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TRANSFORMING THE IT AND ACQUISITION WORKFORCES

HEARING

BEFORE THE

SUBCOMMITTEE ON TECHNOLOGY AND PROCUREMENT POLICY

OF THE

COMMITTEE ON GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

ONE HUNDRED SEVENTH CONGRESS

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TRANSFORMING THE IT AND ACQUISITION WORKFORCES

THURSDAY, OCTOBER 4, 2001

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TECHNOLOGY AND PROCUREMENT POLICY,
COMMITTEE ON GOVERNMENT REFORM,
Washington, DC.

The subcommittee met, pursuant to notice, at 2 p.m., in room 2154, Rayburn House Office Building, Hon. Thomas M. Davis (chairman of the subcommittee) presiding.

Present: Representatives Davis of Virginia, Horn, and Turner.

Staff present: Melissa Wojciak, staff director; Amy Heerink, chief counsel; George Rogers, counsel; Victoria Proctor, professional staff member; James DeChene, clerk; Mark Stephenson, minority professional staff member; and Jean Gosa, minority assistant clerk.

Mr. TOM DAVIS OF VIRGINIA. Good afternoon. I want to welcome everyone to today's legislative hearing on the use of a market-based, pay-for-performance compensation and benefit system for the IT and acquisition work force. As we investigated in the July 31 hearing of this subcommittee, the Federal Government faces significant employee shortages that will only get worse with up to half of our IT and acquisition work force becoming eligible to retire in the next 5 years. Today's hearing will further consider these human capital management issues, and we'll examine our legislative proposal to respond to this crisis by making government more competitive in the war for talent.

At a recent summit on America's work force, Labor Secretary Elaine Chao noted America needs a wake-up call about its work force. There will be huge economic consequences if we don't address demographic changes in the work force and technological changes in the workplace. We need America's workers, employers and unions to start working now on challenges that lie just beyond the horizon.

The retirement of so many technology and acquisition workers will be happening, unfortunately, at the same time we are having trouble attracting people to work for the government. In addition to the retirements we face, there will be a need for 16,000 new IT employees in the government. Concurrently, the private sector reports that while overall demand is down, there will be 425,000 IT jobs that will go unfilled this year. This will result in a labor force that will have its choice of more than two positions per qualified applicant, a seller's market at a time when the government must be buying.

In order to compete for talented workers in this market the government must be able to offer attractive compensation and benefit packages to highly skilled IT and acquisition professionals. Considering both the acquisition and IT work forces are important because they are interwoven on a number of levels. Both groups face large-scale retirements just beyond the horizon. Both work forces affect the everyday operation of the entire government because these professionals exist in every agency, and both perform jobs that are mission-critical to facilitating the achievement of agencies' statutory and regulatory duties.

In addition, acquisition and IT work force issues are related because every agency spends billions of dollars on the acquisition of IT services and equipment. As many of you know, the amount spent by government on services and on IT has been growing substantially. Last year alone over $87 billion was spent on services acquisitions, and of these, more than $13 billion was spent on IT. On the equipment side the total IT budget for fiscal year 2001 is $42 billion. Moreover, IT budgets are expected to grow steadily as everyone from Federal agencies to the White House to the Congress brings legacy systems up to date to maintain modern networks.

As stewards of the public interest, government is obligated to provide citizens with the most efficient service possible at the best value for taxpayer dollars. Advances in technology provide an unprecedented opportunity for improving government service. However, we can only take advantage of this opportunity if we have a skilled work force that can acquire, manage and implement information technology, products and services.

Unfortunately, the current human resources management system for the vast majority of Federal employees in the general schedule system is dominated by a one-size-fits-all philosophy. It is built upon 19th century principles of centralized policy development, selection from rigidly numbered lists of candidates and uniform pay scales that cannot respond to the different roles, missions and needs for the nearly 100 independent agencies.

