.

Systemic problems both at the strategic and at the program level underlie cost growth and schedule delays. At the strategic level, DOD's processes for identifying warfighter needs, allocating resources, and developing and procuring weapon systems—which together define DOD's overall weapon system investment strategy—are fragmented and broken. At the program level, weapon system programs are initiated without sufficient knowledge about system requirements, technology, and design maturity. Lacking such knowledge, managers rely on assumptions that are consistently too optimistic, exposing programs to significant and unnecessary risks and ultimately cost growth and schedule delays. At the same time, frequent turnover of program managers and an increased reliance on contractors increases the government's risk of losing accountability.

Recognizing the need for more discipline and accountability in the acquisition process, Congress recently enacted legislation part of which requires decision-makers to certify that programs meet specific criteria at key decision points early in the acquisition process. Likewise, DOD has recently begun to develop several initiatives that are based in part on congressional direction and GAO recommendations. If adopted and implemented properly, these measures could provide a foundation for establishing a well balanced investment strategy, sound business cases for major weapon system acquisition programs, and a better chance to spend resources wisely.

While legislation and policy revisions can help guide change, DOD must begin making better choices that reflect joint capability needs and match requirements with resources or the department will continue to experience poor acquisition outcomes. DOD investment decisions continue to be dictated by the services who propose programs that overpromise capabilities and underestimate costs to capture the funding needed to start and sustain development programs. The transitory nature of leadership further undermines successful reform. To better ensure warfighter capabilities are delivered when needed and as promised, incentives must encourage a disciplined, knowledge-based approach, and a true partnership with shared goals must be developed among the department, the military services, the Congress, and the defense industry.

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Mr. Chairman and Members of the Committee:

I am pleased to be here today to discuss the Department of Defense's (DOD) management of its major weapon system acquisitions—an area that has been on GAO's high risk list since 1990. Prior to and since that time, Congress and DOD have continually explored ways to improve acquisition outcomes without much to show for their efforts. DOD's major weapon system programs continue to take longer, cost more, and deliver fewer quantities and capabilities than originally planned. Current operational demands have highlighted the impact of these persistent problems as DOD has been forced to work outside of its traditional acquisition process to acquire equipment that meet warfighter needs.

Investment in weapons acquisition programs is now at its highest level in two decades. The department expects to invest about \$900 billion (fiscal year 2008 dollars) over the next 5 years on development and procurement with more than \$335 billion invested specifically in major defense acquisition programs. Given the size of this investment, poor outcomes in DOD's weapon system programs reverberate across the entire federal government. Every dollar wasted during the development and acquisition of weapon systems is money not available for other internal and external budget priorities—such as the war on terror and mandatory payments to growing entitlement programs.

My statement today is drawn from our body of work on DOD's acquisition, requirements, and funding processes, as well as our annual assessment of selected DOD weapon programs. As you requested, I will focus on (1) the performance of DOD's major defense acquisition program portfolio; (2) the underlying systemic problems that contribute to poor cost and schedule outcomes; (3) recent legislative initiatives and DOD actions aimed at addressing these problems; and (4) the extent to which those initiatives and actions can be expected to improve the future performance of DOD's major defense acquisition programs. Our work was conducted in May 2008 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.

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## Summary

Since fiscal year 2000, DOD significantly increased the number of major defense acquisition programs and its overall investment in them. During this same time period, acquisition outcomes have not improved. Based on our analysis, total acquisition costs for the fiscal year 2007 portfolio of major defense acquisition programs increased 26 percent and development costs increased by 40 percent from first estimates—both of which are higher than the corresponding increases in DOD’s fiscal year 2000 portfolio. In most cases, the programs we assessed failed to deliver capabilities when promised—often forcing warfighters to spend additional funds on maintaining legacy systems. Our analysis shows that current programs are experiencing, on average, a 21-month delay in delivering initial capabilities to the warfighter, a 5-month increase over fiscal year 2000 programs.

Several underlying systemic problems at the strategic level and at the program level continue to contribute to poor weapon system program outcomes. At the strategic level, DOD does not prioritize weapon system investments and the department’s processes for matching warfighter needs with resources are fragmented and broken. Furthermore, the requirements and acquisition processes are not agile enough to support programs that can meet current operational requirements. At the program level, programs are started without knowing what resources will truly be needed and are managed with lower levels of product knowledge at critical junctures than expected under best practices standards. In the absence of such knowledge, managers rely heavily on assumptions about system requirements, technology, and design maturity, which are consistently too optimistic. This exposes programs to significant and unnecessary technology, design, and production risks, and ultimately damaging cost growth and schedule delays. DOD officials are rarely held accountable for these poor outcomes and the acquisition environment does not provide the appropriate incentives for contractors to stay within cost and schedule targets, making them a strong enabler of the status quo.

