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A Vision of the Government as a World-Class Buyer:

Major Procurement Issues for the Coming Decade

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The PricewaterhouseCoopers Endowment for
The Business of Government

New Ways to Manage Series

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FOREWORD

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On behalf of The PricewaterhouseCoopers Endowment for The Business of Government, we are pleased to present this report by Jacques S. Gansler, "A Vision of the Government as a World-Class Buyer: Major Procurement Issues for the Coming Decade."

In this important report, Professor Gansler presents an ambitious procurement reform agenda for the federal government to undertake in the next decade. Based on his experience as a leader in the private sector and his recent service as the "acquisition czar" in the Department of Defense, Professor Gansler sets forth 24 recommendations to bring about a 21st century procurement system for the federal government.

Instead of examining only the traditional question of "how" government buys, Professor Gansler also considers three additional questions: *who* does the buying for the government, *what* do they buy, and from *whom* does government buy. He also looks at the impact of the increasing use of electronic commerce on the procurement system. In all four areas, he sees a clear need for a major transformation in government procurement to enable the government to become a world-class buyer.

The key message of this report is that reforming only one part of the system—such as "how" government buys—will be inadequate to enable the federal government to become a world-class buyer. Since all four aspects of the procurement system are now deeply interrelated, the total system must be transformed.

We trust that this report will be both stimulating and useful to key decision makers in both the executive and legislative branches of government as they continue to build upon and expand the many worthwhile procurement reforms undertaken in the last decade. The next decade, however, will require much additional reform and total transformation of the entire procurement system.

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EXECUTIVE SUMMARY

This study examines the federal government's procurement system, which has been questioned since the country's founding in the 18th century. In equipping the troops at Valley Forge, George Washington had to deal with considerable "waste, fraud, and abuse," and over the years this has been a recurring issue.

In the mid-1990s, however, the problem reached headline proportions. There were a series of revelations of "grossly overpriced" common commercial items (coffee pots, hammers, and toilet seats), exposing the federal government's poor procurement acumen. As a result of these headline scandals, there was a loss of public confidence and trust in government procurement. People thought it was probably too much to pay a billion dollars each for a new bomber, but they didn't know exactly what one should cost. By contrast, they knew they could buy a hammer at the store for a few dollars and that when the government was paying $400 for one, something was wrong.

Government clearly was not keeping up with world-class performance, and its processes were way out of date. Unfortunately, public outrage resulted in a highly regulated and legislated process unique to government procurement that fails to achieve the desired objectives of efficiency and effectiveness. Great progress has been made over the last decade in the way in which government does its business. Nonetheless, major problems still remain within the acquisition process, and there are many opportunities for not only assuring that those reforms are continued during the 21st century, but also that others are introduced to maintain the momentum and increase the benefits significantly.

Traditionally when considering government procurement, people tended to focus almost entirely on the question: *How does government buy?* However, to achieve the desired long-term effectiveness and efficiency, a total transformation is required in many areas. Specifically, the four areas covered in this report—*Who does the buying? What do they buy? How do they buy? From whom do they buy?*—all require numerous changes. All four areas of acquisition must be addressed together to enact significant changes that will transform the U.S. government into a world-class buyer.

The overall objective is to gain public confidence in the government and its ability to effectively and efficiently perform it mission. Key elements in this are the recognition that the role of the government is changing from *the provider of goods* to the *manager of the providers of the goods and services,* and the impact that this has on the acquisition workforce. Simultaneously, dramatic changes in procurement technology and market forces require that the government implement reforms in order to take advantage of the increased effectiveness and efficiency of modern technologies and competitive forces.

This study finds there are several areas that require significant changes in legislation and regulations.

The following five procurement challenges are discussed:

- Challenge One: Recruiting and developing the acquisition workforce
- Challenge Two: Changing the "requirements" and budget processes
- Challenge Three: Reforming the acquisitions process
- Challenge Four: Implementing competitive sourcing
- Challenge Five: Strengthening the supplier base

Recommendations for resolving these challenges and making dramatic improvements in the government's procurement process follow from this discussion as ways to help realize the vision of the government as a world-class buyer.

Major recommendations include:

- Transforming the acquisition workforce
- Changing the "requirements" and budget process
- Using commercialization and market forces to reform the acquisition processes
- Shifting to electronic supply chain management
- Integrating commercial/government suppliers

Understanding the Procurement Challenge

Introduction

Lack of public confidence and trust in the government's ability to effectively and efficiently procure its goods and services has been a continuing "headline" issue. Each time a new example of "waste, fraud, and abuse" has occurred, new legislation and/or regulations have been implemented to address the particular problem. As a result, over the years, a specialized way of doing the government's business has built up based on volumes and volumes of legislation, regulation, case history, and practice. The resulting *unique* government procurement system has—unfortunately—*not* achieved the desired objectives of effectiveness or efficiency.

There is general agreement about the need to "fix" the system, and major steps have been taken over the last few years in the right direction (as will be discussed herein). Yet a major transformation is still required in the near term if the government is to become a "world class" buyer of needed goods and services.

Such a transformation requires looking, in depth, at all four of the critical questions associated with how the government does its business:

1. *Who* does the buying?
2. *What* do they buy?
3. *How* do they buy?
4. *From whom* do they buy?

Traditionally, when considering government procurement, people tend to focus almost entirely on the third of these questions. However, it is actions, and resulting changes, in all four areas—taken together—that will result in a world-class buying process for the U.S. government.

The magnitude of this transformation is large; therefore, it will take significant time and effort for its achievement. *Consistency* of message is essential. The process has begun and is well under way. Now the challenge is to maintain the momentum and accelerate it so that, in fact, the government is able to achieve the following vision: *A highly skilled and innovative government acquisition workforce, buying high-quality, low-cost goods and services in an efficient and effective fashion from high-quality, low-cost innovative suppliers, with a process that has total public confidence and trust.*

Who Does the Buying?

Taking the first of these issues—*Who does the buying?*—it is essential to recognize that in the 21st century the role of the government will shift from its more historic mission of being primarily the "provider" of goods and services to the role of being the "manager of the providers" of the goods and services. This means, essentially, that the government changes from hiring people who are more of the "doers" to hiring people with the skills to manage and oversee the "doers"—and the latter will largely come from the competitive private sector (which includes both for-profit and not-for-profit organizations).

Thus, the *skill requirements* for the government acquisition workforce in the 21st century will be significantly different than they have historically been. And this change is increasingly being accentuated as the government both procures modern technology and utilizes modern technology far more extensively (for example, in electronic commerce). Therefore, a different set of skills—more management oriented and more technologically capable—will be required. Yet this need is taking place in an environment in which these same skills are increasingly being required in the private sector (which is also "contracting out" much more of its work and moving rapidly to apply advancing technologies to remain competitive). Thus, the recruiting, retention, continuous training and education, compensation levels, career opportunities, and—particularly—job challenges associated with government employment will all have to be competitive with opportunities in the private sector to attract the required talent. This means dramatic changes in the personnel systems associated with the government's acquisition workforce.

Importantly, this is happening at a time when the government's acquisition workforce has been experiencing two major impacts. First, over the last decade there has been a *dramatic reduction* in the size of the workforce—partly as a result of executive branch efficiency moves; partly as a result of the end of the Cold War, significant reductions in defense expenditures, and the corresponding cuts in the federal government's largest workforce; and partly as a result of legislative mandates (for example, annual laws requiring the Department of Defense to reduce the workforce by over 20,000 each year). The result has been not only an approximately 50 percent reduction, but also a cessation of recruiting and hiring, with very few younger people (many of whom would have been educated and trained on modern technology) entering the government's acquisition workforce. And second, since many of the government workers were hired during the build-ups of the Kennedy/Johnson era, in just a few years (by 2004) *over 50 percent of the government's acquisition workforce will be eligible for retirement.* Clearly, this combination of events represents both a challenge and an opportunity. But it's an issue that must be addressed immediately if the government is to have the "right" workforce fully in place within a very short time.

This will require working closely with the Office of Personnel Management (regarding new personnel policies), the Office of Management and Budget (regarding adequate funding), and the Congress (regarding the criticality of this effort and full support for it). Bringing in new people with the right skills and experiences, and training those already on board, will be very challenging, but it is critical to the successful transition to a world-class government acquisition organization. A major portion of this effort has to be in terms of the creation of an environment (in the government's acquisition workforce) of "continuous learning." Some of this will come through greater job rotation opportunities, including between industry and government (in both directions), while a major share of it will come through increased civilian workforce career planning and computer-based education. With new-product technology cycles of 18 months being typical, there is no way that a person in the government's acquisition workforce can maintain currency without continuous education. And, because the way in which the government does its business will have to change equally rapidly—to keep up with the technological and mission changes happening in the world—it also requires those who are managing this business to be continuously upgraded in the new tools, techniques, and practices of world-class buyers.

Finally, it is essential to recognize that it is not only the people in the government who have the official title of "acquisition personnel" that are involved in the government's acquisition process. Rather, the *users* of the goods and services (who specify the "requirements" for new goods and services) are just as much involved in how this process works and how successful (or unsuccessful) it is. Similarly, those who establish the *budgets* (and thus determine whether programs are adequately funded), those who do the *test and evaluation,* those who do the *logistic support* of the equipment, and those who perform the *oversight* for the government (from Congress through the General Accounting Office and the inspectors general) are all intimately involved in the government's acquisition process. Thus, they all need to have the same vision of

where it is heading, and the same understanding of how to achieve that vision and of the role they must play in its successful implementation. Over all, the government's acquisition workforce is composed of hundreds of thousands of people who must truly transform this process if the public is to have the confidence and trust that this process is achieving effectiveness and efficiency in supplying the goods and services required to achieve the government's various missions.

Therefore, the first and most essential step is to assure that the government, in the future, has the highest quality and best-trained people possible to run its acquisition processes.

What Do They Buy?

While having the right people is clearly the first and most essential step, it is equally true that there is no point in "perfectly buying the wrong things." While this may seem self-evident, the government has a very long history of frequently buying things—goods or services—that are better matched to a prior mission need than to a future one. The easiest justification for buying something new is because the old one has worn out or become obsolete, and sometimes that is a sufficient justification. However, in many cases a new technology, a new process, or a new service has come along in the meantime that promises to result in a far more effective and, simultaneously, far more efficient way of achieving the mission. This is most obviously seen through such areas as the evolution of information technology from generation to generation, where the performance enhancements have gone up dramatically while the costs have gone down equally dramatically. However, shifting from paper-based to computer-based processes can be done either by simply automating the old process or by dramatically revising the whole process.