Although major changes have been initiated by agencies to address problems in human resources management, this work has been constrained by compensation and reward systems that are out of date and noncompetitive when viewed in light of the national marketplace for IT skills.

The National Academy of Public Administration has studied these issues in depth with the assistance of over 30 agencies and many private sector companies. At the July 31 hearing the Academy reported its benchmarking research on public and private sector compensation practices. Today, we'll hear their evaluation of these alternative compensation practices, their recommendations for reform and the views of the witnesses on these recommendations.

The legislative proposal that we will consider calls for ending the one-size-fits-all approach for the recruitment, compensation and retention of technology and acquisition employees classified as GS 5 to 15. While good efforts have already been undertaken by some agencies and OPM to address hard-to-obtain specialties and to give some flexibility in human capital management, this legislation aims at broad changes to offer the employment options that will at-

tract the greatest number of highly qualified employees into government service.

This legislative proposal is consistent with the performance-improving goals of the reforms enacted in the 1990's, including the Clinger-Cohen Act. It seeks to improve performance by implementing commercial best practices for employee compensation and benefits. First, it creates a market-based pay-for-performance system with pay bands for IT and acquisition workers. In the private sector, pay for performance is almost universal. Like the private sector, government should reward those employees who bring greater value to an organization in order to reinforce a culture of achievement. Next, it enables more flexible recruiting practices by using excepted service, noncareer appointments that can be hired far more quickly than under the traditional employment schedules. Third, the legislation builds on the strength of work/life benefits already available to government employees by encouraging the development of creatively applied benefits and continuously improved training opportunities. And in an environment when the government may not be able to match the highest rates of pay of the marketplace, it can offer an attractive package of good compensation coupled with benefits sought after by many potential IT and acquisition employees.

This hearing begins the process by making the government more competitive in the labor marketplace. Without effective tools to attract, manage and retain IT and acquisition employees, the Federal Government is in jeopardy. Every agency, and millions of Americans, rely on these professionals to accomplish their missions. The looming crisis in this work force makes it imperative that the U.S. Government attract the best qualified candidates and train them for high standards, for failure to do so will impede the ability of agencies to accomplish their statutory and regulatory duties. In assessing whether the proposed changes will be successful by giving agencies the tools they need to make government an employer of choice, we should keep in mind what Kay Coles James, the Director of OPM said about the human capital management crisis. She said, "We need creative solutions to address this challenge."

[The prepared statement of Hon. Thomas M. Davis of Virginia follows:]

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SUBCOMMITTEE ON TECHNOLOGY AND PROCUREMENT POLICY
LEGISLATIVE HEARING

"Transforming the IT and Acquisition Workforces: Using Market-Based Pay, Recruiting and Retention Strategies to Make the Federal Government an Employer of Choice for IT and Acquisition Employees"

OPENING STATEMENT

October 4, 2001

2:00 p.m.

Room 2154 Rayburn House Office Building

Good afternoon, I would like to welcome everyone to today's legislative hearing on the use of a market-based, pay-for-performance compensation and benefit system for the IT and acquisition workforces. As we investigated in the July 31st hearing of this Subcommittee, the federal government faces a human capital management crisis in the near future. Government-wide, we face significant employee shortages that will only get worse with up to half of our IT and acquisition workforces becoming eligible to retire in the next five years. Today's hearing will further consider these human capital management issues and will examine a legislative proposal to respond to this crisis by making government more competitive in the "war for talent."

At a recent summit on America's workforce, Labor Secretary Elaine Chao noted "America needs a wake-up call about its workforce. There will be huge economic consequences if we don't address demographic changes in the workforce and technological changes in the workplace. We need America's workers, employers and unions to start working now on challenges that lie just beyond the horizon."

