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PERFORMANCE-BASED SERVICES ACQUISITION

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The Center for Public Policy and Private Enterprise provides the strategic linkage between the public and private sector to develop and improve solutions to increasingly complex problems associated with the delivery of public services—a responsibility increasingly shared by both sectors. Operating at the nexus of public and private interests, the Center researches, develops, and promotes best practices; develops policy recommendations; and strives to influence (through its research) senior decision-makers toward improved government and industry results.

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Executive Summary

Performance-based Services Acquisition (PBSA) is the government's preferred approach to purchasing services (National Defense Authorization, 2000, § 821). These contracts specify the government's desired end result without stipulating "how" a task should be performed, granting contractors the flexibility to complete its tasks in the manner the firm deems most appropriate. This method runs counter to traditional government contracts that explicitly state the processes a contractor must complete in order to perform the task in accordance with the contractual agreement (which is "input oriented," i.e., compliance oriented, vs. "output oriented," i.e., results oriented). If implemented correctly, PBSA will allow the Department of Defense (DoDIG) to attain better performance at lower cost in its services acquisitions than the DoD currently achieves.

Since fiscal year (FY) 2000, the DoD has spent an average of 56% of its budget on the acquisition of services, including research and development activities, compared to 39% during the 1980s (U.S. General Services Administration 2009). In FY 2009, the DoD spent $132 billion on services—an 84% increase since FY 2000 (U.S. General Services Administration 2009). The federal government has significantly increased its purchase of services over time as (1) its internal capacity to furnish such services has diminished and (2) the DoD's overall reliance upon services has increased markedly.

The Federal Acquisition Regulation defines a services acquisition contract as an agreement that "directly engages the time and effort of a contractor whose primary purpose is to perform an identifiable task rather than to furnish an end item of supply" and defines a performance-based contract as "structured around the results to be achieved as opposed to the manner by which the work is to be performed" (FAR, 2010, 37.101). The DoD has further acknowledged that four elements are required for an acquisition to be performance-based: (1) a performance work statement, describing the requirement as a measurable outcome; (2) measurable performance standards, defining acceptable outcomes and determining if performance thresholds have been achieved; (3) remedies, the incentives and penalties used to provide incentives for performance; and (4) a performance assessment plan, detailing performance metrics and how the contractor will

be evaluated (Gansler, 2000). Overall, significant differences exist between performance-based contracting and the DoD's traditional contracting method.

PBSA has been the government's preferred approach to service contracting since the Office of Federal Procurement Policy issued policy letter 91-2, entitled *Service Contracting*, on April 15, 1991. These guidelines for PBSA service contracting were incorporated in Part 37 of the FAR in 1997, which provides the DoD with its current instructions for use of service contracts.

When compared to the traditional contracting method, PBSA offers potential benefits including higher performance, lower cost, increased competition and innovation, greater use of commercial services, more appropriate risk-sharing between government and contractor, less program risk, higher likelihood of completing projects successfully, more effective oversight, and greater contractor-government cooperation.

The DoD faces several challenges to implementing PBSA, including the perception that the government will have less control over the contractor, the questionable applicability of PBSA to certain programs, and PBSA's heavy reliance upon selecting simple yet effective metrics.

A consensus does not exist regarding (1) how fully PBSA has been implemented and (2) if programs that have implemented PBSA have achieved their intended results.

The report explores two case studies, Performance-Based Logistics (PBL) and the Navy Marine Corps Intranet (NMCI). The PBL case study reveals the potential benefits the DoD could reap from wider use of PBSA contracts. NMCI shows that performance metrics must reflect achievable performance levels for them to be effective, and that the services acquisition workforce must be involved in evaluating performance throughout the length of the contract.

As a result of our research we found that,

   (1) the DoD needs to acquire services more effectively;

(2) the DoD's acquisition workforce lacks training and experience in services contracting;

(3) selecting correct metrics and contract incentives is paramount;

(4) PBSA requires competition for it to be effective;

(5) post-award contract management needs greater attention;

(6) more data and research is needed on PBSA; and

(7) multiple barriers exist to correctly implementing PBSA in the DoD—including cultural resistance from the bureaucracy, regulatory barriers, budgetary obstacles, workforce limitations, inexperience with performance-based contracting, and governance issues.

Based on these conclusions, we believe that the DoD must improve the DoD's Implementation of Performance-based Services Acquisition in the following recommended ways:

(1) the USD(AT&L) must continue to reinforce the Department's commitment to PBSA;

(2) the USD(AT&L) should work to ensure programs maximize communication between government program personnel and service industry representatives;

(3) the USD(AT&L) should provide clear guidance to the acquisition workforce on the appropriate contract structures for the different types of services;

(4) for the different categories of services, the DoD and military Services should develop standards, definitions, and performance metrics; and

(5) further research on the extent of PBSA use and how best to implement PBSA is required.

In addition, the DoD must improve the capabilities of the acquisition workforce performing services contracting in the following ways:

(1) actively recruit experienced services acquisition personnel from the private sector;

(2) improve the training of government services acquisition personnel; and

(3) the USD(AT&L) should incentivize the existing workforce focused on the acquisition of services.

I. Introduction

The Department of Defense (DoD) faces an uncertain fiscal future due to declining government tax revenue and increasing, mandatory entitlement spending. Demands on the civilian and military defense workforce remain very high, with conflicts in Iraq and Afghanistan absorbing much of the DoD's money, manpower, and funding priorities. With projected budget cuts on the horizon, the DoD needs to learn how to do more while spending less. One potential source of untapped savings in the DoD's budget is service acquisitions, which consume over 50% of the DoD's total spending. In order to realize greater savings, the DoD should expand its use of Performance-based Services Acquisition (PBSA). The government has already made PBSA its preferred approach to purchasing services, but successful DoD-wide implementation of PBSA remains elusive.

PBSA contracts are intended to leverage the private sector's capacity for innovation. They specify the government's desired end result without specifying "how" a task should be performed, granting contractors the flexibility to complete required tasks in the manner the contractor believes to be most effective. This approach runs counter to the government's more traditional approach to contracting (referred to as compliance contracting or regulatory contracting) which explicitly specifies the detailed processes that a contractor must complete in order to perform the task (and frequently drives up the cost of the effort). If implemented correctly, PBSA enables contractors to implement what they believe to be the best solution, giving the DoD better performance at lower cost in its acquisition of services. Savings from PBSA can be both explicit—paying less for services—and implicit—saving money through better performance, such as when contractors responsible for aircraft maintenance reduce maintenance costs by using high-quality spare parts that need to be serviced less frequently. Moreover, implementation of PBSA would help the DoD to overcome the limitations of the current contracting structure, which has been criticized for limiting innovation and competition, while making the government responsible for a disproportionate amount of program risk. Given the projected budgeting challenges in the future, the DoD must use its resources more effectively to remain the most potent military force in the world. Greater use of

PBSA, if implemented correctly, is one strategy that can achieve improved performance while reducing cost.

The DoD's Acquisition of Services

The DoD contracts for a large variety of services, ranging from building maintenance to weapons design, healthcare, education, transportation, and food services. The FAR (2010) defines a contract for services as an agreement "that directly engages the time and effort of a contractor whose primary purpose is to perform an identifiable task rather than to furnish an end item of supply" (Department of Defense 2009).

The DoD's acquisition of services represents a large and growing portion of the nation's defense expenditures, about $200 billion or over 50% of the DoD's FY 2009 acquisition budget (Government Accountability Office 2009). As a result, the efficient acquisition of services is of utmost importance. Since FY 2000, the DoD has spent an average of 56% of its budget on the acquisition of services, including research and development activities, compared to its average expenditures of 39% during the 1980s (U.S. General Services Administration 2009). Expenditures on services increased 84% between FYs 2000 and 2009 (U.S. General Services Administration 2009). Over the same period, the DoD's acquisition of services excluding research and development, grew even faster—at a rate of 152%. Today, 75% of the DoD's services acquisition budget acquires non-R&D services, up from 66% during the 1980s (U.S. General Services Administration 2009).

At the same time, there is growing concern that the DoD's current acquisition of services is not as efficient as it could be. Critics point to growing numbers of "undefinitized contracts," large numbers of cost-based contracts, the lack of adequate metrics, a general lack of coordinated procurement of services, and a lack of confidence that the DoD is optimizing the value received from these contracts (House of Representatives Committee on Armed Services 2009). It is difficult to gauge the importance of these issues in services acquisition because the federal government generally (and the DoD in particular), collects very little data related to services acquisition contracts, especially data that can be used to evaluate their performance effectiveness and efficiency.

Although the DoD's contracting for services has increased markedly over the past decade, there is good reason to believe that the acquisition of services will continue to grow as a percentage of the DoD's total expenditures. Given the large—and growing—size of services acquisition, even relatively small increases in efficiencies can produce significant savings. Consequently, improving the implementation of performance-based service acquisition is critical to provide necessary military forces with the required services effectively and efficiently.

II. Environmental Challenges for Services Acquisition

As we enter the second decade of the 21st century, the DoD continues to face several challenges to its efficient acquisition of services. These can be understood best by contextualizing competing interests and priorities within their respective environments: the federal acquisition environment, and the DoD's internal acquisition environment. Although each has its own unique issues, we believe these concerns are interconnected. The federal acquisition environment will force the DoD to achieve improved results with fewer resources. The DoD, which does not have the organic capability to provide many of the required services, must partner with the private sector to perform them. While the private sector has much talent and expertise to offer the government, the private sector has unique interests and goals that must be aligned with the objectives of the public sector. When those interests are aligned, the contractor works best and provides its best value to the government.

Federal Acquisition Environment

Support of Contingency Operations

Military requirements have increased significantly since the start of the 21st century. The terrorist attacks of September 11th and the subsequent military interventions into Afghanistan and Iraq have forced defense planners to consider a much wider spectrum of potential military scenarios than was considered during the Cold War. In addition to its traditional warfighting role, the U.S. military now actively participates in a wide variety of activities, including: peacekeeping, counter-insurgency, humanitarian missions, anti-piracy, countering the proliferation of weapons of mass destruction, and counter-terrorism. In order to satisfy these personnel-intensive military requirements with a force intentionally structured to improve its tooth-to-tail ratio (resulting in a reduced organic capability to provide support services), the DoD has come to rely on private contractors to provide combat-support and general-support services both overseas and at home. For instance, over half of the total force structure (well over 150,000 contractors) supporting Operation Iraqi Freedom were contractors (House of Representatives Committee on

Armed Services 2009). Thus, the efficient contracting of services is vital to providing deployed forces the combat support services required to ensure operational success.

Fiscal Constraints

The nation's financial situation will constrain future defense spending. Defense spending is expected to shrink as mandatory federal expenditures—particularly Social Security, Medicare, Medicaid and interest on the national debt—increase significantly in the near future (Congressional Budget Office 2009). Further, the military's mandatory costs are expected to rise over the long term as it provides healthcare benefits for military personnel, retirees, and their dependents, and also replaces worn equipment (Gilmore 2009). Budgetary pressure, both within the DoD and across the federal government, will reduce the funds available to sustain current systems, as well as to acquire systems required in the future.

Current Focus on In-Sourcing

Across the federal government, the Obama Administration is pushing to bring many contractor provided support services back in-house (i.e., to use federal employees to provide these services through so called "in-sourcing").[1] This initiative began in 2006, when Congress passed a statute that required the DoD to establish procedures for in-sourcing (10 U.S.C. § 2463). In 2008, the Bush Administration promulgated procedures that required the DoD to meet certain requirements when in-sourcing, among them was the requirement to perform a cost analysis that would determine and account for the "full cost of manpower" (Locaria 2010). In-sourcing received national attention during the 2008 presidential campaign. As presidential and vice-presidential candidates, then Senators Obama and Biden pledged to **"**reform federal contracting and reduce the number of contractors, saving $40 billion a year" (CNN 2008). As the in-sourcing initiative

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1 For the FY 2011 budget, Defense Secretary Robert Gates is seeking a $79 million hike in civilian pay and benefits for the Office of the Secretary of Defense, including "$42.6 million from internal in-sourcing actions that generate projected savings of $26 million" (Inside Defense, 2010).

gained momentum, the Secretary of Defense, Robert M. Gates, provided greater detail for the DoD in a statement explaining the Department's budget:

> *Under this budget request, we will reduce the number of support service contractors from our current 39 percent of the workforce to the pre-2001 level of 26 percent and replace them with full-time government employees. Our goal is to hire as many as 13,000 new civil servants in FY10 to replace contractors and up to 30,000 new civil servants in place of contractors over the next five years.*
> (Garamone, 2009)

The rationale for in-sourcing was based on three lines of reasoning. First, there was a concern, particularly with regard to the understaffed acquisition workforce, that contractors were performing "inherently governmental" functions. Second, despite evidence to the contrary, there was a strong, intuitive belief that government employees could perform many of the contracted services at a lower cost than the private sector. Third, there was a desire to increase government accountability over those performing public services.