Recent congressionally mandated changes to the DOD acquisition system, as well as initiatives being pursued by the department, include elements that could improve DOD’s overall investment strategy and the soundness of the programs it allows to move forward. However, it is still too early to determine the impact those changes have had on programs. Recognizing the need for more discipline and accountability in the acquisition process, Congress enacted legislation that requires decision-makers to certify that programs meet specific criteria at key decision points early in the acquisition process, and are measured against their original baseline estimates for the purpose of assessing and reporting unit cost growth.

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Recent legislation also requires DOD to report on its strategies for balancing the allocation of funds and other resources among major defense acquisition programs and to identify strategies for enhancing the role of program managers in carrying out acquisition programs. DOD has begun several policy initiatives including a new concept decision review initiative, acquisition approaches with shorter and more certain delivery time frames, a requirement for more prototyping early in programs, and the establishment of review boards to monitor weapon system configuration changes, which are designed to enable key department leaders to make informed decisions before a program starts and maintain discipline once it begins.

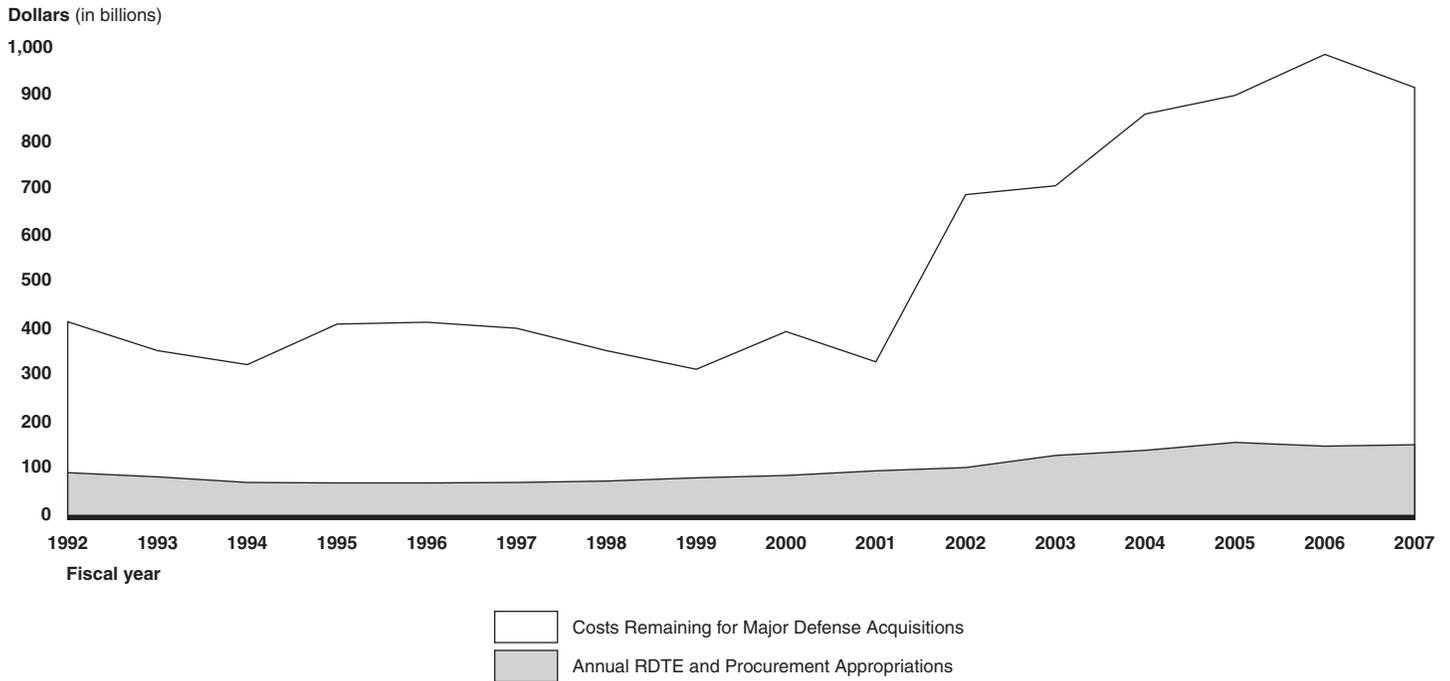
While legislation and policy revisions can help guide change, DOD must begin making better choices that reflect joint capability needs and match requirements with resources or the department will continue to experience poor acquisition outcomes. DOD and the military services cannot continue to view success through the prism of securing the funding needed to start and sustain new programs. Sound programs should be the natural outgrowth of a disciplined knowledge-based process. DOD's policy emphasizes the importance of a knowledge-based approach, but practice does not always follow policy. The transitory nature of leadership and the stovepiped process further undermines successful reform. Meaningful and lasting reform will not be achieved until the right incentives are established and accountability is bolstered at all levels of the acquisition process—both within the department and in the defense industry. Finally, unless all of the players involved with acquisitions—the Congress, DOD, and perhaps most importantly, the military services—have unified goals, outcomes are not likely to improve.