These new products or processes—so-called "disruptive technologies"—are usually counter-cultural (requiring major changes in how things are done and by whom), so they tend to be strongly resisted by the existing institutions (which are the ones likely to be impacted). Thus, the drafting of new "requirements" for goods and services will often result in being strongly endorsed if they support the traditional approach, and strongly resisted (and rejected) if they move in a new direction, even if this new direction is far more effective and efficient.

An example of this is seen today in the "transformation" that the Defense Department is going through, in what is known as the "revolution in military affairs." Here, the requirement for new equipment to match the new concepts of warfare is heavily dependent upon communications equipment, sensors, smart weapons, rapid mobility, etc., while the traditional acquisition process is geared around military platforms (ships, planes, and tanks). In essence, for government agencies to take advantage of the potential (in mission effectiveness improvements and greater efficiencies) offered by advancing technologies, there needs to be a clear recognition that the old myth associated with the acquisition process—i.e., that "a user writes requirements, and then throws them over the transom to the acquisition people, who then deliver on those requirements"—is no longer applicable. Rather, there needs to be *a close working relationship and a continuous process of trade-offs* between those who will use the goods and services and those who are responsible for providing the goods and services—i.e., between the specifiers of needs and the suppliers of goods and services to satisfy those needs.

The most obvious place in which this set of trade-offs occurs is between the desired performance of the goods and services to be acquired and their cost. One of the major changes made over the last few years in the defense acquisition process was the joint directive, signed in July of 1999 by the vice chairman of the Joint Chiefs of Staff (as the user) and the under secretary of defense for acquisition, technology and logistics (as the supplier), which stated that one of the very few firm "requirements" for all future weapon systems would be the costs to produce and support them. Since all agencies operate within constrained budgets, the dollars available for buying a given good or service clearly determines the quantity and/or quality (usually a combination of these) that can be afforded, and thus establishes a threshold of affordability for procuring, operating, and maintaining the equipment or service. This "affordability requirement" is common in the commercial world. (We don't specify just what kind of a car we want to buy, we also specify how much we can afford to pay—otherwise, we would all drive Ferraris.)

Of course, equally essential to an affordability approach is having an adequate budget to cover the likely cost of the needed goods or services. Too often, an agency will estimate the likely cost (which is an essential step in any well-performed acquisition process) and then budget significantly below this level—"hoping" that the bid prices will come in to match this budget. And sometimes they do, but it is often simply because the bidders "bought in," fully expecting that subsequent contract "clarifications" and/or changes will allow them to raise their prices to "get well." Here, the empirical data are overwhelming; when programs are inadequately budgeted they always run into problems, with quality negatively impacted and costs rising well above the originally estimated level. Over all, the concept of introducing "cost as a requirement" for the purchase of government goods and services, and adequately budgeting to cover the likely cost, clearly transforms the way in which the government has traditionally done its business. It will also greatly influence what equipment and services are procured in the future, since they will be the result of trade-offs between performance "desires" and "budget realism."

Another major change in the government's requirements process is the recognition of the short product life cycles in the current commercial world; for example, 18 months or less for modern information technology. In the past, the government could sit down and write a requirement for what it might like to have in 15 or 20 years; then proceed to develop that product to satisfy the request; and plan on keeping it for an additional 20 or 30 years. However, that process is no longer applicable; in fact, it has resulted in the government having old, obsolete, and worn-out equipment, which costs far more to operate and maintain than its modern equivalent. And it has the government in a "death spiral," wherein it is spending more and more of its acquisition dollars to operate and maintain old equipment and, thus, less and less is available for satisfying its modernization needs. The government clearly must get out of this spiral, or face a total breakdown.

The alternative acquisition model—as used by the commercial world today—is known as an evolutionary, or "spiral," approach. Here, rather than having the acquirer write what capability (or, even worse, what design) they would like to have in 15 or 20 years, they instead evaluate what current state-of-the-art technology and processes will allow. And, if this turns out to be significantly better than what it now has, the government would acquire that as the "block 1" version toward its desired future needs. Then, as technology evolves, and as the equipment is tested in the field by the users (with feedback for future enhancements), the system is evolved to a "block 2" version; and subsequently, a "block 3" and "block 4," etc. This, of course, changes the overall logistics support requirements for this equipment to more of a commercial model, where contractor support becomes the dominant factor. The contractors provide warranties for the reliability of the equipment and for its ability to be continuously upgraded (for example, through the use of software and hardware "open architectures"). The net effect of this "spiral" acquisition process is low-risk, proven technology, rapidly acquired with minimum costs, and updated frequently (as advanced technology is developed and proven).

Finally, in terms of what the government will be buying in the coming decades, it is important to recognize that the overall U.S. economy is shifting from the buying of goods to the buying of services, and that this is also happening with the government's acquisition process.

Unfortunately, neither has this shift been recognized, nor has the government's acquisition process been adjusted accordingly. For example, in the past when the Defense Department wanted to buy a communications satellite, it purchased a launch rocket, it purchased launch services, and it purchased a satellite. In the future it will simply purchase the *services* associated with a certain number of channels and bandwidth from a communications satellite (in many cases a commercial satellite, but in other cases a service of "communication" from a contractor-supplied and launched, government-unique satellite). In the same way, the government has been moving toward buying (from the private sector or, in some cases, even from the public sector) the *service* of operating a base, or the *service* of providing privatized housing, or the *service* of paying for the use of a jet aircraft engine by the hour (rather than buying the engine).

Clearly, the buying of services and the specifying of what the desired service should result in is very different (and often more difficult) than the buying of a piece of equipment; yet almost all of the government's rules, regulations, and practices are based upon the more traditional equipment buying. Similarly, all of the education and training programs are focused in this traditional direction. Thus, a *major transformation in the overall process* (including the education of the workforce) *must be toward an ability to acquire sophisticated services* as more and more of the government's acquisitions will be done in this way in the future.

How Do They Buy?

The acquisition process itself is, of course, the traditional area of "acquisition reform." Over the last decade, both the executive and legislative branches have been active in addressing this issue. For example, with the Federal Acquisition Streamlining Act of 1994 (FASA) and the Federal Acquisition Reform Act of 1995 (FARA), Congress moved toward simplifying procurement procedures to allow (and encourage) the government to buy commercial and "modified commercial" items. Similarly, in the Information Technology and Management Reform Act of 1996 (known as the Clinger-Cohen Act) the Congress recognized the importance of information technology in the government's business activities.

On the executive branch side, federal agencies were attempting to *take greater advantage of the capabilities of the commercial world*. Examples include the initiative of then-Defense Secretary William Perry in moving the Defense Department from military specifications to commercial specifications for its equipment, and the government's move to more widely utilize "electronic procurements" (e.g., via the General Services Administration's Internet "schedules"). In general, these steps were a recognition of the fact that no longer was the government driving many of the requirements for advanced, technology-based goods and services—the government had become a small user relative to the commercial sector—and that the government needed to be able to take greater advantage of the rapid advances taking place in the commercial sector.

As noted in the prior section, the government had to change its way of doing business, from specifying what it would like to have as a small user of specialized equipment and services to looking at what the commercial market had to offer, in terms of capabilities, and to using free-market forces to achieve (through competitive innovation and competitive pricing) the best possible performance at the lowest reasonable cost.

Because many of the desired services in the past had been provided—sole source—by the government itself and were now available from the competitive marketplace (in the private sector), in recent years the government has been switching to *greater use of "competitive sourcing,"* in which *competition is created between the public sector and the private sector.* And, it was found, after thousands of such competitions, that no matter whether the public or the private sector was declared the winner, the real winner was the taxpayer and the government agency because performance tended to go up while cost went down—on average, by over 30 percent. More recent studies have shown that these performance improvements and cost savings continued into the out-years.[1]

Such "competitive sourcing" is, of course, totally consistent with the above-noted "changes in the role of the government," with the reevaluation of the various governance roles of the government, the private sector, and the third sector (nonprofits, think tanks, universities, non-governmental agencies, etc.). As part of this reevaluation, one of the requirements of the Congress (the Federal Activities Inventory Reform Act of 1998, known as the FAIR Act) was to identify those positions that could be competitively sourced in each government agency; and, as would be expected, major portions of these have to do with the (broadly defined) acquisition workforce. This has also caused an important reevaluation of the potential associated with various "public-private partnerships," where benefits can be realized from the best that the government has to offer and that the private sector has to offer. For example, when major aircraft and engine maintenance work was competed by the Air Force, it was found that the public sector was able to win the competitions, but only by subcontracting out 60 or 70 percent of the work to the private sector. Such public-private partnerships are becoming more and more the norm.

To more efficiently and effectively run such competitive sourcings in the future, the procedures associated with them (whether it be for maintenance-type competitions or for the broader application of the Office of Management and Budget Directive A-76) will have to be significantly streamlined. One particular aspect that has to be emphasized is the importance of the government buying the "best value"—rather than simply buying from the lowest bidder. "Best value" means making the important trade-offs between getting a high-quality product at a reasonable cost versus simply getting a cheap, but only minimally acceptable, product. An important aspect of assuring that the government is getting the best value is clearly the *past performance* of the supplier, which (while not eliminating new suppliers) certainly must be a significant consideration in the selection of the supplier of a new product or service. Unfortunately, it is much more difficult to make a "best value" selection than simply opening the envelopes and comparing the prices bid (on a detailed design specification). However, it is clearly the right way for the government to buy, and is consistent with the need for a highly skilled workforce (in making the product and supplier selections).

Also, consistent with "best value" awards is the need for the government to focus its acquisitions on the desired results—that it needs to achieve and that it can measure—so as to determine when they are achieved. This *focus on output measures,* i.e., performance results, is a major shift in the government's acquisition process from a detailed design requirement to which all bidders must respond, but for which no one has the exact product already available, to an emphasis upon what is really needed and what existing technology can provide at a reasonable cost. In the latter case, obviously, there will be significant differences between different products and different services, and (similarly) significant differences in their prices. This is the challenge for the government source-selection personnel (since they are now looking at dissimilar products, or services, at different prices), but it is the way the commercial world works every day, and it is the direction to which the government must move. Thus, instead of the government specifying the exact item or service it wants and then giving detailed specifications for how it is to be achieved, the government will simply state, "This is the *need* that I have," and all bidders will propose their solution to solving that need. It goes without saying that as the government shifts in this direction (which it has begun doing in its "performance-based contracting"), the whole acquisition process from requirements, through source selection, budgeting, testing, and oversight will have to be revised accordingly.

Additionally, instead of using regulations for controls, the government's acquisition process will work far better by a shift to *incentives* for motivating contractors to achieve the desired results (i.e., higher performance at lower costs). Such incentives may be in the form of awarding additional business and/or higher profits as a result of outstanding performance; or it could be in terms of such specific contractual items as warranties, wherein the contractor makes much more money if the quality of their products and services are much higher.