The rationale behind expanding the workforce to ensure that there are enough government employees to perform all inherently governmental functions is sound. Although the private sector is able to perform many services more efficiently than the government, there are some functions that are inherently governmental, such as combat operations, public management, and policy and regulation formulation/execution. For those inherently governmental positions, cost is not the determining factor because these functions can and should be performed by the federal government. However, as of March 2010, of the positions the DoD identified for in-sourcing, only one third fell into the inherently governmental or "critical skills" categories (Chvotkin 2010). It appears that the other positions were identified for in-sourcing based on cost assessments and other considerations, as outlined by the Deputy Secretary of Defense memorandum (Lynn 2009).

The DoD's insourcing initiatives and the accompanying rhetoric have drawn criticism from business leaders and contractors, who believe that private contractors are essential

to reducing costs for the DoD (Greenberg 2010). In addition, several authoritative studies have concluded that the full cost of government employees or military personnel is at least equivalent to, if not significantly more than, the cost of contracted support. The Congressional Budget Office, when analyzing logistics support for deployed military forces, concluded that "over a 20 year period, using army military units would cost roughly 90 percent more than using contractors" (CBO 2005). Additionally, the Congressional Research Service wrote that "using contractors can save DoD money," and "hiring contractors only as needed can be cheaper in the long run than maintaining a permanent in-house capability" (Schwartz 2009). It appears that Secretary Gates has concurred with these assessments in at least one instance, as he has halted in-sourcing within the OSD (Greenberg 2010). As of the time of publication, it remains to be seen whether in-sourcing is increasing or decreasing in aggregate. Nonetheless, it is clear that contracting will continue to play an important role in the DoD even after the U.S. military presence is reduced in Iraq and Afghanistan.

Communication between Government and Contractor

The FAR (2010) allows, and even encourages, acquisition personnel to "obtain information from potential contractors and others outside the Government for use in preparing Government estimates" prior to an RFP (FAR 37.101). There is, at the same time, the restriction on contracting officers that they not make public "plans that would provide undue or discriminatory advantage to private or personal interests," or information that was "received in confidence from an offeror" (FAR 37.101). The rigid interpretation of this restriction has caused many government officials to limit communication between the government and private firms, even though such communication is encouraged by the FAR. As the government's chief information officer, Vivek Kundra observed, "there's a chilling effect across the government where they think they're going to go to jail if you talk to vendors before putting out the [request for proposal]" (Sternstein 2010). Restricting communications between contractors and the government make it difficult for the acquisition personnel to accurately gauge industry capabilities, estimate program cost, identify more effective ways to write the statement of work, and develop effective program metrics.

The Office of Federal Procurement Policy (OFPP) Administrator, Dan Gordon, is behind an effort to start a new website in the summer of 2010 to facilitate collaboration between contractors and contract officers prior to the RFP's release (Sternstein 2010). This first step represents significant progress, but it remains to be seen if it will be enough to overcome the government contract officers' culture of fear that limits communication with contractors.

Laws, Regulations, and Processes

The federal government's laws and regulations are intended to ensure that the government gets the most benefit out of every taxpayer's dollar. In many instances, however, such regulations have the unintended impact of sacrificing economic efficiency to achieve other goals. For example, full cost accounting provisions reduce competition by erecting high barriers of entry for new (e.g., commercial) firms to enter the defense market, as well as reduce potential savings opportunities from operating at higher economies of scale (through mixed commercial and defense operations). Full competition is undermined as laws promote "fair" competition over effective competition. Finally, Congress has passed provisions that mandate certain levels of work be done "in-house" to retain organic capability, regardless of whether such levels are efficient or not. Many of these laws and regulations were written with the best of intentions, but they now reflect the deep political barriers to achieving effective competition and economic efficiency.

Additionally, the government's budgetary and acquisition processes were designed with multiple goals in mind. More often than not, accomplishing these other goals negatively impacts the ability of the government to be efficient. For instance, most government processes purposely separate authority and responsibility in order to minimize the opportunity for fraud. This checks and balances system has resulted in a process "whose objective is not to get the work done at a reasonable cost, but to ensure that there are 'zero defects'" (Gansler 1989). While the process has been effective at limiting fraud, the system has enabled high levels of inefficiency to exist.

The DoD's Internal Acquisition Environment

Although the DoD must be more efficient in the future to perform additional responsibilities within a constrained budget, the DoD is unlikely to deliver significantly improved outcomes of its acquisition of services by itself—barring substantial changes in government policies and budgets. The DoD is handicapped by its inadequately sized acquisition workforce, which is also inadequately trained to contract for and manage performance-based service contracts, by its complex regulatory structure, developed for and focused on the acquisition of systems, and by the consolidation of the defense industry.

Acquisition Workforce

The acquisition workforce has several interrelated problems. First, acquisition personnel have been disproportionately reduced in size since the end of the Cold War, leaving the DoD with insufficient manpower to fulfill its services acquisition role. For instance, the acquisition workforce declined approximately 60% between FYs 1990 and 2006. The vast majority of the reduction was accomplished through voluntary turnover, retirements, and hiring freezes. Second, close to 70% of the DoD's current acquisition workforce are "baby boomers" that will be eligible to retire in the next decade (Gansler, J. S., Lucyshyn, W., Arendt, M., 2008). Not only could the DoD lose a significant portion of its workforce, but it would lose a significant amount of institutional knowledge in the near future. Third, the acquisition workforce currently lacks many of the cutting-edge technical skills needed to acquire required services. Many current employees have worked for the government for their entire career, and lack the technical and managerial skills that private sector firms have developed during the past two decades, particularly in fields such as information technology and system engineering.

Finally, the DoD workforce lacks experience in PBSA contracting, management, and oversight. Most of the acquisition training is focused on weapons systems acquisition, not on services. This lack of training and experience hampers performance in this critical, and growing, segment of the DoD's acquisitions. Moreover, since virtually any

military organization that has O&M funding can contract for services, there are many non-acquisition personnel involved with the acquisition of services. While this may seem to empower those personnel who would benefit most directly from the services provided by a contractor (and have an excellent idea of what kind of service they need), this distributed approach gives individuals, in many cases untrained in acquisition, responsibility for what often is a fairly sophisticated task. Without the proper training to implement PBSA, these contracts will generally have suboptimal outcomes.

Concern over the DoD's Reliance on Contractor Support

The U.S. Congress has recently examined the growing DoD reliance on contracting for services, and has expressed concerns about how to provide proper oversight for what it perceives to be higher risk, cost-plus contracts, many of which have been issued to companies supporting the U.S. military presence overseas in Iraq and Afghanistan (House of Representatives Committee on Armed Services 2009). As the U.S. begins to play a smaller military role in Iraq and Afghanistan, and as the federal government responds to the looming fiscal crisis, it is reasonable to assume that the U.S. Congress will examine DoD expenditures on services with greater scrutiny in an effort to improve efficiency and return the budget to a more fiscally sustainable level.

The DoD has begun to address these congressional concerns. Ashton Carter, the Under Secretary of Defense for Acquisition, Technology, and Logistics, released a memorandum in November 2010 that, among other new guidelines, urged acquisition teams to "give greater consideration to using Fixed-Price Incentive Fee (FPIF) contracts, particularly for efforts moving from development to production" (Carter 2010). Carter advocates the use of cost reimbursement contracts for developmental efforts when the total cost of providing a service is difficult, if not impossible, to estimate prior to contract awarding. To Carter, Fixed-Price Incentive Fee contracts are a way of transitioning from cost reimbursement towards Firm-Fixed-Price contracts. However, because changes are common (especially in services), competition must be present to constrain cost growth.

Consolidation of the Defense Industry

Following the DoD's post-Cold War budget cuts, the DoD strongly encouraged the defense industry to consolidate in order to sustainably adapt to the long-term reduction in demand. The government went as far as to reimburse some firms for the costs of merger and acquisition activities (Gansler, Lucyshyn, Arendt 2008). Today, only six major defense firms operate domestically: Boeing, Lockheed Martin, BAE Systems North America, Raytheon, General Dynamics, and Northrop Grumman. Based on the dynamics of the defense industry, these traditional defense firms have also changed their business models so that in addition to military hardware, they also provide services, such as IT and logistics services. Coupled with the DoD's cultural resistance for doing business with commercial firms, the small number of defense firms limits competition for new government contracts and further limits the opportunity for new and innovative firms to participate in the market. These factors provide an incentive for the government to spread awards so that all firms continue to survive. Otherwise, the competing companies may be forced to merge again, further limiting competition for government contracts.

Conclusion

The DoD faces many challenges to efficiently acquire services. Given that the DoD does not have the internal capacity to provide every form of service, the DoD has moved towards greater cooperation with the private sector to achieve its goals. The DoD will likely become more reliant upon the private sector for services acquisition in the near-term. To achieve better results from its services acquisition—higher performance at similar or lower cost than services currently acquired—the DoD must move toward greater use of performance-based contracts.

III. Performance-Based Services Acquisition

The DoD defines PBSA contracts as those that are "structured around the results to be achieved as opposed to the manner by which the work is to be performed" (Department of Defense 2009). Alternatively, one can think of such contracts as "aligning the 'post-sale' compensation stream with the ultimate requirement" (Vitasek, Cothran, Geary, & Rutner, 2006). PBSA is termed performance-based because a company is compensated for the outcome it produces—a result—as opposed to the specific means and methods that the company uses—an input. PBSA should use adequate incentives—both positive and negative—to incentivize contractors to produce superior results of the highest utility to the government.

The effectiveness of contract incentives has been validated by extensive research, including an Institute for Defense Analyses report that concluded "contract incentives, if successful, are an inexpensive way to induce contractors to reduce costs" and improve performance (Tyson, et al. 1992). PBSA also encourages greater competition for government contracts by potentially reducing the barriers firms face in entering the defense market. By minimizing the use of DoD specified processes, standards, and procedures, PBSA reduces the barriers to entry for commercial firms, and thereby increases the potential number of competitive firms. With greater incentives and flexibility to propose original solutions, along with increased competition, contractors will improve their performance, while lowering costs for the government.

Performance-based Services Acquisition (PBSA) is only the latest and most popular incarnation of an "outcomes based approach to contracting." Outcomes based contracting was first implemented by the Office of Economic Opportunity in the Department of Health, Education, and Welfare from 1969–1971 (Edwards, V.J., & Nash, R.C., Jr. 2006). In 1979, the U.S. Air Force used an outcomes-based contracting model for its base support services (Edwards, V.J., & Nash, R.C., Jr. 2006). While both programs produced very mixed results and were discontinued, the Office of Federal Procurement Policy recognized the potential cost savings of outcomes-based contracting and made it available for the entire federal government in 1980 (Edwards, V.J., & Nash,

R.C., Jr. 2006). PBSA became the latest term for outcomes-based contracting after the issuance of the Office of Federal Procurement Policy's (OFPP) policy letter 91-2, entitled *Service Contracting*, issued on April 15, 1991. This document established the basic definitions of PBSA that the government continues to use today.

The OFPP policy letter 91-2 also issued a strong mandate to use PBSA, stating that,

> "[I]t is the policy of the Federal Government that (1) agencies use performance-based contracting methods to the maximum extent practicable when acquiring services, and (2) agencies carefully select acquisition and contract administration strategies, methods, and techniques that best accommodate the requirements" (Office of Federal Procurement Policy 1991).

If an agency decides to use a strategy other than PBSA, the agency must justify its selection in writing.

Although implemented in 1991, the FAR was not amended to incorporate PBSA policies contained in OFPP's policy letter 91-2 until 1997 (GAO, 2008).

Federal Acquisition Regulation Part 37 provides the DoD with the policy and procedures that are specific to the acquisition and management of services by contract. This Part also identifies performance-based acquisition as the DoD's "preferred method for acquiring services… [which should be used] to the maximum extent practicable," except in certain circumstances (Department of Defense 2009).[2] Finally, FAR (2010) Part 37 states that the DoD should facilitate greater use of PBSA by reducing barriers to competition and by providing sufficient training to DoD service acquisition personnel (Department of Defense 2009).