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## **DOD Has Too Many Acquisition Programs Competing for Limited Resources, while Program Costs and Schedules Continue To Increase**

DOD's portfolio of major acquisition programs has grown at a pace that far exceeds available resources. From 1992 to 2007, the estimated acquisition costs needed to complete the major acquisition programs in DOD's portfolio increased almost 120 percent, while the funding provided for these programs only increased 57 percent, creating a fiscal bow wave that may be unsustainable (see fig. 1).

**Figure 1: Costs Remaining Versus Annual Appropriations for Major Defense Acquisitions**



Source: DOD (data); GAO (analysis and presentation).

The total acquisition cost of DOD’s 2007 portfolio of major programs under development or in production has grown by nearly \$300 billion over initial estimates. While DOD is committing substantially more investment dollars to develop and procure new weapon systems, our analysis shows that the 2007 portfolio is experiencing greater cost growth and schedule delays than the fiscal years 2000 and 2005 portfolios (see table 1).<sup>1</sup> For example, total acquisition costs for programs in DOD’s fiscal year 2007 portfolio have increased 26 percent from first estimates—compared to a 6-percent increase for programs in its fiscal year 2000 portfolio. We found a similar trend for total RDT&E costs and unit costs.

<sup>1</sup> Our analysis in this area reflects comparisons of performance for programs meeting DOD’s criteria for being a major defense acquisition program in fiscal year 2007 and programs meeting the same criteria in fiscal years 2005 and 2000. The analysis does not include all the same systems in all 3 years.

**Table 1: Analysis of DOD Major Defense Acquisition Program Portfolios**

Fiscal year 2008 dollars

	Fiscal year		
	2000 portfolio	2005 portfolio	2007 portfolio
<b>Portfolio size</b>			
Number of programs	75	91	95
Total planned commitments	\$790 Billion	\$1.5 Trillion	\$1.6 Trillion
Commitments outstanding	\$380 Billion	\$887 Billion	\$858 Billion
<b>Portfolio performance</b>			
Change to total RDT&E costs from first estimate	27 percent	33 percent	40 percent
Change in total acquisition cost from first estimate	6 percent	18 percent	26 percent
Estimated total acquisition cost growth	\$42 Billion	\$202 Billion	\$295 Billion
Share of programs with 25 percent or more increase in program acquisition unit cost	37 percent	44 percent	44 percent
Average schedule delay in delivering initial capabilities	16 months	17 months	21 months

Source: GAO analysis of DOD data.

Note: Data were obtained from DOD's Selected Acquisition Reports (dated December 1999, 2004, and 2006) or, in a few cases, data were obtained directly from program offices. Number of programs reflects the programs with Selected Acquisition Reports. In our analysis we have broken a few Selected Acquisition Report programs (such as Missile Defense Agency systems) into smaller elements or programs. Not all programs had comparative cost and schedule data, and these programs were excluded from the analysis where appropriate. Also, data do not include full costs of developing Missile Defense Agency systems.

Continued cost growth results in less funding being available for other DOD priorities and programs, while continued failure to deliver weapon systems on time delays providing critical capabilities to the warfighter. Put simply, cost growth reduces DOD's buying power. As program costs increase, DOD must request more funding to cover the overruns, make trade-offs with existing programs, delay the start of new programs, or take funds from other accounts. Delays in providing capabilities to the warfighter result in the need to operate costly legacy systems longer than expected, find alternatives to fill capability gaps, or go without the capability. The warfighter's urgent need for the new weapon system is often cited when the case is first made for developing and producing the system. However, DOD has already missed fielding dates for many programs and many others are behind schedule. On average, the current portfolio of programs has experienced a 21-month delay in delivering initial operational capability to the warfighter, and 14 percent are more than 4 years late.

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**Fragmented Processes, Unexecutable Business Cases, and Limited Accountability Underlie Poor Acquisition Outcomes**

Poor program execution contributes to and flows from shortfalls in DOD's requirements and resource allocation processes. Over the past several years our work has highlighted a number of underlying systemic causes for cost growth and schedule delays both at the strategic and at the program level. At the strategic level, DOD's processes for identifying warfighter needs, allocating resources, and developing and procuring weapon systems—which together define DOD's overall weapon system investment strategy—are fragmented and broken. At the program level, the military services propose and DOD approves programs without adequate knowledge about requirements and the resources needed to successfully execute the program within cost, schedule, and performance targets. In addition, DOD officials are rarely held accountable for poor decisions or poor program outcomes.