As noted above, in order to have the government always purchasing state-of-the-art capability at low cost, the *concept of an evolutionary, or "spiral," development process must be fully integrated into the new acquisition model.* Recently, the Defense Department has officially introduced this concept both in its new requirements process and in its new acquisition directives. In this common commercial model (utilized on software, as well as on hardware), the first "block" of a system utilizes proven technology and gets it quickly into the hands of the users for their evaluation. The users then recommend additional things they would like to see and things they don't need. These recommendations are combined with the potential of next-generation technologies (which frequently come along in 18-month cycles) and are combined into the "next block." Of course, for this concept to be implemented requires that user training on each of the "blocks" accompanies the new system. And, in the approach being taken in the commercial world, the training is actually "built-in" to the products themselves—a highly efficient and effective method of both training and utilization of new products that is also a very low risk approach.

The Shift to E-Business

A major potential for improving the third of the key issues—*how the government buys*—is the shift to

electronic business (e-business). If properly implemented, it will have a dramatic impact, and therefore is worthy of a separate focus. The key point here is that one should *not* perceive that the government's moving to e-business is simply digitizing the current acquisition process. Rather, it is necessary (and desirable) to *transform the acquisition process to take full advantage of the potential offered by electronic commerce*. In fact, early attempts at implementing e-business within the government have been greatly hampered by existing regulations and practices—so much so that commercial world-class tools and practices (as have been rapidly evolving in the commercial world) could not be effectively utilized by the government. In essence, to take full advantage of the potential offered by electronic commerce, the government's acquisition process must completely change. When this is done, it has been found that the power in the government/contractor relationship shifts dramatically from the supplier to the buyer.

The existence of a web-based system, with all suppliers providing their information and the government having instant access to that information, provides far greater options to the government buyer, as well as providing higher visibility and fairness to the process. In fact, it has even been found that these shifts yield a larger share of the business going to the smaller, innovative firms (as discussed later). Additionally, the move to the web-based acquisition process dramatically reduces not only the time periods involved (for the whole process, from requirements to payments), but it also dramatically reduces transaction costs (in most cases by more than an order of magnitude). Thus, the implementation of e-commerce throughout the full supply chain, especially in the logistics area, provides dramatic improvements in timeliness, responsiveness, performance, fairness, visibility, and cost reductions.

Of course, this will require some "up-front" investments on the government's part, as well as assurance of legacy systems' interoperability and continuous performance during the transition period. It will also require strong leadership on the government side to overcome the institutional resistance (that is already being felt) in achieving the full implementation of these *integrated-supply-chain, e-commerce systems*.

It is critically important to realize that for the government to implement a web-based, e-commerce supply chain, the first and most important aspect is that associated with the *privacy and security of the system*. While it is recognized that establishing the overall system architecture—based first and foremost on privacy and security—is less efficient, it is absolutely essential that this be the focus of the government's e-commerce system in order to maintain public trust and confidence in the acquisition system. This point cannot be overemphasized; and in the explanations and training associated with the government's implementation of its e-commerce supply chain, it should be the focus of all discussions. Even early demonstration systems must explicitly address the areas of privacy and security to build up the public's trust. Also, it will be necessary to establish confidence in the "keeper of the keys" for the security system as an essential element in the system. This could be the government itself or a certified third party, but it must be very clear that such an organization is fully certified and has no potential for any conflict of interest whatsoever.

It must be emphasized here that the benefits from this shift to a modern, web-based electronic-commerce supply chain are not simply a theoretical estimate of what the government can gain, but are based on actual and dramatic results being achieved today in commercial activities. The benefits have been proven, and the government must move rapidly in this direction to take advantage of them.

From Whom Do They Buy?

Moving to the last of the four key acquisition issues, namely, that associated with the supply-side of the equation—*From whom does the government buy its goods and services?*—the answer here seems obvious: "the best." However, to do so means that the government has to significantly change its acquisition process, because right now it has significant barriers to doing just that. For example, Hewlett-Packard is clearly a world-class research and development electronics firm, and yet they refuse to do development work with the Department of Defense because of its unique government cost accounting and auditing practices. Such barriers (including not only cost accounting and auditing, but also intellectual property rights, criminal prosecution for administrative errors,

delays in payments, etc.) will have to be explicitly addressed and removed if the desire is for the government to be a world-class buyer, from world-class suppliers, in a world-class fashion.

In today's world, where high-quality, advanced-technology-based goods and services are produced for the commercial world, the government must be capable of taking full advantage of these goods and services that have met the market test of high performance at low cost. Clearly, the government, like most buyers, will have requirements that are unique; but supplying such differentiated products is the direction that the commercial world is moving as well. For example, in the automobile industry, people will soon be able to order a car to be built with exactly the color, parts, design, etc., that they desire. These "unique" requirements will simply be sent into the information system that drives the flexible manufacturing operation to achieve a one-of-a-kind automobile at high efficiency— because it has been integrated into a large-volume production operation. However, for the government to fit into this model, it must do its business in a commercial fashion.

The challenge here for the government is to recognize that its objectives are, in fact, efficiency and effectiveness, not regulatory control for its own sake. Naturally, transparency and fairness will be required in all government actions, but the detailed, specialized nature of current government acquisition processes and practices will have to be removed. And, we should expect that there will be an occasional abuse, as there is in society at large (that's why nations need jails). However, the prior practice of writing another new law to address that one, single (infrequent) violation, and then having it applied to all other cases, has resulted in the current situation of incredibly detailed regulations and rigid practices that essentially isolate the government's procurement system from the normal competitive, efficient, and effective commercial marketplace. The changes that have been legislated in recent years so the government can buy off-the-shelf commercial items are an important first step. But they do not address the essential issue of how the government can buy the unique goods and services that it requires from commercial operations in a commercial fashion.

The Vision

The direction in which the government must be prepared to move in the future is one in which commercial suppliers will be providing government-unique goods and services as part of their normal commercial operations. For example, if the military needs some unique electronic cards, these can be built on a high-quality, high-volume commercial assembly line as long as there are no government-unique process requirements (such as specialized cost accounting) placed on that purchase. Such an experiment was run for electronic cards to be used in the F-22 fighter plane and in the Comanche helicopter program, where these cards were built on the same industrial production line with the high-volume parts that are used in automobile-safety electronic systems. The result was very high reliability and high quality, yet at over 50 percent cost savings for the government-unique items. But it did require the removal of all government-unique regulations and practices.

It is important to recognize that this is not the same as simply buying commercial items; rather, *it is satisfying the government's unique requirements for goods and services from a commercial plant or a commercial service operation.* In this way, the government gains the huge benefit associated with the high-volume commercial business' absorbing the low-volume government business into its overhead, and allows the efficient and effective processes developed for the competitive commercial markets to be applied to government needs. At the same time, removal of the unique government process requirements will allow traditional government suppliers to diversify into commercial businesses without the high-cost burdens of current government practices.

The way to approach solving this problem is to clearly identify each government-unique barrier, and then remove them one by one. For example, when Secretary Perry said that the Department of Defense will shift from using military specifications (unless commercial ones could be justified) to using commercial specifications (unless military ones could be justified, at a very senior level), a major barrier was removed. In exactly this same way, the remaining barriers must be addressed, item by item. This will require the full cooperation of the Congress. It will, of course, be met with fierce resistance from those specialized government contractors who are not competitive in the world-class marketplace and who need to be "protected and subsidized" through the barriers created by specialized government acquisition practices. Nonetheless, until these barriers are removed, the government cannot achieve the required efficiency and effectiveness that it must have to satisfy taxpayers' needs.

Recent Progress

Overview

Since the country's founding in the 18th century, government procurement practices have been questioned. In equipping the troops at Valley Forge, George Washington had to deal with considerable "waste, fraud, and abuse," and, over the years, this has been a recurring problem. Numerous congressional commissions, such as the Hoover Commission and the Truman Commission, have focused on the issue, and "procurement reform" has been an elusive target.

In the mid-1980s the problem reached headline proportions. There were a series of revelations of "grossly overpriced" common commercial items (coffee pots, hammers, and toilet seats) in defense procurements, as well as excessively high prices for common aircraft spare parts. And, to top it off, there was an actual illegal bribery scandal, known as "Ill Wind," involving totally improper actions by a few senior Defense officials. These culminated in the congressional establishment of the so-called Packard Commission, named after its chairman, David Packard, the co-founder of the world-class electronics firm Hewlett-Packard.

As a result of these headline scandals, there was a total loss of public confidence and trust in government procurement. People somehow thought it was probably too much to pay a billion dollars each for a new bomber, but they didn't know exactly what one should cost. By contrast, they *knew* they could buy a hammer at the store for a few dollars and that when the government was paying $400 for a hammer something was clearly wrong. Importantly, as the Packard Commission showed, the commercial world by the mid-1980s had not only caught up with but actually surpassed the Department of Defense (DoD) in terms of state-of-the-art technology in both higher performance and lower costs. Similarly, the average person knew he or she could utilize Federal Express to have packages delivered within 24 hours anywhere in the United States and 48 hours anywhere in the world, with 99.9 percent confidence and at relatively low cost. By contrast, the DoD at that time was taking, on average, 36 days to deliver items that were already in their inventory ("on the shelf") for its logistics support, and with very low customer confidence (in fact, sometimes it would take up to two years). Clearly, the government was not keeping up with world-class performance, and its processes were way out of date.

This was not only the case for services, it also was found in high-technology products. For example, in a new car bought by the average citizen, there was a semiconductor (a small computer) directly mounted on the engine block that controlled many of the car's functions. As the Packard Commission showed, that commercial semiconductor could meet or exceed all military specifications (such as vibration, shock, and temperature—it actually had a 10-degree greater temperature range), and its performance would meet or exceed that required for most military applications. Yet its cost was an order-of-magnitude cheaper and its reliability an order-of-magnitude greater than the "special military semiconductors" that the DoD was buying at the same time. Therefore, based on the headline

scandals and the comparisons of government results with comparable commercial results, the public (understandably) had a widespread image of great "waste, fraud, and abuse" in government procurement.

Unfortunately, the press—and, therefore, the public's perception—combined "waste, fraud, and abuse" into a single category. The reality, as demonstrated by numerous sources,[2] is that there is very little actual fraud or other illegal actions, but there is enormous waste in government procurements. In analyzing this further, it was found that *the problem is not the people, it is the processes being used*. And these processes are not solely those of the procurement act itself, but extend from the writing of the "requirements" for the product or service being bought (so-called "gold plating") to inadequate budgeting for the products and services (so that more of them could be inserted into the initial budgets and "paid for later when the overruns appeared"). Most importantly, the Packard Commission showed that there was great potential for improvement in the government's overall acquisition process simply by emulating what was being done by world-class private-sector firms. For perhaps the first time in the long history of "procurement reform," no longer were the arguments based on theoretical potentials for improvements; rather, there was now a clear "demonstration" of what could be done if government practices were significantly changed.