The retirements of so many technology and acquisition workers will be happening,

unfortunately, at the same time that we are having trouble attracting people to work for the government. In addition to the retirements we face, there will be the need for 16,000 new IT employees in the government. Concurrently, the private sector reports that while overall demand is down, there will be 425,000 IT jobs that will go unfilled this year. This will result in a labor force that will have its choice of more than two positions per qualified applicant—a seller's market at a time when the government must be buying. In order to compete for talented workers in this market, the government must be able to offer attractive compensation and benefit packages to highly-skilled IT and acquisition professionals.

Considering both the acquisition and IT workforces is important because they are interwoven on a number of levels. Both groups face large-scale retirements "just beyond the horizon." Both workforces affect the everyday operation of the entire government because these professionals exist in every agency. And both perform jobs that are mission critical to facilitating the achievement of agencies' statutory and regulatory duties.

In addition, acquisition and IT workforce issues are related because every agency spends billions of dollars on the acquisition of IT services and equipment. As many of you know, the amount spent by government on services and on IT has been growing substantially. Last year alone, over $87 billion was spent on services acquisitions, and of these, more than $13 billion was spent on IT. On the equipment side, the total IT budget for FY2001 is $42 billion. Moreover, IT budgets are expected to grow steadily as everyone from federal agencies to the White House to the Congress brings legacy systems up to date and maintains modern networks.

As stewards of the public interest, government is obligated to provide citizens with the most efficient service possible at the best value for taxpayer dollars. Advances in technology provide an unprecedented opportunity for improving government service. However, we can only take advantage of this opportunity if we have a skilled workforce that can acquire, manage, and implement information technology products and services. Unfortunately, the current human resources management system for the vast majority of federal employees in the General Schedules system is dominated by a "one-size-fits-all" philosophy. It is built upon 19th century principles of centralized policy development, selection from rigidly numbered lists of candidates, and uniform pay scales that cannot respond to the different roles, missions and needs of the nearly 100 independent agencies.

Although major changes have been initiated by agencies to address problems in human resources management, this work has been constrained by compensation and reward systems that are out-of-date and non-competitive when viewed in light of the national marketplace for IT skills.

The National Academy of Public Administration has studied these issues in depth with the assistance of over 30 agencies and many private sector companies. At the July 31st hearing, the Academy reported its benchmarking research on public and private sector compensation practices. Today, we will hear their evaluation of these alternative compensation practices, their recommendations for reform, and the views of the witnesses on these recommendations.

The legislative proposal that we will consider calls for ending the "one-size-fits-all" approach for the recruitment, compensation, and retention of technology and acquisition employees classified as GS 5 to 15. While good efforts have already been undertaken by some agencies and OPM to address hard-to-obtain specialties and to give some flexibility in human capital management, this legislation aims at broad changes to offer the employment options that will attract the greatest number of highly qualified employees into government service.

This legislative proposal is consistent with the performance-improving goals of the reforms enacted in the 1990's, including the Clinger-Cohen Act. It seeks to improve performance by implementing commercial best practices for employee compensation and benefits. First, it creates a market-based, pay-for-performance system with pay bands for IT and acquisition workers. In the private sector, pay-for-performance is almost universal. Like the private sector, government should reward those employees who bring greater value to an organization in order to reinforce a culture of achievement. Next, it enables more flexible recruiting practices by using excepted service, non-career appointments that can be hired far more quickly than under traditional appointments. Third, the legislation builds on the strength of work/life benefits already available to government employees by encouraging the development of creatively applied benefits and continuously improved training opportunities. In an environment where the government may not be able to match the highest rates of pay in the marketplace, it can offer an attractive package of good compensation coupled with benefits sought after by many potential IT and acquisition employees.

This hearing begins the process of making the government more competitive in the labor marketplace. Without effective tools to attract, manage, and retain IT and acquisition employees, the federal government is in jeopardy. Every agency and millions of Americans rely on these professionals to accomplish their missions. The looming crisis in these workforces make it imperative that the U.S. government attract the best-qualified candidates and train them to high standards, for the failure to do so will impede ability to agencies to accomplish their statutory and regulatory duties. In assessing whether the proposed changes will be successful in giving agencies the tools they need to make government an employer of choice, we should keep in mind what Kay Coles James, Director of the Office of Personnel Management, said about the human capital management crisis: "we need creative solutions to address this challenge."