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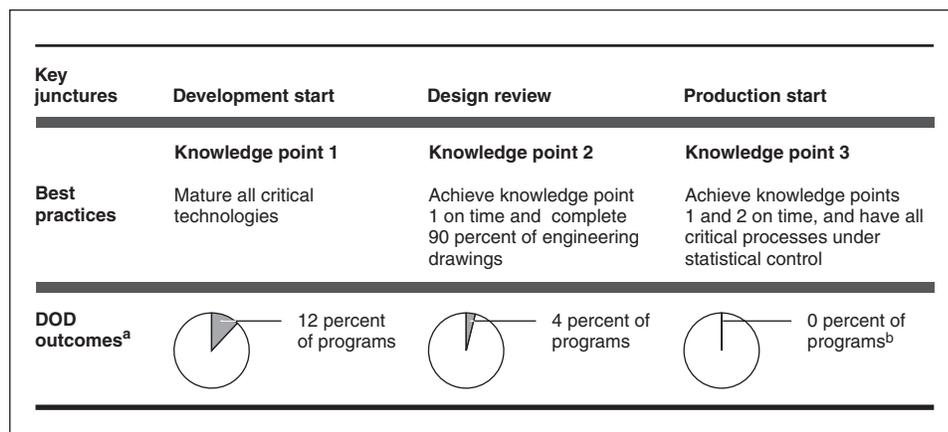
**Key Acquisition Support Processes Are Fragmented and Result in Unsound Programs**

DOD largely continues to define war fighting needs and make investment decisions on a service-by-service basis, and assess these requirements and their funding implications under separate decision-making processes. While DOD's requirements process provides a framework for reviewing and validating needs, it does not adequately prioritize those needs and is not agile enough to meet changing warfighter demands. A senior Army acquisition official recently testified before Congress that because the process can take more than a year, it is not suitable for meeting urgent needs related to ongoing operations; and a recent study by the Center for Strategic and International Studies indicates that the process is unwieldy and officials are now trying to find ways to work around it. Ultimately, the process produces more demand for new programs than available resources can support. This imbalance promotes an unhealthy competition for funds that encourages programs to pursue overly ambitious capabilities, develop unrealistically low cost estimates and optimistic schedules, and to suppress bad news. Similarly, DOD's funding process does not produce an accurate picture of the department's future resource needs for individual programs—in large part because it allows programs to go forward with unreliable cost estimates and lengthy development cycles—not a sound basis for allocating resources and ensuring program stability. Invariably, DOD and the Congress end up continually shifting funds to and from programs—undermining well-performing programs to pay for poorly performing ones.

## Initiating Programs with Unexecutable Business Cases Sets Them Up to Fail

At the program level, the key cause of poor outcomes is the consistent lack of disciplined analysis that would provide an understanding of what it would take to field a weapon system before system development. Our body of work in best practices has found that an executable business case is one that provides demonstrated evidence that (1) the identified needs are real and necessary and that they can best be met with the chosen concept and (2) the chosen concept can be developed and produced within existing resources—including technologies, funding, time, and management capacity. Although DOD has taken steps to revise its acquisition policies and guidance to reflect the benefits of a knowledge-based approach, we have found no evidence of widespread adoption of such an approach in the department. Our most recent assessment of major weapon systems found that the vast majority of programs began development with unexecutable business cases, and did not attain, or plan to achieve, adequate levels of knowledge before reaching design review and production start—the two key junctures in the process following development start (see figure 2).

**Figure 2: Knowledge Achievement for Weapon System Programs in 2008 Assessment at Key Junctures**



Source: GAO analysis of DOD data.

<sup>a</sup>Not all programs provided information for each knowledge point or had passed through all three key junctures.

<sup>b</sup>In our assessment of two programs, the Light Utility Helicopter and the Joint Cargo Aircraft, are depicted as meeting all three knowledge points when they began at production start. We excluded these two programs from our analysis because they were based on commercially available products and we did not assess their knowledge attainment with our best practices metrics.