But these changes could not be marginal adjustments to the current systems. Instead, there was a need for a *total transformation*—essentially a "cultural change" that would take years to achieve and certainly could not be done simply by putting out government directives. Fortunately, both the Congress and the executive branch during the 1990s responded with significant actions to get the process started.

It might be noted that while the Packard Commission was specifically focused on DoD actions, their findings were applicable across the board since they addressed a broad range of issues in the acquisition process, with an emphasis on commerciality and the supplier base. It also must be emphasized that the defense procurement process tends to dominate the government's overall acquisition process because of its size. In fact, when one looks at the overall federal budget (for example, for fiscal year 2001) the largest category is retirement income ($689 billion), then health and medical ($391 billion), and then Defense ($305 billion). The sum total of Commerce, Housing, "General Government," Science, Space, International Affairs, Agriculture, Natural Resources, Environment, Justice, Transportation, Education, Training, Employment Services, etc. (for *all* other committees besides Defense) is $293 billion; and the interest on the debt is $208 billion. Thus, Defense clearly dominates the overall discretionary portions of the federal budget—and, correspondingly, of the acquisition budgets and personnel. So, if improvements can be made in Defense, they are most likely to be reflected in the other agencies' practices.

Congressional Actions in the 1990s

In immediate reaction to the headline horror stories in the Defense arena, in 1986 the Congress passed the Goldwater-Nickels bill, which established the position of the under secretary of defense for all acquisition, technology, and logistics work (defined as the "Acquisition Czar") and increased that position's authority significantly to get control over the acquisition process. This bill also established the position of the vice chairman of the Joint Chiefs of Staff and gave that individual specific authority over the military's "requirements process." Both of these important actions were necessary steps, but they were not sufficient. There was still much imbedded legislation and regulation, as well as many practices that had to change. Thus, during the 1990s Congress issued a series of wide-ranging reforms addressing not only the narrower area of defense acquisition, but also the related areas of the budget process and the financial management controls necessary. Additionally, they addressed the broader question of getting effective *output* measures of government management—i.e., of relating performance results to resources expended by all of the various government agencies. Specifically, some of the bills of importance during this period were:

- Federal Acquisition Streamlining Act of 1994—made it far easier for the federal government to purchase commercial items.

- Federal Acquisition Reform Act of 1995—went further and encouraged not only the purchase of commercial items but also of commercial-like items ("modified commercial items").
- Government Performance and Results Act of 1993—was a major effort to get the various government agencies to relate their actions and resource plans to the desired strategic objective of their agencies, and to identify the measures of effectiveness they would use to evaluate their achievements. In many cases, this was the first time that agencies had attempted such a correlation, and it forced them to do much more "strategic planning."
- Information Technology and Management Reform Act of 1996 (known as the Clinger-Cohen Act)—recognized the importance of information technology in the government's business activities.
- Government Paperwork Elimination Act of 1998—encouraged online electronic government activities, including enabling the use of electronic signatures.
- Federal Activities Inventory Reform Act of 1998 (FAIR Act)—required the identification of those government positions that could be competitively sourced in each government agency (i.e., those positions which were not "inherently governmental" and could, therefore, benefit from public/private competition).
- Chief Financial Officers Act of 1990, Budget Enforcement Act of 1990, Government Management Reform Act of 1994, and Federal Financial Improvement Act of 1996—all emphasized the importance of the government reforming its budget process, specifically, in attempting to link the budget process to *financial management.* Such a linkage had been missing and had been a major cause of poor government financial performance—i.e., having a budget process geared to simply accounting for the expenditure of all dollars as contrasted to a financial system that provides visibility for managers to be able to actually reduce their total costs through effective financial management.

The fact that Congress was willing to step up to some of these difficult decisions and implement some of the required legislation is a sign that the public clearly was demanding change and that it was up to Congress to at least *remove the barriers* that had been created to such change. Nonetheless, the day-to-day leadership for the changes still was the responsibility of the executive branch.

Executive Branch Initiatives

Because many of the required changes were "counter-cultural," making them more than just changes in appearance required strong leadership. In the early '90s this was supplied by William Perry in the Defense Department (first as deputy secretary, then as secretary) and by Dan Goldin as the director of the National Aeronautics and Space Administration (NASA)—with the full support of Vice President Gore and his representatives at the Office of Management and Budget. Secretary Perry had been on the Packard Commission, and from his first day in office he made "acquisition reform" one of his major personal activities. He saw (from the example of semiconductors provided earlier) that the government was paying much more for its products and getting much lower performance because of its unique *military* specifications and standards. Thus, one of his early steps was to change the government's practice from a requirement to "always use unique military specifications and standards unless commercial items could be justified by a decision approved at two levels above the program office," to a new set of requirements that said "*commercial* specifications and standards will always be utilized unless a unique military specification or standard could be justified and approved at two levels above the program office."

Needless to say, this "cultural change" was strongly resisted and has taken a number of years to be fully implemented, but it is typical of exactly the type of changes required. Additionally, Secretary Perry set up a high-level organization within his office to initiate additional "acquisition reforms" and to monitor their implementation (with his personal attention being strongly supportive of each of their initiatives). Thus, it became clear to everyone at the Department of Defense that they were to pay close attention to acquisition reform and that creative initiatives taken by individual program offices would be rewarded rather than punished.

Similarly, at NASA, Dan Goldin started his "better, faster, cheaper" cultural change. His message was

that things with higher performance—i.e., "better"—could be achieved much more rapidly and at much lower cost through dramatic changes in practices and procedures within the organization. Again, this top-level attention by the leader of the organization was absolutely essential to achieve a change from the historic acquisition model of the agency.

Over time, such initiatives within Defense and NASA spread to other government agencies. For example, the General Services Administration began using the Internet to advertise its procurements. Reviews by outsiders, even including the press, affirmed that things were beginning to change.

Recent Assessments

Overcoming institutional resistance is extremely difficult, and requires constant attention and leadership if it is to have any chance of succeeding. Nonetheless, by the end of the 1990s it was clear that change was being institutionalized. An early but clear sign of this recognition from the external world was a *Fortune* article in December of 1998 titled "The Pentagon Finally Learns to Shop."[3] Subsequently, university researchers and independent agencies began to have sufficient data over an extended time period to make quantitative comparisons and to see that things, in fact, were changing. Kimberly A. Harokopus, a Visiting Scholar at Boston College, in analyzing the reforms of the 1990s, wrote:

"Remarkably, the time-honored but previously ill-fated defense reform effort has finally met with success. In large measure, a cadre of top leaders is responsible for that success. Their feats are remarkable, in part, for the sheer scope of the reform. The changes involve almost every aspect of defense procurement:

- Replacement of overly prescriptive military specifications and standards with commercial or performance specifications;
- Widespread applications of process-speeding information technologies and the introduction of electronic commerce;
- Loosening of the restrictions on communications between government personnel and industry;
- Increased use of corporate past performance as a factor in subsequent contract awards;
- Greater use of commercial products; and
- Use of functionally-integrated government acquisition teams, also called Integrated Product Teams (IPT)."[4]

In summary she stated: "At bottom, the reforms seek to introduce market-centered approaches to public procurement. It is an effort to replace unique and onerous military acquisition processes with industrial practices and commercial managerial techniques. It loosens the restrictions of bureaucratic rules set forth in the Federal Acquisition Regulations, invoking greater use of subjective, case-specific, and participator decision making. It trades a rule-bound system for devolution of power to front-line bureaucrats with the ability to use personal discretion and best judgment."

Other independent assessments focused on different aspects of the acquisition reform initiatives, but reached a similar conclusion. For example, a May 2001 report by Acquisition Solutions, Inc., an organization that independently tracks the overall acquisition reform activities, stated: "The 1990s saw remarkable changes in the way federal procurement can be conducted. We say, 'can be' rather than 'is' because in some instances—performance-based service contracting, for example—reform has barely caught on. But many other reforms have. Use of past performance as a selection criterion, greater use and delegation of purchase card authority, increased use of governmentwide contracts, and the greatly expanded use of federal supply schedules are just a few examples of the reforms that have swept through the acquisition communication recently. Over all, these reforms have been good for customers and good for business."[5]

The report summarized: "In the face of challenges to become more like their commercial counterparts, the federal acquisition community has proved itself up to the task."

Because of the importance of small business to innovation and competitiveness, one of the considerable concerns about the acquisition reform initiatives of the 1990s was what would be their effect on small business awards. At the request of

Congress, the General Accounting Office (GAO) recently evaluated what has been the impact of the earlier legislation on small business awards.[6] Specifically, they looked at the effects of the Federal Acquisition Streamlining Act of 1994 and the Clinger-Cohen Act of 1996 on small business opportunities. What they found was that, in fact, the small business share of awards using these procurement reform "streamlining vehicles" had a *significant increase*. For example, using the multiple award contracts from FASA, the percent of the business and the dollar value of small business shares from 1994 to 1999 went up from 8 percent to 16 percent and from $0.5 billion to $2.0 billion respectively.

Similarly, using the GSA schedules, the changes for small business shares from 1994 to 1999 went from 26 percent to 36 percent and $0.5 billion to $3.0 billion respectively. As might be expected, when the Internet is used to access potential sources, and the information and costs about their products and services are made visible to government buyers, it makes it a lot easier for small firms to compete against larger firms—and the growth in small business awards confirms this.

Thus, *the acquisition reform results seem to be demonstrating that not only does the government get better products and services at lower prices, but that the supplier community is better off and more competitive*. Nevertheless, in spite of the initial success of the acquisition reform efforts during the 1990s, it is very clear that major problems still remain within the acquisition process, and that there are many opportunities for not only assuring that those reforms are continued during the 21st century, but that others are introduced to maintain the momentum and increase the benefits significantly.

Addressing the Procurement Challenge

Clearly, great progress has been made over the last decade in the way in which the government does its business. Nonetheless, there is an enormous opportunity for further improvement. In some areas, such as Human Resources, the nation is facing a "crisis" in its government workforce; in other areas, if one were to simply fully implement the new regulations and laws, taking full advantage of the flexibility they *allow* (but perhaps do not require), very considerable progress can be made. Finally, in a few other areas there is still a requirement for significant changes in legislation and regulations. At a very top level, the trends are positive, but without significant additional effort and much greater forward progress, the *potential* for dramatic improvement in the effectiveness and efficiency of government business cannot be realized. The five key areas for near-term *action* are discussed below.