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[2] These exceptions are specifically identified as architect-engineer services for public buildings, property and works; construction; utility services; and services that are incidental to supply purchases. The regulation further stipulates that the DoD should use, in descending order of preference, (1) a firm-fixed price performance-based contract, (2) a non-fixed price performance-based contract, and then finally (3) a contract that is not performance-based. The key purpose of the statute is to encourage and enable greater participation of the private sector in the DoD acquisition, while ensuring adherence to other legal regulations.

Elements of PBSA

The *Guidebook for Performance-Based Services Acquisition (PBSA) in the Department of Defense* identifies four elements that are required, at a minimum, for an acquisition to be performance-based: (1) a performance work statement, describing the requirement as a measurable outcome; (2) measurable performance standards, used to define acceptable outcomes and determine if performance thresholds have been achieved; (3) remedies, the incentives and penalties used to provide incentives for performance; and (4) a performance assessment plan, detailing performance metrics as well as how the contractor will be evaluated Gansler 2000).

In 2006, the Department of Commerce, Department of Defense, Department of Agriculture, Department of Treasury, the General Services Administration, and a private firm, Acquisition Solutions, issued a joint guidebook entitled *Seven Steps to Performance-Based Services Acquisition*. The steps outlined by the guidebook are presented below in Figure 1. A more thorough explanation of each step can be found in Appendix A.
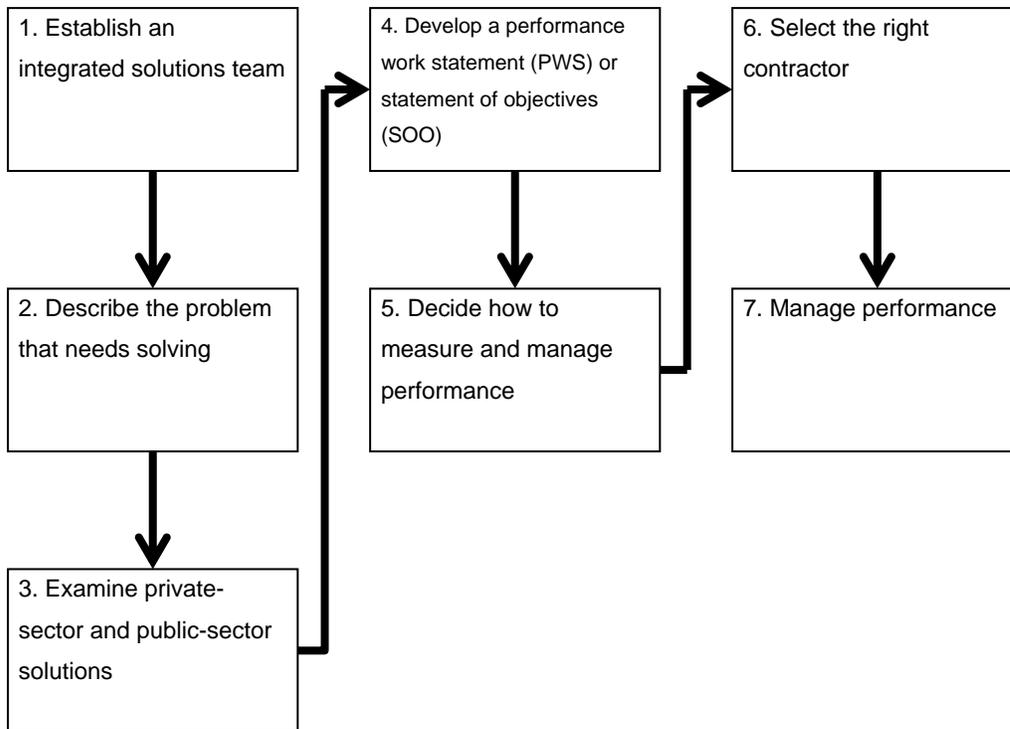
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│ 2. Describe the      │   │    │ 5. Decide how to     │   │    │ 7. Manage            │
│ problem that needs   │   │    │ measure and manage   │───┘    │ performance          │
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Figure 1: Seven Steps to Performance-Based Services Acquisition (Interagency-Industry Partnership in Performance, 2006)

The objective of PBSA is to buy measurable outcomes (i.e., those measures of effectiveness used to define the outcomes). At the top level, they should be based on the users requirements and include only a few simple, realistic, consistent, and easily quantifiable metrics (focused on operational performance and value-added process indicators). These metrics can then be linked, through the contract vehicle, to supplier incentives.

Performance-based contracts offer potentially large benefits for both simple tasks—such as cutting the grass—as well as more complex tasks—such as providing complete logistics support to a major weapon system. These performance-based contracts differ significantly from the DoD's more traditional contracts, otherwise known as compliance contracting or regulatory contracting. With the traditional process, the DoD generally specifies the process to be used to achieve the desired result. To ensure that the government receives the exact service as defined in the contract, the DoD employs oversight measures to ensure contract compliance. Metrics and incentives may be used in

traditional contracting, but such metrics are input-oriented: incentives reward a contractor for adherence to the government specified process used, not the measurable performance of their output. These types of contracts do not effectively incentivize contractors to continuously improve performance and reduce costs; administration of these contracts is relatively straightforward. In many ways, this process reflects the DoD's weapon system acquisition process, which generally makes extensive use of military standards and specifications.

In contrast, Performance-based Services Acquisition focuses on the task the DoD requires without specifying the process a contractor should use to deliver the service. The focus, using performance metrics, is on how effectively the tasks have been accomplished. Due to the increased complexity of tasks, both pre- and post-contract award, administration is more challenging than under the traditional management style. Figure 2 summarizes the differences between the two methods of contracting.

Aspect	Traditional	Performance-Based
Requirements Determination	Done through use of detailed specifications and processes	Done through use of performance specifications and objectives
Statement of Work	Detailed specifications and processes provided to contractor, deviation not allowed without prior approval	Focuses on outcome desired and leaves the how to contractor
Quality Assurance	Oversight, detailed inspections, and audits	Insight, surveillance plans, use of commercial standards
Selection Procedures	Emphasis on lowest cost, minimum acceptable technical capability	Use of competitive negotiations, best value approach
Contract Type	Fixed-price or cost-reimbursement with very few awards or incentives	Fixed-price or cost-reimbursement with an emphasis on award/incentive type arrangements
Contract Administration	Simple when compared to performance-based contracting	Complex due to administration of award/incentive clauses
Program Management	Complex government management toward the desired performance results	Government management is largely oversight, contractor is motivated toward desired performance results

Figure 2: Differences between traditional and performance-based acquisition (Fuhs 1998)

Anticipated Benefits and Potential Risks of PBSA

Use of PBSA strategies offers numerous benefits to the government, but its implementation requires surmounting several potential risks.

Benefits of PBSA

Improved performance – PBSA helps align the objectives of the contractor with those of the government. Contractors, tasked with achieving outcomes as opposed to fulfilling tasks, (1) have the freedom to implement the strategy that would provide best value to the customer, (2) can update their methods without the need to change contractual obligations, and (3) have the incentive to achieve their best performance. These conditions foster the best effort and innovation on the part of the contractor, maximize the potential for the government to receive optimal contractor performance, and result in a "win-win" for both the government and the contractor.

Lower cost – Top commercial firms have used performance-based contracts to reduce costs of services even as they raise performance. The federal government, unlike the private sector in its budgetary processes, is not focused on profits; rather, it is focused on transparency; minimizing fraud, waste, and abuse; holding public servants accountable; and costs. The federal government thus often retains more cost-inefficient practices and processes, and will significantly benefit from PBSA's cost savings.

Increased innovation – PBSA encourages innovation by granting firms flexibility to determine the processes they use to perform the required function. Since they are incentivized throughout the contract to meet the required metrics while minimizing the cost, competitive firms will continuously innovate to improve their processes while reducing costs.

Greater use of commercial services – As noted in a memo issued by the Office of the Deputy Under Secretary of Defense for Acquisition Reform, "the vast majority of service requirements are commercial in nature" (Gansler 2000). Although government policy explicitly embraces greater use of commercial off-the-shelf technologies and commercial standards, the DoD has been slow to fully implement these policies. By focusing on performance over process, PBSA helps to reduce barriers to entry for commercial firms.

More effective oversight – Traditionally, the DoD has spent a large amount of resources verifying that contractors comply with the detailed processes and procedures the

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government specifies in its contracts—regardless of whether such compliance produces better outcomes. For over a decade and a half, the DoD has been committed to reforms that "ensure that oversight and review of contract management add value to the process and are minimally intrusive" (Department of Defense 1995). With the performance-based contract structure, the government can reduce the cost and increase the effectiveness of its oversight by tracking appropriately selected performance metrics to monitor contractor performance.

Greater contractor-government cooperation – DoD services are provided through an ever-widening network of contractors. Through several attributes listed above, PBSA encourages a greater contractor-government partnership that is more collaborative and less adversarial than traditional contracting, which implies that companies cannot be trusted to provide a service without being told how to do it. PBSA, on the other hand, is predicated on trust and accountability. Private companies are given more flexibility to find cost-effective solutions, and also agree to meet the required performance metrics, which are often used to determine incentives.

Greater agility – Contracting for services affords a greater surge staffing capability, giving the DoD a cost-efficient way to augment capabilities during times of increased demand. On the other hand, during times of decreased demand, the DoD can quickly save operating costs by reducing its reliance on services contractors, something not possible with full-time government employees. Moreover, when contracting for services, there is no long-tail cost: the DoD does not have any financial obligation to contractors once the service is delivered or no longer required. Services contracting can also provide the DoD with quick access to required expertise; by contrast, the time required for the DoD to advertise a job position, review applications, perform job interviews, and make job offers is often considerably longer.

Potential Risks of PBSA

Perception that the government has less control – Critics of PBSA argue that the government, by not issuing explicit specifications, will have less control, and as a result, could receive less satisfactory performance. This has been shown not to be the case, as

the government must identify its critical desired outcomes and then identify the appropriate performance metrics necessary to incentivize the contractor. In many ways this is a superior way of managing outcomes than the traditional method, which has proven to be highly inefficient.

Questionable applicability – Several critics of PBSA argue that this strategy can only be used for certain types of services. Most of these critics argue that PBSA is best used for contracts that include "many common, routine, and relatively simple services" (Edwards & Nash, 2007, pg. 35). PBSA would not be effective for a second category where objectives "are too long-term and complex to permit complete specification of results and competitive pricing at the outset of contracting" (Edwards & Nash, 2007, pg. 35). The second category may include R&D in support of the DoD's Major Defense Acquisition Programs (MDAPs), which account for a significant portion of the DoD's services acquisition budget. For such contracts, performance-based contracts may not be as effective because PBSA relies on relatively stable requirements and a low-risk environment.

Ineffective metrics – Appropriately chosen metrics (1) direct contractor efforts and (2) provide effective oversight. Although concern for appropriate metrics is valid for all DoD contracts, ineffective metrics particularly undermine PBSA contracts because they form the basis of evaluating contractor performance. Metrics and corresponding incentives help align the interests of the contractor with the government. If the two are not aligned because metrics misdirect contractors towards unimportant services, then such contracts will be implemented with suboptimal results. Additionally, the government's oversight must rely on accurate, independently verified data. In many cases, however, the contractors usually furnish the government with this data, presenting a potential conflict of interest. For the incentives to be effective, the government must have reliable data that it can use to provide oversight of a contractor's performance.

Recent Efforts to Encourage the Use of PBSA

PBSA policy was reinforced in 2000, when then-Under Secretary of Defense for
Acquisition, Technology, and Logistics Jacques Gansler issued a memorandum to the
Secretaries of the Military Departments, Directors of the Defense Agencies, and the
Director of Defense Logistics Agency that stated "performance-based strategies for the
acquisition of services are to be used wherever possible" (Gansler 2000). The
memorandum reinforced this goal by requiring that, at a minimum, "50 percent of service
acquisitions, measured both in dollars and actions, are to be performance-based by the
year 2005" (Gansler 2000). The memorandum also stated that a guidebook would be
issued by the end of the year to facilitate greater use of PBSA.

The Office of Federal Procurement Policy's *Guide to Best Practices for Performance-
Based Service Contracts* (1998) and the Office of the Under Secretary of Defense for
Acquisition Reform's *Guidebook for Performance-Based Services Acquisition (PBSA) in
the Department of Defense* (2000) were issued to clarify the PBSA policy documents
identified above. In 2006, a more recent guidebook was issued, the *Seven Steps to
Performance-Based Services Acquisition*. These guides reaffirm the DoD's commitment
to using PBSA, offer recommendations on how to implement PBSA, and include
examples of successful uses of the strategy. The guidebooks stress that the overall
objectives of PBSA are to maximize performance, increase competition and innovation,
encourage the use of commercial services, shift risk from the government to industry, and
achieve savings.