Mr. TOM DAVIS OF VIRGINIA. Now I yield to my ranking member, Mr. Turner, for any comments he has.

Mr. TURNER. Thank you Mr. Chairman. It is good to join you at this hearing to once again focus on the challenges that our government faces in attracting and retaining a skilled work force for information technology and acquisition. We all know that at least until recently the demand for high-skilled IT workers was growing at a very rapid pace. The study performed by the Information Technology Association of America found that U.S. companies will seek to fill 900,000 new IT positions, and that 425,000 of those positions, half of them, will go unfilled because of lack of applicants.

The shortage has been made worse at the Federal level due to the pay gap that we know exists between the public and the private sector. Two years ago the Commerce Department found that the starting salaries for computer science graduates at the Federal level averaged $10,000 to $15,000 less annually than those paid by the private sector. In January of this year, the Office of Personnel Management established higher pay rates for IT workers resulting in increases ranging from 7 to 33 percent. I look forward to hearing today from OPM on whether this change has had any effect.

It may also be that the recent downturn in our economy has resulted in a positive impact on the government's ability to recruit high-tech workers. We also need to examine the important nonpay benefits such as training, career advancement opportunities, family friendly benefits, flexible work schedules and meaningful recognition for individual performance as a way of attracting and retaining individuals with the needed skills.

The National Academy of Public Administration recently completed a report on the Federal IT work force, which highlights the shortages we are experiencing. This report points to the Federal recruitment system, inadequate motivational tools and too little investment in continuous learning as problems that need to be addressed. In general, the Academy has recommended that the Federal Government move to a market-based human resource management system for IT professionals, a system which would establish a market-based, pay-for-performance compensation system, speed the Federal recruitment and hiring process, promote the generally good benefits available to Federal workers and increase training opportunities.

The acquisition work force faces many of the same problems as the Federal work force as a whole, an aging work force with looming major retirements and little entry-level hiring over the past decade. I'm very pleased that the chairman has drafted legislation to address these issues. I look forward to working with you, Mr. Chairman, I appreciate your leadership on this very critical matter, and I look forward to hearing from all of our witnesses today.

Mr. TOM DAVIS OF VIRGINIA. Mr. Turner, thank you very much.

[The prepared statement of Hon. Jim Turner follows:]

Statement of the Honorable Jim Turner
Oversight Hearing: "Transforming the IT and Acquisition Workforces: Using Market-Based Pay, Recruiting and Retention Strategies to Make the Federal Government an Employer of Choice for It and Acquisition Employees"

October 4, 2001

Thank you Mr. Chairman. Today's hearing again focuses on the challenges the government faces in attracting and retaining a skilled workforce for information technology and acquisition, and on possible innovative approaches to addressing those challenges.

Until recently, the demand for highly-skilled information technology workers was growning at a rapid pace. A recent study by the Information Technology Association of America found that U.S. companies will seek to fill 900,000 new IT positions, and that 425,000 of those positions will go unfilled because of a lack of applicants. This shortage has been made worse in the federal sector due to a pay gap between the private sector and the government. Two years ago, the Commerce Department found that starting salaries for computer science graduates in the federal government averaged 10 to 15 thousand less than those paid by the private sector.

In January 2001, the Office of Personnel Management established higher pay rates for IT workers, resulting in increases ranging from 7% to 33%. I look forward to hearing from OPM on whether this change has had any effect. It may also be that the recent down turn in the information technology sector has had a significant impact on the government's ability to recruit high-tech workers. We also need to examine important non-pay benefits, such as training, career advancement opportunities, family-friendly benefits, flexible work schedules, and

meaningful recognition for individual performance as a way to attract and retain individuals with needed information technology skills.