Challenge One: Recruiting and Developing the Acquisition Workforce

During the 1990s the federal workforce was reduced by around a half million people, led by the Defense Department's reductions in the post-Cold War era. Naturally, with this large a reduction, there was very little recruitment being done, and the accessions of the younger portion of the workforce declined dramatically. Unfortunately, the vast majority of the more than 2 million federal workers were all hired during the government buildups of the past (e.g., during the Lyndon Johnson era) and are thus nearing their retirement age. In fact, the Office of Management and Budget estimates that 71 percent of federal employees will be eligible for retirement by 2010.[7] In some areas this occurs even sooner. For example, in the Defense acquisition workforce, approximately 50 percent of the workforce will be eligible to retire by the year 2004.

What is particularly critical—in fact, some call it a management or leadership "crisis"—is that approximately half of the Senior Executive Service (SES) and GM-15 employees will be eligible for retirement over the next five years.[8] These are the people who currently run the essential programs and government organizations. As they leave, they will be taking with them their intellectual capital—their detailed knowledge of the laws, the procedures, and the programs. And because no younger people have been brought along in the last decade to replace them, there will be a critical gap building up rapidly, one that will be difficult to fill, especially when there is a dramatic change taking place in the whole role of the government and the required skills for its workforce. Specifically, as the government is less a provider of services than it is a manager of the providers of services, leadership and management skills come into greater demand. Additionally, decision making becomes much more important, and the analytic tools for doing it become essential in terms of operations research, as well as understanding technology (particularly information technology) and what technology change can offer in terms of new processes and organizations.

Naturally, these are the same skills that are increasingly being required in industry, and it is becoming recognized that the government's salary structure, along with its personnel policies and regulations,

make it uncompetitive in terms of either recruitment or retention of top people.

The civil service system was set up many years ago and has proven extremely effective in professionalizing the government's workforce and in keeping it out of the political abuses to which it had been subjected many years ago. However, these same rules and regulations have resulted in a system which today lacks the *flexibility* required for the government to compete with the private sector for the top-notch candidates it requires. In fact, this lack of flexibility works in both directions—i.e., top candidates cannot move along rapidly enough and, therefore, tend to leave, while poor performers cannot be easily removed in spite of their lack of performance. These barriers, combined with inadequate training in modern processes, tools, and management techniques, are areas that clearly will have to change over the next few years.

A necessary step in this process, and one that President George W. Bush has recently recognized as his "number one priority" for management in the new administration, is that of *strategic planning for the government's Human Resources*.[9] Essentially this means the creation of a long-range human resource plan that details the skill levels and numbers of people required, over time, in the various categories of the civilian workforce. Adopting such a strategic perspective and converting it into specific actions in terms of career planning can result in great progress toward satisfying the government's human capital needs in recruitment, training, personnel development, and civil service flexibility.

However, none of this will be achievable unless the government increases its budgets for salaries, training, tools, and other human resource needs. Obviously, this is a difficult choice, because resources are also required elsewhere in every agency. Nonetheless, it must be recognized that "people are the number one priority," and the budgets must be adequate to match this priority.

Challenge Two: Changing the "Requirements" and Budget Processes

While not normally included in the acquisition process, requirements and budgets are the two areas that most directly result in the poor performance of the traditional acquisition process. In fact, it is likely that the lack of recognition of this direct coupling between these two "external" areas and the acquisition process itself may well be the major cause of much of the ineffectiveness and inefficiencies associated with the process. At the surface level this should be obvious: If you ask for the wrong thing, you'll get it, and if you inadequately budget for it, you clearly will have problems. But at the more subtle level there are major changes that could be made in both the requirements and budget processes that could result in the government's doing its business in a much more commercial-like fashion and thus achieving far greater efficiency and effectiveness. For example, in the requirements process, if one can learn to think about using technology that previously has been demonstrated and instead of specifying a "requirement" for what one "would like to have," simply look at how to use what is available in the best possible fashion, then much of the technology development costs, and time, are greatly reduced, and one can obtain the required goods and services much faster and cheaper.

This, of course, requires much more "market analysis" to be done as part of the requirements process than is typical of the government. However, when one recognizes that the technology cycles of new products often come in 18- to 36-month periods, the government's old way of doing business (for example, having to wait 15 or more years to get a new system) simply has to change. Instead, the government should have a new rule (let's call it a "five-year rule") that says that no development should be undertaken without the assurance that it can be done within a five-year period. This requires that the technology has been previously proven and that all that's left to do is systems integration and testing prior to entering production. Consistent with this five-year rule is the recognition that systems being acquired will be updated very frequently—the so-called evolutionary or "spiral" development process. What is particularly important about this development process is that it recognizes the importance of getting the "users," or customers, into the acquisition process because they are the true "requirers." In essence, *the government's acquisition process must be much more geared to the customer's perspective*. A clear example of this is that

as the government moves toward e-government, or e-business, it should not think in terms of how to simply take the current processes and put them onto the Internet. Rather, it must think of how to make the result not only more "user-friendly" but much more user-effective, which means changing the government's processes and having the customer (not the bureaucracy) drive the requirements.

Additionally, the government must be much more sensitive to the external changes that are taking place. For example, as the government becomes more and more dependent on information technology, its "requirements" must focus on the *security and privacy* aspects of these information systems since this is critical in today's environment. Similarly, the government must recognize that in many areas where they used to buy goods, they now buy large, sophisticated services (as part of the shift from the government as the "doer" to the government as the "manager of the doers"). This means writing "requirements" much more in terms of what needs to be done rather than how to do it.

For example, if the government's objective is more communication channels from satellites, it should state that and not specify the design of the satellite. Thus, it is purchasing a communications service rather than a satellite. A recent example of such service purchases is that of the United Kingdom's Ministry of Defence recognizing that when they go to war, they will need significantly more transportation aircraft than they need in peacetime. So they are leasing C-17 transport aircraft on an as-required basis. The rest of the time these large aircraft can be used for other purposes by the commercial company that rents them to the Ministry of Defence. Such "creative requirements" then lead directly into "creative contracting," wherein one is buying a service *when* they require it, and not being forced to buy equipment or facilities when their use is not needed on a full-time basis.

In the same way that the requirements process has to change to accommodate efficient and effective acquisitions, so does the budget process. Clearly a process that takes over three years to get an item into a budget is incompatible with the rapid 18-month changes in technology that occur today. Thus, a far greater flexibility is required in the budget process. This, in turn, requires a much closer working relationship and even more "trust" between the executive and legislative branches. But it is a necessity if the government is going to be able to move rapidly when opportunities are presented. Similarly, the budget process needs to be adjusted to match the "spiral development" concepts described above. In this development concept, engineering is a *continuous* process, as is procurement and even replacement. So the traditional (linear) budget process assumption of first doing research and development, then doing procurement, and then doing support is no longer valid. Again, the budget process needs to be changed.

Finally, perhaps the greatest area of budgeting abuse today is that associated with underfunding of programs—somehow "hoping" they will come in for less money than had been expected. The empirical data are overwhelming here. Rarely, if ever, does the government under-run on a program that has been under-budgeted; and, in fact, the best that is normally the case is that it comes in for the expected price. Therefore, the very least that should be budgeted is the price that was determined by a government independent cost analysis—and, in most cases, there should be some additional money put in to cover the "likely" cost increase in the program, based on history. If programs were budgeted to cover the "likely" increase, then from those programs that came in at the independently estimated level, there would be adequate dollars available for those that overrun. This would minimize the effects of under-budgeting and having huge costs growths on programs.

While this may all seem self-evident, it is certainly not the case today. In fact, the result of continuous under-budgeting (and thus trying to fit in 10 programs when there is only enough money available for eight) results in not even being able to do the eight, because of cost growths in all 10 programs. Such "Alice in Wonderland budgeting" simply has to be stopped. This, again, is only a question of leadership; everyone knows that under-budgeting is wrong, and yet many continue to practice it.

Challenge Three: Reforming the Acquisition Process

In spite of the significant gains made during the last few years, it is still a fact that government

purchases of goods and services *take too long, cost too much, and often don't result in the highest quality*. Clearly, there is a lot of room for additional improvements. Several areas require particular attention. First is the ability to better manage contractors supplying goods and services to the government. It may sound simplistic, but the government's objective should be "to get the maximum performance at the lowest cost." This is very different from an objective of "achieving minimum acceptable performance while accounting for all dollars spent." Unfortunately, much of the traditional procurement practices are geared around the latter approach.

For example, the concept of accepting the lowest bid for a specified minimum performance when a slightly higher bid could result in a dramatic improvement in performance is not the way that commercial markets work. They buy based on "best value," where the ability to make trade-offs between the marginal gain from an improved performance is balanced against the marginal cost increase. Similarly, the government's cost accounting system focuses on trying to fully account for every dollar while the commercial market has as its objective the reduction of the total cost to the buyer. And, in this commercial model, the focus is not on how much profit the supplier makes, but on how much it costs the buyer for the good or service being acquired. Thus, it is in the buyer's interest to get a lower cost item, even if the supplier makes a higher profit on it. Again, this is counter to the government's normal way of thinking about profit.

The government must learn to use *incentives* rather than regulations as the way to create higher performance at lower costs. Obviously, if contractors are rewarded for improving their performance and lowering their costs, they will make every effort to do that. Such incentives can be either added business or added profit. The government should think in terms of "sharing the benefits" with the supplier to give the supplier an incentive for improving its performance and lowering its cost—and, of course, penalizing the supplier when this doesn't happen. And if the supplier repeatedly doesn't meet its performance or costs measures, then it should simply not be given additional business. Again, in the commercial world "past performance" weighs heavily in source selections, and this should be the case in government procurements as well.

The second area of significant improvement required in the government's way of doing business is to recognize the significant shift from buying goods to buying sophisticated services. Here, the procurements must be "performance based"—i.e., telling the supplier what is needed versus simply thinking of it as buying labor hours at the lowest possible rate, which is the historic basis for time-and-materials contracts). If the government wants a service to be done with high quality, that's what they should ask for, and let the suppliers decide (in their bids) how many people that takes and what quality people it takes to do the job. Then the government has to learn how to manage and oversee such contractors. Giving a job to the private sector does not remove the responsibility from the government to manage and oversee that supplier. The government workforce will require considerable additional training in how to buy and manage sophisticated services and how to create proper incentives for these suppliers such that they are encouraged to continuously improve the quality of their service while lowering their costs.

The third area of focus in the acquisition process is that of the government learning how to properly buy and manage commercial and commercial-like equipment, software, and services. While the passage of FASA and FARA were both intended to encourage the government to buy commercial items or commercial-like items, one clear additional need is to have these amended to include commercial services as well. However, there are still two remaining "barriers" to the purchase of commercial goods or services, namely, the government's practices with regard to intellectual property and specialized cost accounting and auditing. In both cases, there is a need for a change in the government's practices and regulations, but even more importantly for a change in the "culture" with which these two areas are viewed.