How often is PBSA used?

The most recent information regarding the DoD's use of PBSA is presented in Figure 3,
detailing FYs 2001–2010. According to the data, PBSA expenditures grew significantly
in dollar terms between FY 2001 and FY 2010. When viewed as a percentage of the
DoD's service expenditures (including R&D), PBSA also grew substantially, rising from
approximately 21% in FY 2001–2003 to over 60% in FY 2010 (see Figure 3).

FY	Eligible PBA Dollars	PBA Dollars	% PBA Dollars
2001	$24,369,083,314	$5,431,665,703	22.29%
2002	$82,905,157,256	$18,432,693,367	22.23%
2003	$104,977,082,577	$25,270,487,420	24.07%
2004	$40,675,922,546	$14,127,402,826	34.73%
2005	$91,965,709,590	$49,962,824,873	54.33%
2006	$187,284,648,352	$140,580,470,455	75.06%
2007	$104,739,827,508	$38,630,826,792	36.88%
2008	$115,080,414,797	$45,386,403,984	39.44%
2009	$34,039,358,903	$16,925,720,405	49.72%
2010	$107,371,230,384	$67,011,955,731	62.41%

Figure 3: PBSA use in the DoD (Federal Procurement Data System–Next Generation, 2010)

There was a spike in FY 2005 and FY 2006 as seen in Figure 4, undoubtedly related to wartime expenditures, before the rate of PBSA returned to its previous growth rate.
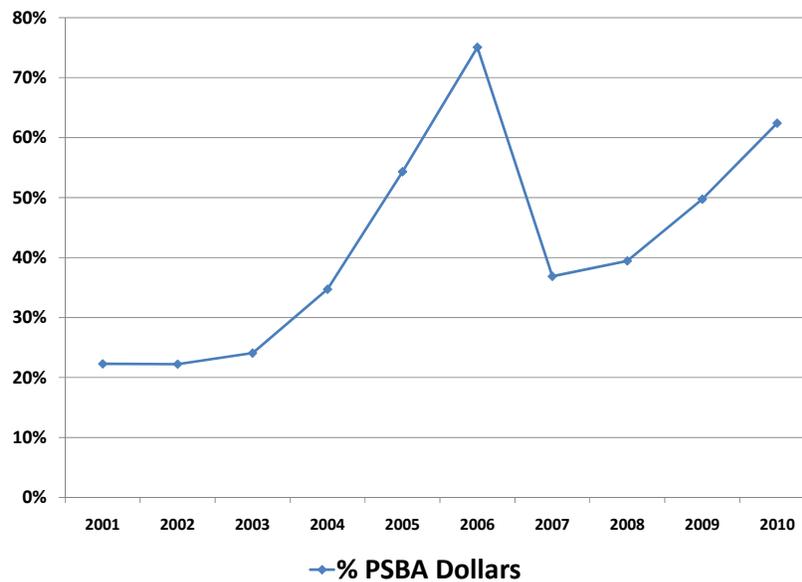

Figure 4: Percent DoD of PBSA eligible Dollars on PBSA contracts (Federal Procurement Data System–Next Generation, 2010)

It is also difficult to discern how much of the increase in PBSA expenditures was due to an increase in awarding of PBSA contracts and how much was due to the change in the definition of a contract that could be classified as PBSA. For FY 2004 and prior, the

Federal Procurement Data System–Next Generation required that "a minimum of 80 percent of the requirements under the procurement action must meet the FAR standards" in order for a program to be classified as PBSA (Federal Procurement Data System-Next Generation 2010). The reporting requirement was lowered, however, for FY 2005 and beyond to the minimum threshold of 50%. One would expect the relaxation of the definition of PBSA to increase the number of contracts that would report using PBSA, and hence PBSA expenditures—but by how much is unclear.

How fully do contracts implement PBSA strategies?

As with information regarding the number of programs that use PBSA methods, the extent to which programs use PBSA strategies is uncertain. The most relevant information comes from a 2002 GAO report that undertook interviews with acquisition personnel. The report determined that the largest proportion of its sample of contracts only partially implemented PBSA: of the 25 contracts assessed, nine implemented all elements of PBSA, four clearly did not exhibit any element of PBSA, and the final 12 contracts partially implemented PBSA (GAO, 2002a). The final 12 contracts justified only partially implementing PBSA by stating that the services provided "were either unique to government, very complex and technical, and/or high risk… [such that program officers] could not forego maintaining a strong role in specifying how the work should be done as well as overseeing the work" (GAO 2002a).

Do PBSA contracts yield better results?

One early study undertaken by the Office of Federal Procurement Policy found that, in a sample of 26 contracts, "agencies reported an average 15 percent reduction in contract price in nominal dollars, and an 18 percent improvement in satisfaction with the contractors' work" (Office of Federal Procurement Policy 1998). Several findings agree that the DoD must implement a more comprehensive and consistent information tracking system to analyze programs in the post-award phase (Acquisition Advisory Panel 2007; Geren and Gansler 2007; Government Accountability Office 2008). At present, the DoD is unable to reliably track cost and performance as they evolve over time, making temporal comparisons of contracts difficult. As a result, comparisons between contracts

are often invalid. Aside from high-level aggregated data, little information exists in the public domain regarding the efficacy of PBSA. As the government gains experience in PBSA contracting, and as tracking systems become more reliable, then future studies can more accurately evaluate the performance of PBSA contracts.
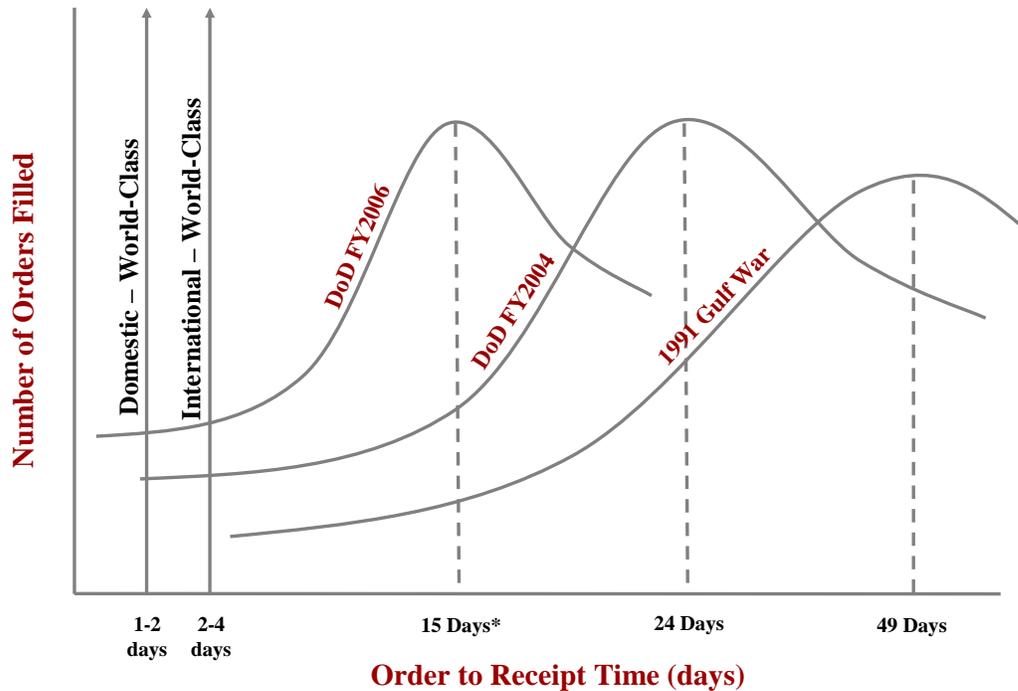
IV. Case Studies

Selected case studies highlight both the potential benefits and challenges with implementing PBSA. Performance-Based Logistics (PBL) represents a largely positive PBSA experience, whereas the Navy-Marine Corps Intranet (NMCI) underscores the challenges facing services acquisition personnel pre-contract and post-contract awarding.

Performance-Based Logistics (PBL)

Many have argued vigorously that (1) "no area needs transformation more than the DoD logistics" and (2) the DoD itself "cannot transform… without transforming logistics" (Gansler and Lucyshyn 2006). The logistics system—which the DoD spends hundreds of billions of dollars on every year—provides a relatively high cost, low quality logistics system when compared to world-class commercial firms. For example, although the DoD has improved its acquisition markedly since the 1991 Gulf War, the DoD still lags markedly behind world class delivery standards (see Figure 5). Additional problems of ad-hoc logistics structure include limited cost visibility and performance accountability within the system.

Traditional Logistics Method

The goal of the DoD's traditional logistics method was to ensure maximum weapon system availability. In order to operate this "just-in-case" system, the DoD established an extensive logistics network that "had to estimate and compute the requirements; then procure, store, and when required, ship the necessary parts" to ensure that items were always in inventory when needed (Gansler and Lucyshyn 2006). Over time, the system has amassed large inventory stockpiles—especially due to the unintended tendency of this approach to increase demand through two phenomena known as the whiplash effect and supply push. Currently, the system has high and rising maintenance costs, long customer wait times, and limited flexibility to adapt to changing operational requirements. These problems are compounded by the lack of integration for the system, along with segmented authority and responsibility for management.

Y-axis label: **Number of Orders Filled**

Vertical labels: **Domestic – World-Class**, **International – World-Class**

Curve labels: **DoD FY 2006**, **DoD FY2004**, **1991 Gulf War**

X-axis labels: **1-2 days**, **2-4 days**, **15 Days***, **24 Days**, **49 Days**

X-axis title: **Order to Receipt Time (days)**

* Testimony of Honorable Jack Bell, DUSD,
Logistics and Material readiness July 10, 2007

Figure 5: Logistics Results: "Successful," but not World-Class

Performance-Based Logistics (PBL)

Performance-Based Logistics, the DoD's preferred management strategy for logistics, provides a significant experience base in PBSA. PBL shifts the focus of logistics from purchasing products to purchasing outcomes. For instance, contractors will be paid "*not for the work done **on** the airplane, but for the work done **by** the airplane*. If the airplane flies, the contractor earns a profit; and, if it meets specified availability targets, the contractor earns increased profit from incentive bonuses; but if the plane doesn't fly, the contractor earns little or no profit" (emphasis in original, Vitasek et al., 2006). As with other PBSA contracts, bidding firms now have the opportunity to propose solutions to a problem that allow innovation and greater competition. The DoD officially adopted PBL in 2001, in a deliberate attempt to overcome the problems and inefficiencies of the existing logistics system.

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PBL reduces ownership costs by reducing contractor "incentives to maximize the price on every item sold to the government"—as companies typically tend to "low-ball" bids for development projects and then make their profits from lengthy logistics contracts (Goure 2009). By connecting performance with contractor pay, firms have an incentive to continuously improve their service. As a result, everyone wins—the contractor can achieve higher rewards while having greater flexibility to improve its services, the government gains continuous performance improvements at low cost, and the warfighter attains better equipment that is available earlier and more often.

PBL can apply to four levels of operation: (1) component, (2) subsystem, (3) platform and (4) integrated system/mission. Currently, PBL is utilized most often at the sub system levels.

History

The military first used a performance-based contract for logistics in 1996. In reaction to the Base Realignment and Closure (BRAC) decision to close a California base for the Air Force F-117 Nighthawk. Lockheed Martin (maker of the F-117),

> "presented a proposal to the Air Force to assume responsibility for the majority of F-117 non-core support functions in a contracting approach that was based on achieving specified support metrics targets, a significant change from traditional 'providing transactional goods and services' contract support – and at an attractive cost" (Vitasek et al., 2006).

The DoD accepted this proposal and the contract was able to achieve its high goals. The DoD built upon this initial success—after successful implementation of PBL in other pilot projects—with similar contracts.

In 1997, the Federal Acquisition Regulation was amended to incorporate PBSA policies as required by OFPP's policy letter 91-2 issued in 1991. The DoD reiterated its emphasis on PBSA in its 2001 Quadrennial Defense Review Report, which explicitly supported PBL. A few months later, in November 2001, the DoD "identified PBL as the preferred weapons system support strategy" (GAO 2008). Since that point in time, the DoD has issued several policy memoranda supporting expanded use of PBL.

Criticism of PBL

The primary criticism leveled against PBL does not address cost or performance, but instead the reliability of contractors. Critics argue that the military places itself in a dangerous position of relying too heavily on potentially fickle contractors. Many military planners fear that the "lack of control due to outsourcing could weigh even heavier and even put an entire military operation at risk" if, for example, the contractors were to pull out of a war zone (Singer 2008). These fears have proven to be unfounded by successful use of PBL in current operations in Iraq and Afghanistan, where such suspicions have not materialized.