Knowledge gaps are largely the result of a lack of disciplined systems engineering analysis prior to beginning system development. Systems

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engineering translates customer needs into specific product requirements for which requisite technological, software, engineering, and production capabilities can be identified through requirements analysis, design, and testing. Early systems engineering provides knowledge that enables a developer to identify and resolve gaps before product development begins. Because the government often does not perform the proper up-front analysis to determine whether its needs can be met, significant contract cost increases can occur as the scope of the requirements change or become better understood by the government and contractor. Not only does DOD not typically conduct disciplined systems engineering prior to beginning system development, it has allowed new requirements to be added well into the acquisition cycle. The acquisition environment encourages launching ambitious product developments that embody more technical unknowns and less knowledge about the performance and production risks they entail. A new weapon system is not likely to be approved unless it promises the best capability and appears affordable within forecasted available funding levels. We have recently reported on the negative impact that poor systems engineering practices have had on several programs such as the Global Hawk Unmanned Aircraft System, F-22A, Expeditionary Fighting Vehicle, Joint Air-to-Surface Standoff Missile and others.<sup>2</sup>

With high levels of uncertainty about technologies, design, and requirements, program cost estimates and related funding needs are often understated, effectively setting programs up for failure. We recently assessed the service and independent cost estimates for 20 major weapon system programs and found that the independent estimate was higher in nearly every case, but the difference between the estimates was typically not significant. We also found that both estimates were too low in most cases, and the knowledge needed to develop realistic cost estimates was often lacking. For example, program Cost Analysis Requirements Description documents—used to build the program cost estimate—are not typically based on demonstrated knowledge and therefore provide a shaky foundation for estimating costs. Cost estimates have proven to be off by billions of dollars in some of the programs we reviewed. For example, the initial Cost Analysis Improvement Group estimate for the Expeditionary Fighting Vehicle program was about \$1.4 billion compared to a service

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<sup>2</sup>GAO, *Best Practices: Increased Focus on Requirements and Oversight Needed to Improve DOD's Acquisition Environment and Weapon System Quality*, GAO-08-294 (Washington, D.C.: Feb. 1, 2008).

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estimate of about \$1.1 billion, but development costs for the system are now expected to be close to \$3.6 billion. Estimates this far off the mark do not provide the necessary foundation for sufficient funding commitments and realistic long-term planning.

Constraining development cycles would make it easier to more accurately estimate costs, and as a result, predict the future funding needs and effectively allocate resources. We have consistently emphasized the need for DOD's weapon programs to establish shorter development cycles. DOD's conventional acquisition process often requires as many as 10 or 15 years to get from program start to production. Such lengthy cycle times promote program funding instability—especially when considering DOD's tendency to change requirements and funding as well as frequent changes in leadership. Constraining cycle times to 5 or 6 years would force programs to conduct more detailed systems engineering analyses, lend itself to fully funding programs to completion, and thereby increase the likelihood that their requirements can be met within established time frames and available resources. An assessment of DOD's acquisition system commissioned by the Deputy Secretary of Defense in 2006 similarly found that programs should be time-constrained to reduce pressure on investment accounts and increase funding stability for all programs.

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### Accountability Suffers When Program Managers Lack the Authority to Shape Programs

When DOD consistently allows unsound, unexecutable programs to pass through the requirements, funding, and acquisition processes, accountability suffers. Program managers cannot be held accountable when the programs they are handed already have a low probability of success. In addition, program managers are not empowered to make go or no-go decisions, have little control over funding, cannot veto new requirements, and have little authority over staffing. At the same time, program managers frequently change during a program's development. Our analysis indicates that the average tenure for managers on 39 major acquisition programs started since March 2001 was about 17 months—less than half the length of the average system development cycle time of 37 months. Such frequent turnover makes it difficult to hold program managers accountable for the business cases that they are entrusted to manage and deliver.

The government's control over and accountability for decisions is complicated by DOD's growing reliance on technical, business, and procurement expertise supplied by contractors. This reliance can reach a point where the foundation on which decisions are based may be largely crafted by individuals who are not employed by the government, who are

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not bound by the same rules governing their conduct, and who are not required to disclose whether they have financial or other personal interests that conflict with the responsibilities they have performing contract tasks for DOD. Further, in systems development, DOD typically uses cost-reimbursement contracts, in which DOD generally pays the allowable costs incurred for the contractor's best efforts, to the extent provided by the contract. This may contribute to an acquisition environment that is not conducive for incentivizing contractors to follow best practices and keep cost and schedule in check.

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## Recent Congressional Initiatives and DOD Actions Aim to Promote a More Disciplined, Knowledge-Based Acquisition Approach

Recognizing the need for more discipline and accountability in the acquisition process, Congress recently enacted legislation that, if followed, could result in a better chance to spend resources wisely. Likewise, DOD has recently begun to develop several initiatives, based in part on congressional direction and GAO recommendations that, if implemented properly, could also provide a foundation for establishing a well balanced investment strategy and sound, knowledge-based business cases for individual acquisition programs.