In the case of intellectual property, the government has always taken the position that it needs to have drawings and any proprietary information in the event the contractor goes out of business, or suddenly decides to raise its prices unrealistically, or begins to supply poor goods or services. Obviously, the government needs to be given some degree of confidence that none of these things will happen, or that if they do, the government has some

recourse. Nonetheless, those provisions can be written into the contract, and the contractor can be assured of retaining its intellectual property as long as those conditions are met. It is a reasonable way of approaching the issue of intellectual property and is the one normally practiced in the private sector. Using standard intellectual property provisions from the private sector, the government can then work closely with commercial suppliers and take full advantage of their higher-quality and lower-cost goods and services.

It's not a legal question; it's a question of mind-set. The government doesn't have to place total trust in the contractor; it simply needs to carefully monitor the results being supplied, and as long as the performance is good and the costs are low, the government has no need to do anything about the intellectual property provided by the contractor. For the government to move in this direction will require significant training of the government workforce and, undoubtedly, some regulatory and legislative reform. Importantly, there is considerable flexibility available in the current regulations, but they need to be rewritten in a clearer form. It should not be necessary for a commercial supplier to have to hire government-contract lawyers to be able to understand the provisions of a contract written by the government. Rather, the government needs to make an effort to attract these commercial suppliers by doing business in their fashion, which was, of course, the intent of the FASA and FARA laws.

Another major area in which a cultural change is required is that associated with the government's *unique* cost accounting and auditing practices. Here the issue is that the very specialized accounting and auditing rules associated with government contracting actually discourage commercial firms from doing business with the government. In fact, a study[10] comparing the costs of building essentially the same items in a factory controlled by government cost accounting and one using normal commercial accounting practices showed about an 18 percent difference in costs. Even more critical—and far more costly to the government—is the fact that most firms aren't willing to pay that extra 18 percent for their commercial work, and therefore simply separate the commercial and government operations. This dramatically increases the government's costs (perhaps by 50 percent or more),[11] because they now supply government items out of a much smaller volume facility, and thus have a much higher overhead cost for the government items. It is this *separation* of commercial and government work, which is both more expensive for the government and results in lower quality work, that is the major barrier that needs to be removed.

It must be repeated here that the reason for the difference in the two accounting systems is primarily that the government wants to account for every dollar spent on every item. The commercial world, however, is interested in reducing the costs of every item supplied, and in many cases is willing to allocate their overhead in different ways to get greater management visibility into their costs and thus reduce their costs still further.

In 1999, a study was done by various government agencies (co-chaired by the General Accounting Office) that made two major recommendations with regard to this problem.[12] First, they recommended that a large number of firms (approximately 40 percent) that were currently required to do business under specialized government accounting practices could, because of their smaller size, be allowed to use "generally accepted accounting principles." This was a significant step forward for the smaller firms. But the actual implementation of this rule has been slow in spreading, because very frequently these smaller firms are subcontractors to the large prime contractors, who, in turn, frequently impose the same requirements on their subcontractors that they have placed on themselves. Nonetheless, the fact that a waiver is allowable is a matter of training both government procurement people and contractor procurement people to apply it.

The second recommendation of the task force was to greatly simplify the government's accounting requirements and, wherever possible, to shift the government's system to utilizing generally accepted accounting practices. Responsibility for making this change rests with the Office of Federal Procurement Policy, and is a necessary step that must be taken to allow and encourage the government to take far greater advantage of commercial suppliers, who otherwise will simply refuse to do government contracting. For example, Hewlett-Packard refuses to take research and development

contracts from the Department of Defense because of the specialized accounting and auditing requirements. This is clearly not in the government's interest, but is understandable from Hewlett-Packard's position. Thus, it is the government that must change its practices to encourage such world-class commercial firms to do research and development work with the government.

The last of the major changes that needs to be made in terms of the government's overall acquisition practices is a shift toward *e-business* in its overall supply chain. This requires a total transformation of the processes, not simply a digitizing of the current processes. Clearly, removing paper from the process and putting it all on a computer will improve the accuracy and speed of the current processes, but a far greater gain can be made by taking full advantage of e-business opportunities to *transform* the government's total supply chain management—from the purchasing and finance areas all the way through the inventory, transportation, and logistics support areas. Here the government has ample "demonstration cases" in world-class commercial firms. There is no reason why Wal-Mart, Caterpillar, Federal Express, etc., can efficiently and effectively perform all of the supply chain functions much more accurately and much more rapidly—and at lower cost—than the government can.

The government must take full advantage of commercial software and commercial practices. It will, of course, require the government to change its regulations and practices, and its organizational behavior, to make this change; but there is no question about the benefits that will result or of the need for the government to rapidly move in this direction. Obviously, it will require "up-front" resources, since current processes will have to be continued until the new ones can be brought online. When commercial firms make a transformation of this sort, they do it incrementally, with systems brought online within six-month periods—and usually they pay back the up-front costs within a relatively short time period. This is an area receiving much attention in the new administration, and it should be strongly supported.

Challenge Four: Implementing Competitive Sourcing

Since the mid-1950s it has been federal government policy to rely on the private sector to provide commercial products and services as long as those products or services can be obtained more economically. To implement this policy, and to address the fact that during the long history of the evolution of the federal government many functions that could be done in the private sector were being done in the public sector, a directive coming out of the Office of Management and Budget (known as OMB Circular A-76) has been utilized to perform competitions between the public and private sectors for work that is not considered "inherently governmental." Because, as noted earlier, there has been so much empirical evidence gathered of the improved performance and lower costs that come from such competitions, the Congress required (in the FAIR Act inventories supplied by each of the government agencies), that all those current positions that could be performed by the private sector be clearly identified. In the year 2000 inventory, this came out to be 850,000 federal positions. Therefore, since almost half of the total federal workforce is defined by the agencies themselves as amenable to public/private competitions (and since many believe the number could be even higher), there has been much discussion about improving the process for these public/private competitions. Currently, they tend to take up to two years to run and utilize very considerable government resources in implementing the competition itself, therefore discouraging government agencies from performing the competitions (even though they promise savings in the range of 30 percent, on average).

As currently structured, the A-76 competition compares a number of bids from the public sector with a number of bids from the private sector. While private sector bids are done in the normal competitive environment, the public sector bids are based not upon their current projected costs but upon what they believe they could do with the "most efficient organization." Naturally, cynics ask why they aren't using the most efficient organization already; but when the government's bids come in for the most efficient organization at dramatically lower cost than current costs, it is clear that competition works and that the potential benefits should be utilized.

As expected, there have been difficulties in identifying the "ground rules" for public sector overhead costs, since most public sector operations do not carefully account for all their costs. In fact, one of

the great benefits of running the public/private competitions is that when the public sector wins, the government usually requires as part of the win that the public sector implement some form of much greater cost visibility (for example, using activities-based costing or a similar technique), thus providing the necessary cost visibility for improved management within the public sector in the future.

Besides reforming the A-76 competition process so it can be done faster and for less cost, it is also critically important to assure that selection is being done on the basis of "best value"—i.e., a combination of cost and performance—not simply "minimally acceptable performance and lowest possible costs." Clearly, all of the discussion with regard to the enhanced ability of the government to buy sophisticated services applies in the case of the A-76 competition. Also, the government needs to work out ways to make it easier for there to be public/private partnerships in the bidding process wherein a public sector bidder can take full advantage of some of the benefits that the private sector could offer, and vice versa. Finally, when the private sector wins these competitions, they will need added labor force to perform the work, so there needs to be a way to make it easier for the private sector to utilize the public sector workforce. Over all, the objective of these competitions is to gain the full benefit of the innovation and cost savings that come from the process of competition itself, not whether the work is done in the public or private sector.

Challenge Five: Strengthening the Supplier Base

Under ideal conditions, the government would not just be buying commercial items and services, since in many cases the government truly has unique requirements. Instead, it should be buying its unique requirements from an *integrated,* i.e., commercial and government, industrial base for both goods and services. Today there are firms that do work in both sectors, but they tend to do it in separate factories or with separate service organizations, because of the government's unique way of doing business. Thus, the small volume of government business has to carry a much larger share of overhead than it would in an operation that was integrated—not at the corporate accounting level but at the "factory floor" and at the service worker level. The benefits to the government of such an integrated operation are numerous. They include:

- Far lower costs to the government
- More rapid application of state-of-the-art technology to the government's applications
- Higher quality of goods and services (because of the application of best practices to the higher-volume commercial work)
- Broadening of the supplier base for the government (rather than being limited solely to the government-unique suppliers or divisions of large corporations)
- Greater "surge" potential in periods of crisis (either natural or man-made)
- Greatly enhanced support services (because of the worldwide operations and large support staffs associated with the commercial activities)

To be able to realize these benefits, the government must change many of its practices—from unique procurement and design requirements to specialized cost accounting practices—and must utilize equipment and services that come from normal commercial operations, with commercial parts, subsystems, and commercial support systems. For example, even though the end items may well be government-unique, they still have to be capable of being built on commercial production lines.

This concept is particularly applicable today, because of the dramatic changes that have taken place in commercial production operations—with the shift to "flexible manufacturing." In this process, as different assemblies come down the production line, the computer knows which one is coming next, and it instructs the flexible machine tools to insert the right parts at the right spot for whatever that unique item is. Thus, as long as the *process* is similar, the items can be different. This lends itself to government-unique items being built on commercial production lines. In fact, it goes so far that not only would the concept cover different electronics subassemblies, but you could even use a large rotary forge, for example, to make both cannons and railroad-car wheel axles.

Since this integrated operation is clearly the direction the commercial world is moving to achieve efficiency and effectiveness for differentiated products, one needs to look carefully at the current *barriers to integration* created by government business practices and how these can be removed. Fortunately, in recent years the government has started to address many of these barriers, but there is still a long way to go. Specifically, the five principal barriers are:

- *"Requirements" differences*. The fact that the commercial world uses the evolutionary, or spiral, development process means the government's "requirements" will have to change correspondingly. Similarly, since the commercial world uses *cost,* along with performance, as principal design considerations means that the government will need to place more emphasis on cost as a "requirement."
- *Unique cost accounting and auditing practices*. As noted earlier, this is a great concern to commercial operations, but it can be eliminated through changes in government practices and policies, including the commercial concerns about "criminalization" due to unintentional, improper administrative charges.
- *Specialized standards or specifications*. The government should not tell the supplier how to do things, but simply define what is desired in terms of performance and let the supplier use the best commercial practices to achieve it.
- *Unique government procurement laws and regulations*. Examples include unique provisions that require any item purchased off-shore to have bought its "specialty metals" within the United States, or other such special provisions in law that apply only to government procurements (as contrasted to commercial procurements).
- *Unique government support requirements*. One example is requiring the use of government maintenance operations instead of the normal commercial warranty provisions.