Another concern is that there is no easy way to implement PBL. PBL is difficult to implement, because it is a time intensive activity. Jerry Cothran, then-program director for PBL at the Defense Acquisition University, noted in a magazine article that "setting up even component-level PBLs can take 24 to 30 months, while implementing PBL for an entire new aircraft may require four to six years" (Canaday 2006). According to a presentation given by the Navy's Supply Chain Solutions Division, the problem is more complicated; each system, in effect, requires a unique PBL solution that is unlikely to be interchangeable with prior solutions (Klevan 2008). Although implementing PBL may entail challenges, the DoD could achieve significant benefits from successfully implementing PBL more often. Moreover, these concerns are likely to be overstated. Past experience has shown that the DoD can gain immediate benefits from implementing an incomplete PBL in the short term, albeit the majority of benefits will accrue later once PBL is fully implemented. Moreover, while each program may require a unique PBL, subsequent implementation of PBL should benefit from past experience and transfer of lessons learned to new programs.

Successful PBL examples

Despite criticism and challenges, many PBL programs have been successful. This report first presents a brief summary of several successful PBL cases, and then provides a mini-case study on the SH-60 Seahawk Tip-to-Tail PBL contract.

Examples of PBL Results

Figures 6 and 7 highlight examples of cases where PBL has reduced costs and improved performance. Cost benefits from PBL reflect realized savings from Operations and Support costs after PBL's implementation (time frame for PBL savings varies between programs). Benefits were calculated by Randy Fowler, the Deputy Assistant Secretary of Defense for Materiel Readiness DASD(MR). A majority of the examples are aircraft systems from a number of categories, including fighter aircraft, cargo aircraft, and utility helicopters. The Army, Navy, and Air Force, as well as the United Kingdom Ministry of Defense, have utilized PBL for their systems.

Program	System Description	PBL Owner	Total Cost Benefit ($M)
C-17	Transport aircraft	Air Force	$477
F/A-18	Fighter/attack aircraft	Navy	$688
AH-64	Attack helicopter	Army	$100
TOW-ITAS	Integrated mobile missile and targeting system	Army	$350
Sentinel AN/MPQ-64	Mobile air defense radar	Army	$302
CH-47 (UK)	Cargo helicopter	UK Ministry of Defense	$250

Figure 6: Examples of PBL Cost Benefits (Fowler 2009)

Program	System Description	PBL Owner	Availability Improvement[3]	Cycle Time Reduction[4]
F/A-18	Fighter/attack aircraft	Navy	23%	-74%
Tires	Aircraft tires	Navy	17%	-92%
F-22	Fighter	Air Force	15%	-20%
UH-60 Avionics	Utility helicopter	Army	14%	-85%
F404 Engine	Jet engine for the F/A-18 aircraft	Navy	46%	-25%

Figure 7: Examples of PBL Performance Benefits (Fowler 2009)

SH-60 Seahawk Tip-to-Tail (T2T) PBL Contract

The SH-60 Seahawk is a Navy family of twin-engine, medium lift helicopters. The aircraft can be outfitted for a number of missions, including "anti-submarine warfare, search and rescue, drug interdiction, anti-ship warfare, cargo lift, and special operations" (United States Navy 2009). The SH-60 is a derivate of the Army's Black Hawk (UH-60) helicopter, which was first fielded in 1979. The first SH-60 entered service in 1983. Since that point in time, several variations of the helicopter now serve the Navy (United States Navy 2009).

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3 Availability Improvement is defined as a system that is ready for tasking, operational readiness, mission capable, etc.

4 Cycle Time Reduction may also be described as logistics response time or repair turnaround time.

Between 2002 and 2003, the Navy awarded four firm-fixed-price PBL contracts to support the SH-60 Seahawk. The total value of these contracts was $658.8 million. The SH-60 Tip-to-Tail (T2T) PBL contract was the largest of these PBL contracts, valued at $417 million. The Navy awarded Maritime Helicopter Support Company (MHSCo), a joint venture company formed between Lockheed Martin Systems Integration and Sikorsky Aircraft Company, a five-year contract in December 2003 (Department of Defense Office of the Inspector General 2006).

The T2T contract represented one of the DoD's first attempts to provide logistics services for two major subsystems of the platform, the airframe and avionics. The contractor is responsible for the "repair, overhaul, modification, procurement (for components worn out by attrition), packaging, handling, storage, outbound transportation, configuration management, obsolescence management, and reliability management/sustainment of 1,262 Navy managed airframe and avionics repairable items," servicing over 400 helicopters in use by the Navy, Coast Guard, and five foreign military forces that have purchased the SH-60 aircraft through Foreign Military Sales (Naval Inventory Control Point Commander 2008). Although the contractor was not responsible for the maintenance of the entire system, it was tasked with servicing a large number of items that the system needs to operate.

The primary purpose of the PBL contract was to significantly improve the availability and overall readiness of the SH-60. The Navy believed that an acceptable contract would have to cost less than the continued use of the current logistical system (Fleming 2009).

Contract Incentives

The contract included incentives linked to contractor performance. The contract relied upon two main metrics. The primary metric used was requisition fill rate, defined as the percentage of requisitions filled within a predetermined time frame for approximately 1,250 items. Time frames depended on the priority of an item and its asset weight. The base agreement was for a 73% fill rate, compared to the pre-PBL rate of 63%. Contract incentives were linked to specified fill rates. If the contractor achieved a 75% fill rate, then they would receive 40% of the total incentive fee; if they achieved a 77% fill rate, then they would receive 75% of the total incentive fee; and if they achieved a fill rate higher than 80%, then they would receive 100% of the total incentive fee.

The second metric, reliability, required the contractor to ensure that the current fail rate for 80 critical items did not vary more than one standard deviation from the baseline fail rate. This baseline was determined by comparing the average number of failures per 100,000 flight hours over the eleven quarters preceding contract implementation for each of the 80 items that had previously been identified as important cost and readiness drivers. If the contractor did not meet its fill rate obligation, but met the fail rate requirement, any portion of the incentive fee that the contractor did not earn during that period would be made available during the next incentive fee period.

Results

According to the contractor's data, the fill rate for the nine quarters preceding PBL ranged between 63–67%. Following the implementation of PBL, performance has ranged from 82–95% (Fleming 2009). As a result, the contractors have received 100% of the available contractor incentive. Despite this approximate 20 percentage point increase in fill rate, the T2T decreased the Navy's total ownership cost for SH-60 support. The Navy projected that, overall, the T2T PBL has produced $41 million in cost savings or avoidance over the contract life (Naval Inventory Control Point Commander 2008).

Overall, the SH-60 T2T PBL contract showcases several benefits and challenges to implementing PBL and PBSA more broadly. This PBL shows how PBL can be a win-

win situation for the government and the contractor. The Navy received 20% greater performance without losing its organic capability, and at the same time, decreased its total ownership costs. The contractor, meanwhile, had the flexibility to overcome numerous challenges and was able to earn the maximum incentive fee.

In August 2006, the DoD Inspector General issued a report criticizing the Navy's oversight of SH-60 PBL contracts. The report notes that, although the Navy constructed an effective plan to oversee the PBL contracts, the Navy only implemented its plan partially (Department of Defense Office of the Inspector General 2006). The principle concern raised was that the Navy did not fulfill its obligation to independently monitor contract outcomes. By relying solely on contractor information to determine progress, the Navy potentially compromised effective oversight. The report did conclude, however, that the contractor's data appeared credible and overall performance had improved.

The SH-60 T2T PBL contract highlights the importance of an effective government information system. In this case, the government was unable to independently verify contractor performance several years into the contract (Department of Defense Office of the Inspector General 2006). Although the government does not have reason to suspect MHSCo tampered with its figures, the government should not place a company in such a blatant conflict-of-interest situation.

Lessons Learned

There are several lessons to be learned from SH-60 T2T PBL.

- **PBL, and more broadly PBSA, can produce significant benefits.**

  The SH-60 T2T PBL achieved approximately a 20% increase in performance while lowering the DoD's total ownership costs for the program.

- **Initial PBL contracts are likely to achieve significant performance improvement**.

Follow-on PBL contracts are likely to ensure that performance will continue to improve over time, providing long-term benefit to the DoD from continued use.

- **The government should implement a consistent set of metrics to allow comparisons between similar types of programs.**

  Without a way to compare the performance of programs, the DoD will be limited in its ability to evaluate contractor performance and determine if it is attaining the best value for its money.

- **The relationship between the customer and contractor is key to achieving the program's successful outcome.**

  The Lockheed Program Manager for the T2T contract stressed the importance of this relationship in a 2009 e-mail (Fleming 2009). Without a good working relationship, the contractor and the government would have been unable to coordinate to address the problems—both known and unexpected—that could have undermined the purpose of the partnership.

The Navy-Marine Corps Intranet (NMCI)

The Navy-Marine Corps Intranet (NMCI) is a dual-service program to provide the Department of the Navy (DoN) with the majority of its required information technology services. NMCI currently networks over 350,000 computers, called "seats," serving more than 700,000 users at more than 620 locations globally, making it the largest intranet in the world (HP Enterprise Services 2009). This network has largely replaced the plethora of non-interoperable legacy systems that predated NMCI. Despite recent improvements in performance, NMCI has achieved largely mixed development results (Perera 2009). NMCI suffered from a number of setbacks, including delayed implementation, reduced performance, and higher cost when compared to initial estimates.

Although not explicitly labeled a PBSA program, NMCI, as it was first proposed by the DoN in its RFP, included a number of PBSA components: an emphasis on outputs, metrics, and incentives. First, the contract was for a service (the provision of "seat" capability) as opposed to a series of products (desktops, network, networking software, etc.) that the DoN would manage itself. Second, as originally formulated, the program was to be performance-based. The NMCI RFP included provisions for both results oriented metrics and variable contract reward based on contractor performance.

NMCI and Network Centric Warfare

The DoN originally formulated the idea for an integrated information network following the DoD's official adoption of a new warfighting paradigm known as Network Centric Warfare (NCW). The impetus for creating NCW was the assertion that information superiority will be the key factor to fighting effectively in the future. The fighting force that is better able to collect, interpret, and transmit data to its warfighters will have a decisive edge in battle. Specifically, the DoN believes that NCW,

> "[W]ill dramatically improve naval combat capability and efficiency by helping the fleet to achieve what DoN officials have called "speed of command" (an ability to generate and execute commands at much higher speeds), which will permit U.S. naval forces to outpace adversary

decision-making and thereby lock out (i.e., foreclose) potential adversary strategies" (O'Rourke 2002).

One of the DoN's first attempts at implementing NCW was the Naval Virtual Intranet (NVI), first mentioned in a white paper in late 1997. As described in its white paper, the purpose of the NVI was to "enhance Naval war fighting capabilities and reduce operating costs to all ashore and afloat commands, both within the continental Unites States and throughout the world" (Taylor 2006). The NVI was to achieve its objectives by replacing the inefficient operation of individual command-owned IT systems with an integrated Navy-wide system (Taylor 2006).

The DoN would change the name of the NVI several times before renaming the modified and expanded program as the NMCI. This name was chosen in part to emphasize the inclusion of both the Navy and the Marines Corps in the DoN's intranet.

The DoN's two strategic goals for the NMCI were to provide information superiority and to foster innovation. The Navy defines information superiority as "providing the capability to collect, process, and disseminate an uninterrupted flow of information while exploiting or denying an adversary's ability to do the same" (Government Accountability Office 2006). In order to foster innovation, the DoN must create an "environment that supports innovative ways of integrating doctrine and tactics, training, and supporting activities into new operational capabilities and more productive ways of using resources" (Government Accountability Office 2006). Other goals of the program included reducing overall ownership costs and improving IT services performance. In order to achieve this goal, the contractor was responsible for a number of tasks including (1) continuous hardware refreshment; (2) standardization of software applications across the system, including reducing the number of legacy applications; and (3) development and implementation of an integrated, streamlined, and secure enterprise-wide information network that can be accessed worldwide.

RFP Features

The final RFP, released in December 1999, stated that the NMCI should reach "initial operation capability (IOC) by the end of 2001 and full operational capability (FOC) by the end of 2002, with the more intensive functions of the intranet not available until later in the year" (Taylor 2006).