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## Legislation Could Have a Positive Impact on Acquisition Outcomes

Over the past 3 years, Congress has enacted legislation that requires DOD to take certain actions which, if followed, could instill more discipline into the front-end of the acquisition process when key knowledge is gained and ultimately improve acquisition outcomes. For example, 2006 and 2008 legislation require decision-makers to certify that specific levels of knowledge have been demonstrated at key decision points early in the acquisition process before programs can enter the technology development phase or the system development phase. The 2006 legislation also requires programs to use their original baseline estimates—and not only their most recent estimates—when reporting unit cost threshold breaches. It also requires an additional assessment of the program if certain thresholds are reached. Other key legislation requires DOD to report on the department's strategies for balancing the allocation of funds and other resources among major defense acquisition programs, and to identify strategies for enhancing the role of program managers in carrying out acquisition programs. (For more detailed description of recent legislation, see appendix I).

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## Recent DOD Actions Provide Opportunities for Improvement

DOD has initiated actions aimed at improving investment decisions and weapon system acquisition outcomes, based in part on congressional direction and GAO recommendations. Each of the initiatives is designed to enable more informed decisions by key department leaders well ahead of a program's start, decisions that provide a closer match between each program's requirements and the department's resources. For example:

- DOD is experimenting with a new concept decision review, different acquisition approaches according to expected fielding times, and panels to review weapon system configuration changes that could adversely affect program cost and schedule.
- DOD is also testing portfolio management approaches in selected capability areas to facilitate more strategic choices about how to allocate resources across programs and also testing the use of capital budgeting as a potential means to stabilize program funding.
- In September 2007, the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics issued a policy memorandum to ensure weapons acquisition programs were able to demonstrate key knowledge elements that could inform future development and budget decisions. This policy directed pending and future programs to include acquisition strategies and funding that provide for contractors to develop technically mature prototypes prior to initiating system development, with the hope of reducing technical risk, validating designs and cost estimates, evaluating manufacturing processes, and refining requirements.
- DOD also plans to implement new practices that reflect past GAO recommendations intended to provide program managers more incentives, support, and stability. The department acknowledges that any actions taken to improve accountability must be based on a foundation whereby program managers can launch and manage programs toward greater performance, rather than focusing on maintaining support and funding for individual programs. DOD acquisition leaders have told us that any improvements to program managers' performance hinge on the success of these departmental initiatives.
- In addition, DOD has taken actions to strengthen the link between award and incentive fees with desired program outcomes, which has the potential to increase the accountability of DOD programs for fees paid and of contractors for results achieved.

If adopted and implemented properly these actions could provide a foundation for establishing sound, knowledge-based business cases for

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individual acquisition programs, and the means for executing those programs within established cost, schedule, and performance goals.

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## Concluding Observations on Achieving Successful and Lasting Reform

DOD understands what it needs to do at the strategic and at the program level to improve acquisition outcomes. The strategic vision of the current Under Secretary of Defense for Acquisition, Technology and Logistics acknowledges the need to create a high-performing, boundary-less organization—one that seeks out new ideas and new ways of doing business and is prepared to question requirements and traditional processes. Past efforts have had similar goals, yet we continue to find all too often that DOD’s investment decisions are service- and program-centric and that the military services overpromise capabilities and underestimate costs to capture the funding needed to start and sustain development programs. This acquisition environment has been characterized in many different ways. For example, some have described it as a “conspiracy of hope,” in which industry is encouraged to propose unrealistic cost estimates, optimistic performance, and understated technical risks during the proposal process and DOD is encouraged to accept these proposals as the foundation for new programs. Either way, it is clear that DOD’s implied definition of success is to attract funds for new programs and to keep funds for ongoing programs, no matter what the impact. DOD and the military services cannot continue to view success through this prism. Adding pressure to this environment are changes that have occurred within the defense supplier base. In 2006, a DOD-commissioned study found that the number of fully competent prime contractors competing for programs had been reduced from more than 20 in 1985 to only 6. This limits DOD’s ability to maximize competition to reduce costs and encourage innovation.

More legislation can be enacted and policies can be written, but until DOD begins making better choices that reflect joint capability needs and matches requirements with resources, the acquisition environment will continue to produce poor outcomes. It should not be necessary to take extraordinary steps to ensure needed capabilities are delivered to the warfighter on time and within costs. Executable programs should be the natural outgrowth of a disciplined, knowledge-based process. While DOD’s current policy supports a knowledge-based, evolutionary approach to acquiring new weapons, in practice decisions made on individual programs often sacrifice knowledge and realism in favor of revolutionary solutions. Meaningful and lasting reform will not be achieved until DOD changes the acquisition environment and the incentives that drive the behavior of DOD decision-makers, the military services, program

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managers, and the defense industry. Finally, no real reform can be achieved without a true partnership among all these players and the Congress.

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Mr. Chairman, this concludes my prepared statement. I would be happy to answer any questions you may have at this time.