Each of these barriers needs to be addressed one by one and removed if the government is to successfully achieve the quality, timeliness, and lower costs of commercial products in future procurements.

Recommendations for Realizing the Vision

Recommendations: Transforming the Acquisition Workforce

Changing the government's acquisition workforce is not a quick or easy thing to do. Yet it is necessary to begin immediately to do so because of the looming "human capital crisis."[13] Of course, recognition of this *crisis* is the first step in aggressively attacking the problem.

1. Create a strategic human resource plan.
A critical step for each agency is the identification of its future strategic human resource needs and the development of a detailed plan to acquire the capabilities needed over the coming years.[14] This strategic plan would naturally recognize the fact that many of the skills required in the future are not the same as those which the organization needed in the past. Partly, this is a reflection of the changing nature of government (for example, from the "manager of supplies" to "the manager of suppliers") and, partly, there is a recognition of the new or strengthened skills that the workforce must have in areas such as management and leadership, operations research, information technology, etc.

2. Implement a set of specific human resource transformation actions.
With these future needs identified, and with the recognition of the large turnover expected as a result of retirements over the next few years, a specific set of actions are required:

- Aggressive recruiting—focused on challenging job content, personal responsibilities, the value of public service, and the career opportunities being offered
- Streamlined hiring—to compete with the private sector, which can make offers in a short period of time versus the government's lengthy process
- "Over hiring" (i.e., temporarily exceeding allowable headcounts) as long as it is within budget—to address the fact that government positions are frequently understaffed, because the selection process doesn't begin until someone leaves, often resulting in a six-month dead time
- Career planning—to greatly encourage retention of high-quality people (for example, through job enrichment, education rotation, and promotion)
- Greatly increased training—especially in the skills required to keep up with technology and allow career advancement
- Job rotations and cross-discipline training—for broadening of career advancement opportunities and better teamwork within the organization
- Enhanced quality-of-life changes for the workforce—such as allowing family visits on extended remote stays
- Far greater salary flexibility—especially for critical skills (such as information technology)
- And, most important, the provision of resources within agencies' budgets to cover each of these activities

3. Carry out a set of human resource innovation demonstrations.
To achieve all of these changes in a short time will require a great deal of leadership and innovation. Fortunately, because of the growing recognition of the need, there have been some recent "experiments" approved. For example, Congress has encouraged the Department of Defense to experiment with alternative personnel management concepts for its acquisition workforce. Under the Office of Personnel Policy purview, a five-year project has been initiated that has as its objectives:

- Gaining greater managerial control/authority over personnel processes down to the lowest levels
- Linking employee pay to employee contributions
- Achieving a flexible/responsive personnel system
- Attracting, motivating, and retaining a high-quality acquisition workforce

In this experimental system, managers are allowed to make reassignments that do not require formal personnel actions. Managers can also set pay based upon their assessment of the employee's contribution. Thus, employees who make significant contributions can move ahead rapidly and receive larger pay increases, while those who don't and/or are already overpaid for their relative contribution would get significantly less increases (and, in some cases, zero if they are already overpaid). Thus, the total compensation budget doesn't change, but simply moves dollars away from low contributors and gives it to high contributors. The experimental process does allow for some increases in the total pool as a result of the bonus process. In general, it gives managers much more responsibility over job descriptions, as well as compensation for new and current employees, relating all to the employee's contributions.

For this experimental program (or "demonstration" program), Congress actually allowed it to be applied to 95,000 people. However, participation was voluntary, and initially only 5,083 participants signed up. (It was opposed by the government unions.) After the first round of evaluations, the experiment achieved the desired objectives—namely, there was a differentiation between the high contributors and the low contributors (in contrast to the historic system that tended to simply increase everyone for having lived another year). Also, as expected, those who didn't get any significant increase protested that they were "unfairly" treated. Obviously, the system will take a while to get used to, but it appears to not only be demonstrating the desired objectives but gaining far broader acceptance. One clear action will be to work more closely with the unions in the future. In general, demonstrations of this sort should be greatly expanded not only within the Department of Defense but within other government agencies as well.

Another "demonstration" of a direction in which the government needs to move is the initiation of an innovative *internship* program to bring new talent into the federal acquisition workforce by an inter-agency procurement executives council, in conjunction with the Department of the Interior University. The first class of 12 interns was inducted into the Government-Wide Acquisition Management Intern program in July 2000. A year later, these interns were interviewed[15] and were found to be extremely stimulated by the challenges and rewards of their jobs. In fact, one of the interns was quoted as saying: "This is the most rewarding job I have held. The federal government has proven to be employee-friendly and proactive." Again, programs of this sort need to be greatly expanded if they are to truly have an impact on the overall federal workforce.

Other innovations which should be considered include a public/private interchange program, wherein employees from the private and public sectors would exchange jobs for a two-year period, with employees keeping their salaries and benefits. This would form an excellent educational program for both parties. Or consider creating new entry points into the government for career employees who enter at a mid-career point from the private sector (either for-profit or nonprofit firms). Still another area for exploration would be that of hiring employees for a pre-determined term period—for example, three years. That way, people could come into the government and apply their knowledge from industry for a few years—eliminating any direct conflict-of-interest issues—and then return to industry after their government service. A program of this sort did exist in the 1960s and 1970s to bring

scientists and engineers into the government for three-year periods (under something known as PL-313).

One way to expand the current short-term employee program is to use the one that now exists for bringing in people from the nonprofit and university sector (known as Intergovernmental Personnel Actions) and expand that to allow people to come from the private sector. All of these are simply examples of innovations that should, and must, be considered with the changing nature of America's workforce and the government's need for a new and diverse group of skills.

4. Create an overall "learning culture."
Finally, the most critical step is to create a "learning culture" wherein it is recognized that the technology and the nature of the work is continuously changing, and that it is necessary for government workers to have some form of *continuing education* to be current with the latest best practices. The Department of Defense has specified that all those in its acquisition workforce shall have a total of 80 hours of continuing education within every two-year period. For this to occur, of course, means that tuition reimbursement funds must be available. Another way to create a significant "learning culture" is through a "phased retirement" program. Rather than retire, government workers would agree to work part-time and new employees (at much lower salaries) would be hired on a full-time basis, so that the total cost for both matches the current level. In this way, new workers can be trained by those with experience, allowing a transfer of knowledge and much more rapid learning by the young. With computer-based learning today, it is possible, as long as the software programs are available, for a great deal more continuous learning by the entire workforce without having to send people off to school for extended periods.

Over all, there is no more valuable investment that the federal government can make than to put aside adequate resources for its workforce of the future. Clearly, the recommendations offered will have some initial costs, but they will be more than paid back in the coming years.

Recommendations: Changing the "Requirements" and Budget Process

In this area, most of the institutional changes that are required are nominally in place. The big problem is the cultural changes that are needed so that the people specifying what the government should buy and those budgeting for it can learn to think in a commercial fashion and in terms of commercial cycle times.

1. Implement a commercial-like requirement process.
In the requirements process, not only does the government need to consider cost as a major part of the requirement (along with performance) but they need to do much more market analysis to determine what technologies have been proven and then apply them as they come along—in an evolutionary (or spiral) fashion. This allows much more rapid deployment of state-of-the-art techniques and technologies, lower total costs, and lower risks for new items and new types of services.

2. Take a "customer's" perspective.
Similarly, the government needs to think of these new services and products from a *customer's* perspective, not only in terms of the supplier's or the government's perspective. Thus, for example, when specifying the new e-government systems, it is absolutely essential that government procurers put themselves in the position of the consumer, or the user, rather than of the government people who are supplying these goods and services.

3. Emphasize short products realization cycles.
Then, to be responsive to the short product-realization cycles from the commercial world (for example, in terms of 18-month technology cycles), the government needs to be able to plan and budget for changes much more rapidly. This requires far greater flexibility in the budgeting process. For example, one might budget for a likely future change in a system or a service without knowing precisely, three years in advance, what that change will be, but with total confidence that a future change will be required because the technology in that area or the mission need in that area will be evolving very rapidly.

4. Budget only for "likely" costs.
Lastly, it is absolutely essential that the government place greater emphasis on the importance of *cost realism* in its budgeting process, because the cost to the government of under-budgeting is incredibly high. Under-budgeting impacts not just the single under-budgeted program, but all of the others from which it then has to steal money.

Clearly, for the transformation of the government's overall acquisition process, it is necessary to develop a very close working relationship in each agency between the requirements process, the budget process, and the acquisition process. This interrelationship is absolutely critical for success in the government's realization of its acquisition vision for the 21st century.

Recommendations: Using Commercialization and Market Forces to Reform the Acquisition Processes

1. Fully utilize commercial best practices.
The emphasis on "commercialization" and use of market forces is not exclusively intended to focus on greater private sector activities for government functions; rather, it is intended for all activities—public and private—to be geared much more to commercial best practices. This includes such things as "benchmarking," use of proven technology, and, most importantly, extensive use of *competition* to gain the benefits of innovation for higher performance while at the same time reducing costs. All activities, again public or private, should be geared toward enhancing performance with greater efficiency. And the measure of successful performance is that associated with the customer's (or user's) satisfaction.

2. Maximize competitive sourcing for all non-inherently governmental work.
In the case of current public sector work, it is desirable to emphasize the importance of all work that is not inherently governmental being done in a competitive fashion. In some cases, this may be competition between multiple public sector activities, and in many cases it will be between different private sector activities. But there will certainly be a number of examples of public/private competitions for much of the work that is now being done (sole source) by the government, but could be done in a competitive fashion (either in competitions involving teams partnering with the private sector or in direct competition with the private sector).

3. Emphasize "continuous improvement."
The key to overall reform of the acquisition process within the government is the concept of *continuous improvement*. This is a mind-set in which "good enough" is not good enough. It also recognizes that the old paradigm of assuming that to get higher performance you had to pay more is no longer valid. As the commercial world has demonstrated, it is possible to get higher performance at lower cost through innovation and process changes. Recognition of this paradigm shift and striving to continuously improve the government's acquisition process (whether it be in the public or private portion) must be the objective of a transformed acquisition process.

Recommendations: Shifting to Electronic Supply Chain Management

1. Focus on process change.
The use of e-business by the government *can* represent a dramatic change in the way the government does its business, but to have a significant impact requires a transformation of the government's processes rather than simply a digitization of the current systems. By the year 2005 it is estimated that e-government spending for the federal government alone will reach $2.3 billion.[16] Obviously, when one considers that the total government purchases of goods and services will exceed hundreds of billions of dollars, the impact of e-business can be dramatic. For example, the purchasing department of the Australian Department of Natural Resources and Environment reported a 70 percent efficiency improvement after deploying an e-business system.[17] In 1998 the Government Paperwork Elimination Act was passed, requiring governmental agencies to provide the ability for those dealing with them to complete electronic transactions, and to use electronic signatures by October 21, 2003. This provides a "forcing function" for the federal

government to accelerate its use of e-commerce in all of its future transactions.