Congress quickly began criticizing the RFP for two reasons. First, although the projected budget was in the billions, the program did not have an official budget as the Navy determined that it could fund the NMCI from its general IT funds. Congress disagreed, believing that the program should have a unique budget line. Second, Congress determined that the Navy had not sufficiently studied the feasibility of the NMCI or its potential impact on federal employees. These concerns were highlighted by a GAO report in March 2000 that called the program "unnecessarily risky" and advised a slower implementation schedule (Government Accountability Office 2000). Consequently, Congress mandated that NMCI conduct a business case analysis. These delays caused the award to be pushed back from the initial date in May 2000 to October of that year.

Early in the NMCI formulation, DoN made two important decisions. First, the services of the NMCI would be largely outsourced. Second, the contract would be performance-based.

The DoN primarily sought to contract with the private sector because it did not believe that the DoN had the capability to develop and implement such a holistic information system. Given that the DoN did not believe that it could generate such a capability, and that it wished to implement the NMCI as quickly as possible, contracting much of the technical work to the private market was the Navy's only realistic option. Additional reasons for contracting included (1) gaining access to cutting-edge private sector technologies and managerial experience quickly while maintaining the flexibility to downsize such an effort easily; (2) fulfilling the federal government's commitment to contracting with the private market; and (3) the belief that outsourcing would allow the DoD to focus on its core mission of warfighting, leaving implementation and continuous

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IT improvement to firms that specialize in such functions (Government Accountability Office 2002).

The Navy produced an extensive performance plan for the program. The DoN started by identifying its two strategic goals, information superiority and fostering innovation. The Navy then identified nine strategic performance measurement categories and related them to the strategic goals of the NMCI program. These nine categories were interoperability; security and information assurance; workforce capabilities; process improvement; operational performance; service efficiency; customer satisfaction; program management; and network operations and maintenance (Government Accountability Office 2006). The plan included "metrics, targets, and comparative baselines that were to be used for the first annual performance report... [along with the Navy's commitment to] fully develop performance measures for each of the categories and... produce an annual report on NMCI's performance in each of the categories" (Government Accountability Office 2006).

Contract

In October of 2000, the DoN awarded the NMCI contract to Electronics Data Systems (EDS)[5]. The contract was a "firm-fixed-price, indefinite-delivery/indefinite-quantity contract with performance incentives" (Government Accountability Office 2002). The sole-source contract had a 5-year base agreement with a minimum value of $4.1 billion, along with a 3-year option for an additional $2.8 billion. The contract required delivery of approximately 415,000 seats. The contract was subsequently restructured in 2003 into a 7-year, "$6 billion contract with a 3-year option for an additional $2.8 billion" (Government Accountability Office 2006). In 2006, the Navy exercised its option. The contract, set to expire in September 2010, will have been for 10 years and a minimum of $9.3 billion.

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5 Electronics Data Systems is now known as HP Enterprise Services, following HP's acquisition of the company in 2008.

Incentive Structure Change

Although the DoN did use a performance incentive contract structure, it did not fully implement its performance-based plan developed prior to contracting. The NMCI tied incentives to contract specified performance service level agreements (SLAs) and customer satisfaction surveys, but its metrics were not successful in completely aligning the interests of the contractor with that of the government.

The NMCI contract specified two levels of performance incentives, which were dependent upon the percentage of operational seats at a given location. The two levels are "full payment" and "full performance."

Full payment refers to sites where 50–90% of the planned seats are "cutover." Cutover refers to "the point at which the NMCI operating environment is to function in full support of contracted service level agreements" (Government Accountability Office 2002). To achieve full payment, the contractor must meet 100% of relevant service level agreements. The contractor receives full payment if performance is at or above target for either (1) the current month or (2) two out of the three preceding months. If a contractor does not meet such performance specifications, the firm receives only 85% of the maximum payment per seat (Government Accountability Office 2006).

Full performance refers to those sites where over 90% of planned seats are cutover. To receive full payment, the contractor must meet the same specifications as required for the full payment case. If a contractor fails to achieve this level of performance, however, the "contractor is required to provide "financial credits" to the Navy" (Government Accountability Office 2006). In this way, the threshold for performance automatically increases as the contractor meets its operational objectives.

SLAs track information such as (1) average time a help desk representative takes to answer an inquiry, (2) the performance of e-mail transfers, and (3) the percent of bandwidth used to provide connection to external networks (Government Accountability Office 2006). The metrics created incentives that improved performance and security, but by definition also hampered operations. For example, large files (over 5MB) were not

allowed (because they slowed network performance); this complicated the operations of several Communities of Interest. Zip files were not allowed, because they were seen as a security risk, as they could potentially contain malware (Jordan 2007).

Initial Development Challenges

The NMCI has experienced development difficulties and program revisions since development initiation. The primary reason for these problems was the underestimation of the difficulty of program tasks. As the contract nears completion in December 2010, however, performance has improved.

Underestimating the difficulties of the NMCI became evident once the Navy and the contractor tallied the total number of legacy programs currently operating on Navy and Marine legacy systems. Legacy programs that have been inherited often present compatibility issues after installing a new system. Delays stemmed from the need to (1) undertake an extensive review to list and categorize all legacy applications, (2) develop a new strategy to digest the number of applications that were orders of magnitude larger than originally believed, and finally, (3) put the new implementation strategy into effect. As noted by one study, "it was initially assumed that the number of these [outdated legacy] applications was in the thousands. After contract award, the Navy and EDS were shocked to find the number was actually 100,000" (Jordan 2007). The contract goal of transitioning legacy applications into 500 NMCI accredited programs was therefore revealed to be a much more difficult task than first thought.

The NMCI contract was also complicated by the lack of centralized DoN management. The USN has traditionally operated with a relatively decentralized command structure, and deference to local commanders or officials has rendered EDS' standardization of software difficult, if not impossible to achieve. As EDS attempted to standardize software at over six hundred DoN installations, it inevitably rubbed shoulders with military and civilian professionals who refused to abandon legacy applications. EDS was forced to fight the same political battles over software and compatibility issues again and again with separate officials at each DoN installation. The lack of DoN management to

enforce what was actually a policy change in the DoN resulted in poor contract implementation.

Security was another major concern that was negatively impacted by initial estimates. This concern grew more problematic following the events of September 11th, when the DoN put a renewed emphasis on this feature. In order to provide "a smooth running, secure network, the security team must know which ports and protocols the applications use to communicate, so that when viruses or malicious visitors enter the network, they can be tagged as errant" (Jordan 2007). As with applications, the contractor and the Navy significantly underestimated the complex nature of the DoN network. Many deployment delays stemmed from the contractor's needing to repeatedly test the network for compatibility and security issues.

The NMCI has also suffered delays from underestimates of other portions of the program such as hardware refreshment, network capabilities, and evaluation of operation processes. These problems mainly stem from underestimates of initial DoN capabilities and the massive scale of the project. All of these setbacks further impeded EDS' progress with the NMCI.

Challenges and Progress

By May 2002, only 4,000 seats had been cutover. Due to NMCI's slow progress, Congress, in December 2002, sought to strengthen oversight by requiring authorization to increase the seat limits beyond 60,000, and then up to 150,000.

In 2003, EDS shareholders filed a class-action lawsuit against the company alleging security fraud stemming from second quarter losses, primarily due to "problem contracts." According to EDS, difficulties with the NMCI contract resulted in a $334 million pretax loss on the program as of 2003 (Verton 2003). The company cited "lower profit margins on NMCI seats and deployment delays" as reasons for this loss (Verton 2003). Subsequently, the DoN and EDS restructured the NMCI's contract and implementation schedule. One report estimates that EDS losses averaged $800 million annually in the first years of the contract, totaling $3 billion (Jordan 2007). EDS is

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expected to recoup most, though not all, of its initial losses before its current contract expires.

By June 2006, the NMCI had made significant progress. Approximately "303,000 seats were operational at about 550 sites"—a significant improvement over prior years, but still well below the initial estimate of about 415,000 seats by FY 2004 (Government Accountability Office 2006).

Acknowledging the NMCI's shortcomings , the Navy awarded a one-year $5.9 million contract to BearingPoint in December 2006 (halfway through the contract) to help manage IT services (Beizer 2006). BearingPoint was awarded a larger 5-year contract, worth a maximum of $57.9 million in October 2007, principally to "design and operate a secure, battle-ready global information technology network for the Naval Network Warfare Command" (Hubler 2007). This action solidified the subtle—if unofficial—shift away from the NMCI's initial goal of information superiority (in the form of a battle-ready information system) to simply furnishing the DoN with an operational information network.

As of 2007, communication between networks remained difficult. "[A] member of the Navy staff cannot share attachments with a Marine user. Neither user can share attachments with users in the medical community" (Jordan 2007). While much progress has been made, the lack of policy coordination and enforcement forced EDS to create the NMCI in a piecemeal fashion.

As of December 2010, 387,000 seats have been transitioned to the end-state NMCI environment (HP 2010). Moreover, customer satisfaction has risen substantially over time while the NMCI has provided the DoN with services approximately 15% below the cost of running its legacy systems (HP Enterprise Services 2009). As early as 2008, several top Navy officers asserted that the NMCI "is achieving much of what we had hoped NMCI would achieve" (Kreisher 2008; Lawlor 2009). The DoN has a good reason to be happy; after some unexpected delays, it ultimately had its strategic objectives for the NMCI accomplished at a reasonable price.

Lessons Learned

- **Ambitious contractual objectives must be fully analyzed prior to the RFP, while progress must be analyzed throughout the contract.**

  The DoN's initial white paper underestimated the total cost of the contract by roughly five billion dollars, and the subsequent RFP underestimated the total cost by two billion. Cost analysis failed to anticipate the challenges of legacy applications as well as numerous special requirements (e.g., Conflicts of Interest, enhanced security needs, large file transmissions, etc.). The inadequate understanding of the requirements and EDS' near bankruptcy in 2003 forced both parties to write a new contract that reduced EDS' contractual responsibilities while increasing its compensation. Proper requirements analysis is essential for a contract to be successful, and that analysis is not only needed before the awarding of the contract, but should be revised throughout the contract as well.

- **Programs need to fully understand their requirements in order to make the necessary performance, cost, and schedule trade-offs.**

  The Navy emphasized the NMCI program schedule and the contractor delivered most of the services on time, but exceeded original cost estimates. Because the DoN had not defined all of its technical requirements in 1999 due to the time and expense of doing so, it rushed the acquisitions process and increased the potential for cost growth. Consequently, the Navy allowed vendors to perform site-surveys at Navy and Marine facilities, and offered to answer technical questions via e-mail. As a result, EDS did not realize the enormous number of legacy applications until it began work on the project causing the growth in scope and cost.

- **Firm-Fixed-Price contracts for high-risk, ambitious programs do not necessarily reduce program costs.**

When the expected costs are well-known, and there is low risk of any changes in program cost, then Firm-Fixed-Price (FFP) contracts can prevent cost overruns. FFP contracts are ideal when requirements are known and stable, and the technical risk is low. For large, complex programs like the NMCI, for which requirements were not well defined, a Firm-Fixed-Price contract was unsuitable. The contractors initial cost estimates, in many cases, were no more than simply educated guesswork combined with much wishful thinking. As a result, repeated renegotiations between EDS and the government resulted in increased levels of compensation for the contractor.

- **The DoD needs qualified and engaged technical experts to provide technical analysis.**

  The DoN lost almost all of its organic technical capacity as it transitioned services to EDS. Without that technical expertise, the DoN was not able to provide the effective technical oversight needed to evaluate the NMCI's progress. This, combined with unanticipated technical problems, like the number of legacy programs, resulted in delays and inefficiencies. Better oversight is needed to see if cost overruns result from difficulties unanticipated by pre-contract analysis, or if they are a result of the contractor failing to provide its best effort.

- **Service programs need an effective governance structure.**

  One major obstacle to the NMCI's efforts to scrub or transition legacy programs to the new operating system was resistance from civilian and military officials. The NMCI had to support over six hundred different officials with different preferences and requirements, many of whom refused to relinquish their legacy applications. The DoN should have tackled this policy problem on its own, but it gave EDS the task instead.

- **Before issuing an RFP, the DoD should consider dividing a large project into smaller, more manageable chunks.**

  In order to be an effective fighting force in the future and fulfill its own stated objectives, the DoD must have efficient and streamlined IT services. Given the size of the DoD, provision of these services will be some of the largest IT projects in the world. Despite its need, the DoD must be aware that large-scale changes may not be feasible, given the immense scope. Instead, the DoD should consider options for a more segmented approach to upgrading its systems. For example, the DoN should have explored the opportunity to break down its NMCI contract into a number of smaller contracts that focused on specific areas such as the information network, hardware refreshment, and consolidation of legacy applications, as it did for the follow-on effort.