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## Contacts and Staff Acknowledgments

For further information about this statement, please contact Katherine V. Schinasi at (202) 512-4841 or [schinasik@gao.gov](mailto:schinasik@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this testimony. Individuals who made key contributions to this statement include Michael J. Sullivan, Director; Ronald E. Schwenn, Assistant Director; Megan Hill; Travis J. Masters; Karen Sloan; and Alyssa B. Weir.

# Appendix I: Recent Legislative Initiatives

Legislation	Major Components
Section 801 National Defense Authorization Act for Fiscal Year 2006 Pub. L. No. 109-163	10 U.S.C. § 2366a (as amended) - Milestone B Certification  Before a major defense program can receive approval to start system development, the Milestone Decision Authority (MDA) must certify that, for example-- <ul style="list-style-type: none"> <li>• the program is affordable when considering DOD's ability to accomplish the program's mission using alternative systems and the per unit and total acquisition costs in the context of the Future Year Defense Plan;</li> <li>• reasonable cost and schedule estimates have been developed for system development and production;</li> <li>• appropriate market research has been conducted prior to technology development to reduce duplication of existing technology and products; and</li> <li>• the technology in the program has been demonstrated in a relevant environment.</li> </ul> MDA may waive one or more requirements if the MDA determines that without a waiver, DOD would be unable to meet critical national security objectives.
Section 802 National Defense Authorization Act for Fiscal Year 2006 Pub. L. No. 109-163	10 U.S.C. § 2433 (as amended) - Unit Cost Reports  Amended reporting and certification requirements for major defense programs that exceed baseline costs, by: <ul style="list-style-type: none"> <li>• creating two types of growth thresholds--"significant cost growth" and "critical cost growth";</li> <li>• basing new thresholds on the percentage increases in both the original and current baseline estimate for the program;</li> <li>• incorporating these thresholds into existing unit cost reporting requirements; and</li> <li>• requiring that in the event of a breach of the critical cost growth threshold, the Secretary of Defense, in coordination with the Joint Requirements Oversight Council, to (1) assess the reasons for the cost growth, the projected cost to either complete the program with current or reasonably modified requirements, and the rough order of magnitude costs for a reasonable alternative system or capability and (2) certify that the program is essential to national security; no less costly, equally capable alternatives exist; new cost estimates are reasonable; and an adequate management structure is in place to control costs.</li> </ul>
Section 853 John Warner National Defense Authorization Act for Fiscal Year 2007 Pub. L. No. 109-364	Program Manager Empowerment and Accountability  Required the Secretary of Defense to develop a strategy for enhancing the role of DOD program managers in developing and carrying out defense acquisition programs that addressed matters such as: <ul style="list-style-type: none"> <li>• enhanced training;</li> <li>• improved career paths and opportunities;</li> <li>• incentives for recruitment and retention of highly qualified individuals;</li> <li>• improved resources and support;</li> <li>• increased accountability;</li> <li>• enhanced monetary and non-monetary awards for successful accomplishment of program objectives;</li> </ul> Required that DOD guidance for major defense programs be revised to address program manager qualifications, resources, responsibilities, tenure and accountability. Guidance for taking programs from development to production was to address matters such as: <ul style="list-style-type: none"> <li>• the need for performance agreements between program managers and MDAs that set forth expected parameters for cost, schedule and performance and include commitments by both parties to ensure parameters are met and</li> <li>• the extent to which a program manager should continue in the position without interruption until the delivery of the first production units.</li> </ul>

**Appendix I: Recent Legislative Initiatives**

<b>Legislation</b>	<b>Major Components</b>
Section 817 National Defense Authorization Act for Fiscal Year 2008 Pub. L. No. 110-181	<p>Investment Strategy for Major Defense Acquisition Programs</p> <p>Required the Secretary of Defense to submit to the congressional defense committees a report on DOD's strategies for balancing the allocation of funds and other resources among major defense acquisition programs. The report was to address topics such as DOD's ability to:</p> <ul style="list-style-type: none"> <li>• establish priorities among needed capabilities and assess resources needed to achieve such capabilities and</li> <li>• balance costs, schedule and requirements of major defense programs to ensure the most efficient use of resources.</li> </ul> <p>The report also was to address the role of a Tri-Chair Committee comprised of the Under Secretary of Defense for Acquisition, Technology, and Logistics; the Vice Chairman of the Joint Chiefs of Staff; and the director of Program Analysis and Evaluation, among others; in the resource allocation process.</p>
Section 943 National Defense Authorization Act for Fiscal Year 2008 Pub. L. No. 110-181	<p>10 U.S.C. § 2366b Milestone A Certification</p> <p>Before a major defense program can receive approval to begin technology development, the MDA must, after consulting with the Joint Requirements Oversight Council (JROC) on matters related to program requirements and military needs, certify that, for example:</p> <ul style="list-style-type: none"> <li>• the system fulfills an approved initial capabilities document;</li> <li>• the system is necessary and appropriate if it duplicates a capability already provided by an existing system; and</li> <li>• the cost estimate for the system has been submitted and the level of resources required to develop and procure the system is consistent with the priority level assigned by the JROC.</li> </ul> <p>If a milestone A certified major defense program exceeds the cost estimate for the system submitted at the time of certification by at least 25 percent prior to milestone B approval, the MDA and JROC shall determine whether the level of resources required to develop and procure the system remains consistent with the priority level assigned.</p> <p>The Secretary of Defense was also asked to review guidance and take steps to ensure that DOD does not initiate a technology development program for a major weapon system without milestone A approval.</p>

Source: GAO.