2. Provide for privacy and security.
As would be expected, the most critical aspect of this shift to e-commerce for the government is the need for *privacy and security* in all of its systems. Since the Internet was initially designed to be an open and free system, the subsequent introduction of privacy and security concerns has been somewhat of an afterthought. It has only recently become a major consideration in the design of the architectures that the commercial world has been introducing, and, subsequently (with a significant lag in time), that the government has been introducing. Thus, it is important, as the government now is accelerating its use of e-commerce, that it pays particular attention to privacy and security. Needless to say, this will add some complexity and cost to the system, but in view of the dramatic savings and improved performance that will be realized, the small increase in cost and complexity are more than warranted.

3. Provide leadership and resources.
As with other areas associated with transforming the government's way of doing business, it will be necessary to overcome the very significant resistance that is likely to be seen when introducing e-commerce into the government acquisition processes. And it will be absolutely necessary to provide adequate resources, up front, to pay for the initial investments (including training) that these changes require—with the obvious intent that they be paid back in a very short period of time as a result of the enormous improvements in service and reductions in cost that will come about from their introduction. Over all, the introduction of e-commerce in the government's acquisition processes will clearly shift the power of buying activities from the suppliers to the buyers, and the government's benefit to this leverage will be enormous.

Recommendations: Integrating Commercial/Government Suppliers

One of the largest quality and cost gains that could be made in the acquisition process is the government's ability to draw on a far broader industrial base of suppliers for goods and services, particularly if it can draw on an *integrated* industrial base of corporations that supply—*from the same operation*—both the high-volume commercial world and the government's needs, which are usually of much smaller volume. As noted earlier, the benefit of this integrated operation is that the government gains the overhead absorption from the high-volume commercial business and also gains the state-of-the-art technology and high quality associated with commercial firms, which have to compete on a worldwide basis. Initial demonstrations of what an integrated operation can do tended to yield savings in the 30 to 50 percent range with high-quality, state-of-the-art products and services. Ten actions are specifically required to transform the supplier base of the government into an integrated one:

1. Create incentives for the government (program managers and acquisition executives) to utilize commercial firms rather than government-unique firms.
The best mechanisms for creating these incentives include allowing waivers of unique government requirements; requiring competition on all goods and services; making unit costs and support costs firm requirements; making integrated operations a key selection criterion; utilizing warranties for reliability and maintenance; and utilizing "price-based" versus cost-based developments.

2. Create incentives for the prime contractor to integrate its operations and to utilize commercial suppliers.
The federal government should directly address legislative, regulatory, and other unique government barriers that currently exist. For example, specialized cost accounting standards waivers should be greatly expanded to include common fabrication as being "commercial in nature." Issues to be addressed include the current intellectual property practices of the government, the practices on civil false claims such that the criminalization threat is removed unless obviously warranted, and the issue of commercial parts obsolescence by assuring that suppliers develop interchangeable next-generation parts. Finally, for those few items that simply have to be done on a cost-based contracting arrangement, the implementation of greatly streamlined accounting standards consistent with generally accepted accounting practices

and written in a language that the commercial supplier can understand would help to partially remove this barrier.

3. Create incentives for commercial suppliers themselves to be interested in making the effort to do business with the government rather than being discouraged, as they are now.
Utilize the common commercial practice of fixed-price, incremental development contracts (i.e., based on "best efforts") rather than the current government practice of cost-based development contracts, which require the contractor to establish unique government accounting systems. But also recognize that some of these developments may be long term and, therefore, utilize milestone billings as a way to minimize the cost of borrowing to fund these developments. It is particularly important that the focus of the government be on the *price* it pays for the service or goods acquired, rather than on the profit that the contractor makes on the delivery. This is an incentive for the contractors to continuously lower their prices to the government, since if they can lower the total price, then the government should not be really interested in what share of it goes to their profits—and the presence of continuous competition will assure that the profits are not exorbitant.

4. Encourage the prime contractors to shift from a "make" decision for their subsystems to a "buy," but allow them to have a "management fee" for assuming this responsibility.
In this way the prime contractor becomes primarily a "systems integrator" of subsystems that can come from integrated factories. Additionally, reward the prime contractors on a multi-year basis if they achieve plant consolidations of their commercial and government work. Finally, since there is a general shift of government purchases from products to services, if these are broadly defined, then the prime contractors can make, as a part of their business, the full provision of the services that they provide—from development through deployment, support, and updating.

5. Attract commercial suppliers.
Since their markets are based on the combination of performance and costs, it is essential that the government do its buying on the basis of "best value" and that one of the major "requirements" for any goods and services explicitly addresses not only the desired performance but also the desired cost. If these requirements specifically are geared to mission (versus product) requirements, then the suppliers will be able to figure out the best way to satisfy that need rather than being forced to use a government-specified solution. Thus, changing the requirements process is critical to achieving an effective and efficient solution to the government's mission needs.

6. Shift to modern support processes.
For most goods and services that the government procures, the major share of the costs is not in the initial acquisition but rather in the maintenance and support of the equipment. Thus, the government needs to transform its logistics operations utilizing world-class processes. A commercial firm that is competitive will be using these processes. Thus, if the government's acquisition focuses on it (for example, with warranties), then it will attract not only the world-class suppliers but it will achieve the desired world-class performance at far lower costs for their logistics and support requirements.

7. Move all processes to e-business.
World-class commercial suppliers are moving heavily to e-business for their full supply chain. If the government moves to a similar system, then it will have the market visibility into all commercial items and suppliers, thus providing it with a far broader set of suppliers and greater competition for high performance at low cost. Additionally, if the e-commerce systems utilized are linked to the corporation's internal systems on an interoperable basis, then the government would have access to such information as existing inventories, lead times for deliveries, etc.—again, things that the commercial world is now utilizing. This action would clearly encourage corporations to integrate their commercial and government business, but it would require changes in the government's practices, as well as, in some cases, changes in regulations and laws.

8. Emphasize, and fund, education and training.
A key element of the cultural shift in the government toward utilizing an integrated industrial supply base is a focus on education and training of the

workforce—both in the government and industry. This would include a demonstration of the benefits and opportunities, as well as the techniques required to overcome the barriers to integration. It would also include education on commercial practices from design, through integrated production, through support.

9. Demonstrate the benefits of integration.
A critical element of the education and training process is the analytic basis for demonstrating that the integrated operations provide enormous benefits to the government. Thus, full-cost comparisons are required on a case-by-case basis to see the potential benefits of an integrated (versus a separate) supplier base. Since what is required is basically a "cultural change," it will be necessary to *demonstrate* the benefits that can be achieved and how to go about achieving them.

10. Gain widespread high-level support.
It will be necessary to educate the Congress as well as the senior career members and political appointees of the administration on the benefits and required actions associated with achieving an integrated (commercial and government) supplier base. Here again, case-by-case examples will prove invaluable. But, as with any cultural change of this magnitude, significant resistance should be expected—and it is likely to come from those firms that have been doing government business in the past, but cannot compete on a "world-class" basis.

Conclusion

Perhaps, disappointingly, there is no "silver bullet" to achieving the required change in the way the government does its business to achieve the desired long-term effectiveness and efficiency. Rather, a *total transformation* is required in many areas. Specifically, each of the four areas covered in the report—*Who does the buying? What do they buy? How do they buy? From whom do they buy?*—all require numerous changes. And it is the sum of these, and particularly their interrelationship, that will result in the broad cultural change that is necessary.

The hardest part will be recognition that there are bound to be some (hopefully rare) cases of waste, fraud, or abuse. These must be treated as "special cases," since they will be statistically rare—i.e., outside of the "Six Sigma" coverage of a high-quality process. And, thus, they must be dealt with as special cases, rather than the traditional practice of writing more regulations and more encompassing rules to bog down the overall acquisition process. If there are examples of waste or abuse, then the system needs to explicitly address them with process correction, so that they won't recur. And if there are examples of fraud, the culprits should be jailed and/or blacklisted and fined. The key issue is not to end up with a full set of specialized rules and regulations for government work that would isolate the government from *best practices* in the commercial world. The government needs to be a "world-class" buyer of common and/or specialized goods and services—but *not* an inefficient or ineffective differentiated buyer of needed goods and services.

To make such a broad change requires strong *leadership* from the acquisition community and a very real sense of *urgency*. The steps for such a transformation are unambiguous. First, set a clear vision. Then, align and motivate the full workforce, so they understand the benefits and understand the actions they, individually, must take to achieve this vision. Then, reward the risk takers and publicize the success stories. There must be a continuous and aggressive repetition of the message. Everyone must understand it, and they must become active participants in the transformation. Finally, it will require close working relationships with the Congress and the press, so that the actions being taken and the positive results being achieved are clearly understood by all—and strongly supported by the legislative branch as well as the executive branch.

The overall objective is to gain public confidence in the government and its ability to effectively and efficiently perform its missions. Key elements in this are the recognition of the changing role of the government in the governance process and the impact that this has on the acquisition workforce. It also means a shift in resource expenditures, and a shift in focus from internal infrastructure activities to external mission and customer focus. Clearly, as part of this shift the government must take advantage of modern technologies—such as e-commerce—in order to change the processes, to open up the processes, and to more effectively serve the "customers." Finally, it is necessary for the government to define its true needs and utilize *performance* contracting—with adequate *incentives* for suppliers to achieve the required mission need rather than being told "how to do it."

The magnitude of this transformation is large; therefore, it will take significant time and effort for its achievement. *Consistency* of message is essential. The process has begun and is well under way. Now the challenge is to maintain the momentum and accelerate it so that, in fact, the government is able to achieve the following vision: *A highly skilled and innovative government acquisition workforce, buying high-quality, low-cost goods and services in an efficient and effective fashion from high-quality, low-cost innovative suppliers, with a process that has total public confidence and trust.*

Endnotes

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11. This is based on an Air Force experiment in which identical electronic assemblies were built in two different operations, and the costs decreased by 50-70 percent for the commercially integrated line.

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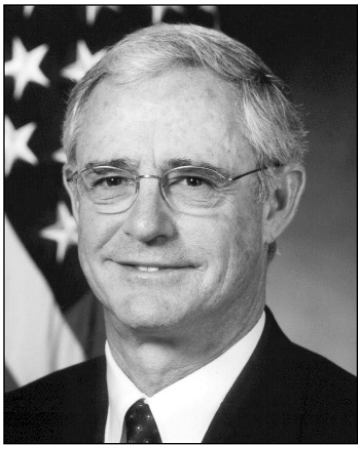
ABOUT THE AUTHOR



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