- **Metrics may produce unfavorable outcomes if consequences are not anticipated.**

  Metrics and incentives, while helpful in highlighting government priorities, produced mixed results for the NMCI. The metrics involving e-mail transfers and the percent of bandwidth used to provide connection to external networks provided EDS an incentive to severely limit the size of e-mail attachments, frustrating many who were unable to transmit larger files. Metrics must be designed carefully with the expectation that the contractor will not make the same assumptions with regards to methods used to provide a service as the government. If the government had considered the problem of file sizes in e-mail attachments before designing the metrics, then it could have made its desires explicit in the RFP, receiving superior outcomes as a result.

Next Generation Enterprise Network (NGEN)

Next Generation Enterprise Network (NGEN) is the Navy's IT services program that will be initiated at the conclusion of the NMCI contract. Using the NMCI as its base, NGEN seeks to achieve the capabilities that the NMCI was unable to deliver. Most importantly,

"the Navy is constructing a new acquisition approach that promises to give the government more operational control over the network" (Perera 2009). Most importantly, the Navy will seek to employ multiple contractors as opposed to a single provider for all of the services. The new contract will be segmented into five parts: Independent security operations oversight and assessment, Transport, Hardware, Software, and Enterprise services (HP Enterprise Services 2009a). The DoN will be responsible for help desk functions formerly provided by HP, and it will exert better operational control over the decisions regarding the hardware, software, and network security.

V. Findings

DoD needs to acquire services more efficiently and effectively

Contracts for services make up over 50% of the DoD's budget, and are critical to virtually all facets of military operations, and as a result, the more efficient acquisition of services is crucial. The DoD has an additional incentive to reduce costs with the current protracted recession and as the impending mandatory entitlement spending increases. These factors will severely limit the growth of the DoD's base budgets, and at the same time, the DoD will likely be unable to request additional funding through wartime supplementals.

If implemented correctly, PBSA offers both the government and the private sector significant benefits. The DoD secures the opportunity to acquire greater, and continuously-improving performance, at a lower cost than from its traditional contracting approach. Further, with PBSA, the private sector service providers benefit as well. In the words of one government contracting officer, PBSA offers what most firms want in a competitive environment: the "responsibility of performance to be theirs so that they can decide where they will invest their resources" (Wimmer 2003). By placing emphasis on outcomes, firms have the freedom to innovate and offer what each deems "best value," as opposed to competition for lowest cost based on rigid adherence to a set of contracted specifications and processes.

DoD's acquisition workforce lacks training and experience in services contracting

Successful implementation of PBSA will require a significant transformation of the government acquisition workforce. Few current employees have adequate experience in writing performance-based work statements, developing performance metrics, or working with their industrial partners at the level of collaboration required. As noted, "the reality of performance-based contracting for the government procurement official is that responsibilities have not lessened; they have changed, and radically so" (Boykin 2005).

Even if given sufficient training, employees require time to understand and gain experience and confidence with the new processes and become proficient in their implementation.

Additionally, in most cases, personnel that are performing program management functions for services contracts are not provided acquisition training, nor are they covered by the Defense Acquisition Workforce Improvement Act (DAWIA) requirements (DAWIA, 1990). These additional duty "program managers," are ill-equipped to manage the often large performance-based contracts.

Selecting correct metrics and contract incentives is paramount

Selection of performance metrics is of utmost importance as metrics (1) indicate the government's goal, (2) provide a mechanism to measure performance, and (3) create a means to incentivize the contractor to fulfill the stated goal of the program. The "sound use of performance incentives is key to the success of the performance-based contracting approach" (Garrett 2002); that is, contractors are much more likely to put forth a best effort and innovative solutions if provided with financial incentives to do so. Metrics are important in this regard, since "what you measure is what you get: the measures you use strongly affect the behavior of your managers and employees" (Kaplan and Norton 1992). Metric-based incentives not only encourage employees to achieve better results, but also enable directly-relating effort and assigning responsibility with outcomes. Given their importance, adequate time and effort are required to ensure development and selection of appropriate program metrics.

Following the awarding of the initial contract, metrics and incentives can be adjusted to target more ambitious performance goals or focus on greater cost reduction. As firms acquire more experience in providing a particular service to the government, they will learn new strategies for cutting costs and improving performance while maximizing their profits. For large and ambitious projects like the NMCI, metrics and incentives can be aligned to reward the contractor for completion of progressively more complex and

difficult tasks. Appropriate metrics and incentives are essential tools for implementing PBSA.

PBSA requires competition to be effective

Competition provides firms with an incentive to innovate and provide best value for the customer, while a lack of competition allows firms to charge above market prices and avoid introducing innovation.

PBSA is most effective in markets that have a high level of competition. "The chances for successful PBSA implementation decrease as competition in a service sector decreases" (Arcidiacono 2003). Competition exists in most markets for services the DoD wishes to acquire, since many of the services are commercial in nature. Moreover, performance-based contracting should lower the barrier to entry, so that the DoD will be able to expand competition in defense markets to more non-traditional firms. For extant contracts, the threat of competition must be maintained, but only exercised if the incumbent is not continuing to improve performance and reduce costs. Unnecessarily competing these contracts creates a disincentive for the firm to continue to make the investments necessary for these improvements.

Post-award contract management needs greater attention

The present acquisition system is almost exclusively focused on "getting to award." Acquisition personnel are evaluated and promoted primarily on pre-award criteria. In order to implement PBSA effectively, "it is crucial that agencies give considerable attention to managing the post-award contract administration phases" (Cavadias 2004). At present, the DoD does not have the information infrastructure required to undertake post-award contract management independently (Government Accountability Office, 2005).

Inadequate implementation can be worse than no implementation. As noted by the Office of Procurement Policy's *Guide to Best Practices for Performance-Based Service Contracts*, "application of only selected aspects of the total PBSC (today known as

PBSA) methodology is not likely to be successful, and can even cause a reduction in the value of services provided" (Office of Federal Procurement Policy 1998). Failure to institute necessary changes could weaken current procedures without providing the framework necessary to achieve the superior outcome PBSA offers. In this way, partial implementation of PBSA could lead to less efficient outcomes than the current DoD system produces. For example, introducing performance incentives without effective competition is unlikely to improve performance and could lead to an increase in cost.

More data and research is needed on PBSA

Many PBSA contracts were implemented successfully and achieved the intended goals of the strategy: higher performance at equal or lower cost. It is unclear from current limited information, however, whether a majority of PBSA contracts have performed successfully or not. At present, it is even difficult to estimate the number of programs that have implemented PBSA.

Without having a mechanism to measure the use of PBSA, there is no way of knowing how often PBSA guidelines are being used in the awarding of contracts. In other words, there is no way of knowing how responsive the DoD has been to official changes in acquisition policy. More information and analysis is needed in this effort.

In particular, more research is needed on the effectiveness of partial implementation of PBSA. Partial implementation of PBSA could lead to less efficient outcomes than the current DoD system produces. Introducing performance incentives without effective competition, for example, is unlikely to improve performance and could lead to an increase in cost. Yet, the limited research available suggests that many contracts have only partially implemented PBSA strategies (Government Accountability Office 2002). Failure to institute PBSA properly could spread PBSA use on paper while denying the government the benefits of lower cost and increased performance that PBSA offers.

Barriers to Effective PBSA Implementation

There are several cultural, regulatory, and budgetary barriers that impede greater and more effective implementation of performance-based acquisition of services.

Cultural barriers

Organizations tend to develop significant procedural inertia, and as a result, fiercely resist change, especially when they must take on "new tasks that seem incompatible with its dominant culture"—as the DoD must do as it transitions from providing services to managing contractors that provide services (Wilson 2000). Some critics have gone so far as to argue that,

> "experience over the years has convinced many observers that the fundamental shortcoming in the process has been and continues to be the failure of the acquisition community—from program managers to senior decision-makers and their advisors—to implement and carry out the letter, not to mention the intent, of the DoD's existing acquisition directives and guidelines" (Christie 2006).

More sympathetic observers note that aversion to instituting real change is, at the minimum, facilitated by the complexity of the issue and the inadequate action on the part of other important actors, including senior DoD leaders and Congress, to drive the change process.

Effectively implementing performance-based acquisition of services will require a major cultural change with the acquisition community. With traditional contracts, acquisition personnel wrote detailed requirements and specifications for contractors and then worked to ensure compliance. With performance-based acquisition of services, acquisition officials are responsible for helping to define the desired outcomes, developing metrics and incentives, writing and evaluating performance-based proposals, selecting a winner based on best value, and then managing the post-award contract performance. Although these tasks sound similar to "traditional contracting," with performance-based acquisition they can be much more demanding and frequently outside the scope of most employees' experience.

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As noted above, the present acquisition system is largely focused on "getting to award." Acquisition personnel are evaluated and promoted primarily on pre-award criteria. In order to implement PBSA effectively, "it is crucial that agencies give considerable attention to managing the post-award contract administration phases" (Cavadias 2004). At present, the DoD does not have the information infrastructure required to undertake post-award contract management independently (GAO, 2005).

The current DoD culture emphasizes regulatory compliance rather than successful outcomes. The DoD acquisition workforce is not adequately experienced, trained, or staffed in effectively and efficiently buying/managing services acquisitions. Increasingly, services acquisition contracts are being administered by public servants other than acquisition specialists. To the untrained contract administrator, cost efficiency may take a back seat to getting the service provided as soon as possible and to do so in a way that complies with current regulations. Part of the solution should be to increase the DoD's organic capacity for contract administration and to properly train the workforce, both professional and non-professional, in how to effectively administer contracts so that PBSA is implemented successfully. Overcoming cultural barriers to successful PBSA implementation is critical to realizing better value for services contracting, and the best way to overcome cultural barriers is through effective workforce training.

Regulatory barriers

Most federal acquisition regulations and guidelines were written to balance a number of important political concerns. Although economic efficiency is one of these factors, the other considerations typically—although unintentionally—undermine the most cost-efficient methods of services acquisition. For example, laws to prevent fraud have tended to unduly fragment authority and responsibility; the emphasis on "fair" competition has led to lengthy and extensive requirements in proposals, limiting the ability of contractors to innovate; and the promotion of socioeconomic goals has frustrated the government's ability to receive best value from the private sector.

Confusion regarding what is a service undermines more extensive use of PBSA strategies. Many have noted that the "definition is not easy to apply, as a variety of

regulations provide different lists of what might be considered a service" (Ausink, Baldwin, Hunter, and Shirley 2002). The same report noted that no less than 6 regulations define and list activities that qualify as a "service," and confusion and disagreement between the lists may be to blame for PBSA's lagging implementation in the DoD.

Part of the misunderstanding arises, as discussed above, from the shift in purchases from items to services. Today, almost any product can be purchased as either an item or a service. One example would be the change between purchasing an office printer and purchasing printing services—where, instead of purchasing the physical product, the government contracts with a company to install and maintain printers for a recurring fee. As the DoD continues to rely on service contracts, it must learn how to reform its service contracting guidelines to get better performance at a lower cost.

Budgetary barriers

The federal government budgetary process is complex, lengthy, and often produces unpredictable outcomes (Rivlin 1984). These factors, along with the cascading effects of instability, undermine efficient acquisition strategies by inserting a variable level of risk into contract-awarding decisions, which can be particularly challenging when trying to establish the preferred, long-term relationships with service providers.

VI. Recommendations

1. Improve the DoD's Implementation of Performance-Based Services Acquisition

a. The USD(AT&L) must continue to reinforce the Department's commitment to PBSA

Successful reform—especially transformation of a bureaucratic culture—takes concerted effort over a prolonged period of time. Top-level management must lead this reform to produce "buy-in" at lower levels. To be effective, leadership must continuously communicate its vision and support its message. Leadership should reaffirm its commitment to PBSA by issuing memoranda that stress the importance of using PBSA. Leadership should follow up initial support by periodically issuing memorandum that update the DoD on the use of PBSA and its success stories.

b. The USD(AT&L) should work to ensure programs maximize communication between government program personnel and service industry representatives

Selection of suitable PBSA contractors is vital to implementing PBSA properly.

> "A contractor that will have significant impact on an owner's business
> needs to be selected much like a business partner. In fact, that is exactly
> what a strategic performance-based contractor will be - one who shares in
> the business risks and the business results or profits" (Cunic 2003).