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# Related GAO Products

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*Defense Acquisitions: Assessments of Selected Weapon Programs.* [GAO-08-467SP](#). Washington, D.C.: March 31, 2008.

*Best Practices: Increased Focus on Requirements and Oversight Needed to Improve DOD's Acquisition Environment and Weapon System Quality.* [GAO-08-294](#). Washington, D.C.: Feb. 1, 2008.

*Cost Assessment Guide: Best Practices for Estimating and Managing Program Costs.* [GAO-07-1134SP](#), Washington, D.C.: July 2007.

*Defense Acquisitions: Assessments of Selected Weapon Programs.* [GAO-07-406SP](#). Washington, D.C.: March 30, 2007.

*Best Practices: An Integrated Portfolio Management Approach to Weapon System Investments Could Improve DOD's Acquisition Outcomes.* [GAO-07-388](#), Washington, D.C.: March 30, 2007.

*Best Practices: Stronger Practices Needed to Improve DOD Technology Transition Processes.* [GAO-06-883](#). Washington, D.C.: September 14, 2006.

*Best Practices: Better Support of Weapon System Program Managers Needed to Improve Outcomes.* [GAO-06-110](#). Washington, D.C.: November 1, 2005.

*Defense Acquisitions: Major Weapon Systems Continue to Experience Cost and Schedule Problems under DOD's Revised Policy.* [GAO-06-368](#). Washington, D.C.: April 13, 2006.

*DOD Acquisition Outcomes: A Case for Change.* [GAO-06-257T](#). Washington, D.C.: November 15, 2005.

*Defense Acquisitions: Stronger Management Practices Are Needed to Improve DOD's Software-Intensive Weapon Acquisitions.* [GAO-04-393](#). Washington, D.C.: March 1, 2004.

*Best Practices: Setting Requirements Differently Could Reduce Weapon Systems' Total Ownership Costs.* [GAO-03-57](#). Washington, D.C.: February 11, 2003.

*Defense Acquisitions: Factors Affecting Outcomes of Advanced Concept Technology Demonstration.* [GAO-03-52](#). Washington, D.C.: December 2, 2002.

*Best Practices: Capturing Design and Manufacturing Knowledge Early Improves Acquisition Outcomes.* [GAO-02-701](#). Washington, D.C.: July 15, 2002.

*Defense Acquisitions: DOD Faces Challenges in Implementing Best Practices.* [GAO-02-469T](#). Washington, D.C.: February 27, 2002.

*Best Practices: Better Matching of Needs and Resources Will Lead to Better Weapon System Outcomes.* [GAO-01-288](#). Washington, D.C.: March 8, 2001.

*Best Practices: A More Constructive Test Approach Is Key to Better Weapon System Outcomes.* [GAO/NSIAD-00-199](#). Washington, D.C.: July 31, 2000.

*Defense Acquisition: Employing Best Practices Can Shape Better Weapon System Decisions.* [GAO/T-NSIAD-00-137](#). Washington, D.C.: April 26, 2000.

*Best Practices: DOD Training Can Do More to Help Weapon System Programs Implement Best Practices.* [GAO/NSIAD-99-206](#). Washington, D.C.: August 16, 1999.

*Best Practices: Better Management of Technology Development Can Improve Weapon System Outcomes.* [GAO/NSIAD-99-162](#). Washington, D.C.: July 30, 1999.

*Defense Acquisitions: Best Commercial Practices Can Improve Program Outcomes.* [GAO/T-NSIAD-99-116](#). Washington, D.C.: March 17, 1999.

*Defense Acquisitions: Improved Program Outcomes Are Possible.* [GAO/T-NSIAD-98-123](#). Washington, D.C.: March 17, 1998.

*Best Practices: Successful Application to Weapon Acquisition Requires Changes in DOD's Environment.* [GAO/NSIAD-98-56](#). Washington, D.C.: February 24, 1998.

*Best Practices: Commercial Quality Assurance Practices Offer Improvements for DOD.* [GAO/NSIAD-96-162](#). Washington, D.C.: August 26, 1996.

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