The DoD should encourage partnering with firms that demonstrate sufficient inherent capability and capacity, especially firms that have a proven track record with successful PBSA contracts. Moreover, to achieve the best results, both contracting officers and the firm should commit "to a partnering philosophy that is centered around candor, win-win decision making, common goals, accountability, transparency, effective teamwork, elimination of redundancy, and lasting relationships" (Humphries 2003).

Developing and maintaining these kinds of relationships requires open and candid communications. This interaction between government program personnel and service industry representatives is especially critical during the pre-selection phase, not only for market research, but also to help in the development of an effective statement of work and performance metrics. Ideally this communication will also include one-on-one discussions, not just sterile "industry days." Timely and effective post-award communication must be maintained to foster the level of collaboration necessary for successful contract performance.

c. The USD(AT&L) should provide clear guidance to the acquisition workforce on the appropriate contract structures for the different types of services

Official PBSA policy "encourages and enables increased use of fixed-price contracts and incentives to encourage optimal performance" (Office of Federal Procurement Policy, 1998). Commercial firms rarely use a contract structure other than fixed price. These contracts clearly define what the purchaser expects in terms of both outcomes and costs. In many situations, when requirements are known and stable and the technical risk is low, this contract structure can create an incentive for the service provider to innovate and reduce costs. In other circumstances, such as when requirements are not stable, or when contracting for research and development, it is generally more appropriate to use cost-reimbursement contracts.

d. For the different categories of services, the DoD and military Services should develop standards, definitions, and performance metrics

To implement PBSA strategies successfully, the DoD and military Services should develop and adopt standards, definitions, and performance metrics for the various categories of services. Use of these standards would reduce the often lengthy process of determining requirements, speed the acquisition process, ensure uniformity and consistency in the provision of services, and enable the aggregation of requirements and enterprise acquisitions. Many services the DoD receives from contractors have

high-quality commercial standards. Examples of these types of common services include facilities maintenance, information technology services, and provision of office supplies. Private firms rarely deviate from the use of commercial standards in order to stay competitive in their respective markets (Acquisition Advisory Panel, 2007). To the extent possible, these commercial standards should be adopted, providing the additional benefit of reducing the barriers to entry for larger numbers of commercial firms. Adoption of standard performance metrics across service categories will also facilitate more useful performance comparisons between organizations and contractors. Finally, it is important to consider the cost of the required measurements, and limit the metrics to only those that are truly important and relate to the program's objectives.

e. Further research on the extent of PBSA use and how best to implement PBSA is required

The DoD, as well as the federal government as a whole, have not undertaken the steps necessary to understand the degree of implementation and effectiveness of performance-based acquisitions. Therefore, the DoD should undertake a systematic study on the degree of implementation and effectiveness, the cause and effectiveness of partial implementation, the challenges, and the costs and benefits of using performance-based service acquisition. These results will be important to better understand the benefits of PBSA and improve its implementation in the future.

2. Improve the capabilities of the acquisition workforce performing services contracting

a. Actively recruit experienced services acquisition personnel from the private sector

In order to implement PBSA, the DoD needs a workforce that has the capacity to transition the acquisition system towards greater use of PBSA. Although the DoD acquisition expenditures have doubled since 2001, acquisition workforce levels have

remained flat. The DoD should hire more acquisition employees. Although this would decrease the venerated "tooth-to-tail" ratio, improved acquisition performance could have large potential benefits for the military.

b. Improve the training of government services acquisition personnel

The DoD should also increase the training of its employees involved in the acquisition of services. Training should emphasize "the importance of a robust requirements definition process… the need for clear performance requirements, measurable performance standards, and a quality assurance plan to improve the use of performance-based contracting" (GAO 2007). To help create the desired professional community, the Department should develop a more formal certification for the individuals involved in the acquisition of services that includes requirements for training, education, and experience. This will require the establishment of formal services acquisition programs and courses at the military academies, National Defense University, and the Defense Acquisition University. This training, if it improves acquisition outcomes, would easily justify its own cost many times over.

Further, although the DoD has issued a definition of service—a contract "that directly engages the time and effort of a contractor whose primary purpose is to perform an identifiable task rather than to furnish an end item of supply," acquisition personnel are hesitant to implement PBSA as they do not have a clear understanding of what a service is (Department of Defense 2009). The DoD should clarify current ambiguity with ample use of examples. The DoD should emphasize that it uses a broad definition of service, with the understanding that almost any contract—including those traditionally acquired on a commodity contract—can be written as a service contract.

c. The USD(AT&L) should incentivize the existing workforce focused on the acquisition of services

The USD(AT&L) should make serving in the services acquisition career field attractive by ensuring that a process for career planning exists (one that includes

rotation with industry), and that there is an appropriate level of recognition and promotion for both military and civilian personnel in the services area.

The incentive structure should also be altered to encourage acquisition personnel to ensure the government receives the contractor's best effort throughout the entire length of the contract. At present, the DoD acquisition officers are primarily incentivized for awarding a contract, not managing it post-award. This environment is often described as a "getting-to-award" culture. This culture exists because the pre-award activities receive a great deal of visibility and attention throughout the program's hierarchy, and typically result in greater recognition and reward. The post-award activities, on the other hand, are longer-term, and are considered a part of the daily routine—receiving much less attention and recognition.

Conclusion

The DoD could reap tremendous benefits—in terms of both performance and cost—if it is able to implement PBSA successfully. Effective implementation of PBSA will require additional effort at all echelons. Senior DoD leaders will have to work to reduce the existing barriers, as well as to transform the DoD's acquisition workforce and improve its information reporting system. Despite these challenges, the benefits of PBSA far outweigh the costs. The DoD must move aggressively to attain the best value for the taxpayers—affordable national security demands it.

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Appendix A: 7 Steps to PBSA Explained

Appendix A summarizes the *Seven Steps to Performance-Based Services Acquisition* guidebook.

Integrated Solutions Team (IST)

The core of an effective PBSA strategy is the creation of a team that is focused on achieving the shared mission. These individuals represent all major stakeholders in the process. The organization of the team should overcome any internal barriers to communication that tends to undermine other acquisition efforts, as well as clearly define what the purpose of the team is and what the goal of the project is. When developing the overall goal of the group and the acquisition effort, the team must make sure to link their efforts with the agency's overall strategy. Importantly, the individuals should be empowered to make vital program decisions, as well as have incentives linking their performance to the outcome of the acquisition effort.

Describe Problem

The IST must first completely and accurately describe the problem the team faces. Then the team must define its desired result, what result or set of results would constitute success, and finally determine the current level of performance to establish a baseline of performance that the project can be evaluated against (Interagency-Industry Partnership in Performance 2006).

Examine the Market

The team should next take the time and energy to understand the market. This examination should include (1) discussions with individuals from other public entities that have experience in the private sector, (2) talks with private sector firms to understand their approach to the market along with their reasoning, and (3) an assessment of current government contracts. These efforts should be well documented so that the team can refer back to this knowledge during later steps.

Two Strategies for Developing PBSA Contract Requirements

A Performance Work Statement (PWS) and a Statement of Objectives (SOO) represent two different strategies to establish performance-based contracts. Using the first method, the government develops the requirements document internally. The PWS establishes, based on the IST's thorough analysis of the market, what the agency desires, the criterion for effectiveness, and oversight provisions. The PWS is then issued to the bidding contractor as a Request for Proposal (RFP). According to the guidebook, the second method, SOO, "turns the acquisition process around and requires competing contractors to develop the performance work statement, performance metrics and measurement plan, and quality assurance plan" (Interagency-Industry Partnership in Performance 2006). An SOO explains, in general, the purpose of the proposal along with the constraints so that the contractor can develop a PWS. The winning contractor's SOO becomes the basis for the contract's official PWS.

Performance Work Statement (PWS)

A PWS is developed by conducting an analysis of the desired results of the agency, distilling goals down to the fewest number of reliable objectives, and then combining information known about the market to produce a single suitable document. The document needs to define the desired outcomes, required services, performance standards, acceptable quality levels, required monitoring methods, and the contract's incentive structure (Department of Defense Department of Commerce, Acquisition Solutions, Department of Agriculture, Department of Treasury, and the General Services Administration, 2006). The key to an effective PWS—and what distinguishes it from a traditional requirements document—is to describe *what* is desired as opposed to the *method by which the desired output will be achieved*.

Statement of Objectives (SOO)

A SOO also begins with an analysis of the agency's objectives and the market. Instead of creating its own requirements, however, an SOO issues a statement that explains the purpose of the proposal along with the general constraints so that the contractor can

develop a PWS. An SOO simply describes the scope of the project and the major constraints. As mandated by the FAR, an SOO must include sections on purpose, scope, period and place of performance, background information, required results, and any operating constraints (Department of Defense Department of Commerce, Acquisition Solutions, Department of Agriculture, Department of Treasury, and the General Services Administration, 2006). Given the relatively loose set of requirements, the IST must intensively collaborate with the contractors to ensure that the agency and contractor have similar understandings of the purpose of the effort.

The SOO of the contractor that wins the contract will be converted into a PWS. This document must contain all of the requirements of a governmental issued PWS.

Select Measures

After implementation of a PWS, special attention must be paid to selecting appropriate and effective measures. The IST, in collaboration with the contractors, should determine a few high quality measures that convey important knowledge about the performance of a project without presenting an undue burden. The guidebook notes, however, that special consideration should be given for cost, as "the team will want to determine that the cost of measurement does not exceed the value of the information... and that more expensive means of measurement are used for only the most risky and mission-critical requirements" (Department of Defense Department of Commerce, Acquisition Solutions, Department of Agriculture, Department of Treasury, and the General Services Administration, 2006). To accomplish its goal, the IST should rely on commercial standards as much as possible. The measures should also allow flexibility to adapt to different conditions as more knowledge becomes available during the course of the contract. Measures must also link contractor performance with the goals of the agency, providing incentives for desired outcomes and penalties for failing to achieve provisions in the contract. Finally, the guidebook stresses the importance of considering metrics that will foster a healthy relationship between the team and contractor, so that the two entities work together towards a common goal.

Select a Contractor

Only after the other steps have been completed should the team select a contractor. The guidebook notes that this is perhaps the most important step as "selecting the right contractor and developing a partnership automatically solves many potential performance issues" (Department of Defense Department of Commerce, Acquisition Solutions, Department of Agriculture, Department of Treasury, and the General Services Administration, 2006). Proper selection involves down selecting from numerous competitors to one firm; constantly communicating with all contractors throughout the process; selecting contracts based on best value; considering past performance as a criterion; and considering ways to resolve potential conflicts of interest.

Manage Performance

The work of the team does not end with source selection: the government must actively manage the contractor throughout the length of the contract. Although the post-award phase usually receives less focus than the pre-award phase, post-award management is "equally vital to business success" in both the private and public spheres (Garrett 2007). The best way to achieve effective management to is keep the IST together. The IST must be appropriately adjusted, redefining its roles and responsibilities to properly manage the contract. Moreover, the IST must be both accountable and have incentive to perform well. To achieve the best management, the contractor should be added to the IST. Finally, the team must emphasize and utilize the best management techniques available to achieve the desired outcomes.

Acknowledgements

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The Honorable Jacques S. Gansler, former Under Secretary of Defense for Acquisition, Technology, and Logistics, is a Professor and holds the Roger C. Lipitz Chair in Public Policy and Private Enterprise in the School of Public Policy, University of Maryland; he is also the Director of the Center for Public Policy and Private Enterprise. As the third-ranking civilian at the Pentagon from 1997 to 2001, Professor Gansler was responsible for all research and development, procurements, logistics, advance technology, environmental security, defense industry, and numerous other security programs.

Before joining the Clinton Administration, Dr. Gansler held a variety of positions in government and the private sector, including Deputy Assistant Secretary of Defense (Material Acquisition), assistant director of defense research and engineering (electronics), executive vice president at TASC, vice president of ITT, and engineering and management positions with Singer and Raytheon Corporations.

Throughout his career, Dr. Gansler has written, published, and taught on subjects related to his work. Dr. Gansler recently served as the Chair of the Secretary of the Army's "Commission on Contracting and Program Management for Army Expeditionary Forces." He is a member of the Defense Science Board, the National Academy of Engineering, a Fellow of the National Academy of Public Administration, and a member of the General Accountability Office Advisory Board. Additionally, he is the Glenn L. Martin Institute Fellow of Engineering at the A. James Clarke School of Engineering, an Affiliate Faculty member at the Robert H. Smith School of Business, and a Senior Fellow at the James MacGregor Burns Academy of Leadership (all at the University of Maryland). From 2003–2004, he served as Interim Dean of the School of Public Policy. From 2004–2006, Dr. Gansler served as the Vice President for Research at the University of Maryland.

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