The National Academy of Public Administration recently completed a report on the federal IT workforce which highlights the shortages I have discussed. It also points to the federal recruitment system, inadequate motivational tools, and too little investment in continuous learning as problems which need to be addressed. In general, the Academy has recommended that the federal government move to a market-based human resource management system for IT professionals, a system which would establish a market-based, pay-for-performance compensation system, speed the federal recruitment and hiring process, promote the generally good benefits available to federal workers, and increase training opportunities for IT professionals.

The acquisition workforce faces many of the same problems as the federal workforce as a whole – an aging workforce with looming major retirements and little entry-level hiring over the past decade. The Chairman has announced his intention to introduce legislation to address some of the problems in the information technology and acquisition workforces. I look forward to reviewing this legislation once it is introduced. Thank you Mr. Chairman.

Mr. TOM DAVIS OF VIRGINIA. I now yield to our Member from California, Mr. Horn.

Mr. HORN. I thank the chairman, and I'm delighted that you have this particular hearing. All of us know that very talented people are in the executive branch, also in the legislative branch, in the judiciary, and that we should be out right now when there's breaks or anything else, where some of us ought to be in business schools, in public administration schools, liberal arts programs and engineering and science, and we need to go to these various campuses and tell them of the great opportunities that are within the Government of the United States. And we certainly need to work for merit pay and recognition of that talent coming in to replace the talent coming out.

And I think this is the most important actual policy issue in this last decade, and the human infrastructure, without question, is what we have to worry about, and we should.

Thank you, Mr. Chairman.

Mr. TOM DAVIS OF VIRGINIA. Mr. Horn, thank you.

We're going to hear testimony today from Mr. David McClure, the Director of IT Management Issues at GAO; Mr. Mark Forman, the Associate Director of Information Technology and E-Government at the Office of Management and Budget, our E-government czar; and Mr. Donald Winstead, the Acting Associate Director for Workforce Compensation and Performance of the Office of Personnel Management.

On our second panel we will hear from Don Upson, Virginia secretary of technology; Mr. Arthur Amler, the director of employee compensation at IBM, also representing the ITAA; Ms. Jean Baderschneider, the vice president for procurement at ExxonMobil Global Services Co.; and finally from Mr. Costis Toregas, the president of Public Technology, Inc., and also representing the National Academy of Public Administration.

As you know, it is the policy of this committee that all witnesses be sworn. If you would join with me and raise your right hands and rise.

[Witnesses sworn.]

Mr. TOM DAVIS OF VIRGINIA. Mr. McClure, we'll start with you and then Mr. Forman and Mr. Winstead. If you could try to keep your comments to 5 minutes. We have a light out front. When it's orange, it's 4 minutes, and it gives you 1 minute to sum up. When it's red, just try to sum up as quickly as possible. If you finish earlier, all the better, because your total testimony is in the record, and we have read that, and we will have comments based on that and questions based on that.

We are expecting floor votes in probably an hour or so that we should have time to get this panel through before we have to break for votes. Thank you.

STATEMENTS OF DAVID McCLURE, Ph.D., DIRECTOR, IT MANAGEMENT ISSUES, U.S. GENERAL ACCOUNTING OFFICE; MARK FORMAN, ASSOCIATE DIRECTOR FOR IT AND E-GOVERNMENT, U.S. OFFICE OF MANAGEMENT AND BUDGET; AND DONALD WINSTEAD, ACTING DIRECTOR, WORKFORCE COMPENSATION AND PERFORMANCE, U.S. OFFICE OF PERSONNEL MANAGEMENT

Mr. McCLURE. Good afternoon, Mr. Chairman, members of the subcommittee. It's a pleasure to be here this afternoon to discuss the management challenges related to attracting and retaining a high-quality Federal work force. We believe that the existing IT work force skills and strategies must be revamped to move the government more fully into the information and knowledge-based age and provide a customercentric, electronically based service and transaction focus to the government.

As you know, Mr. Chairman, at GAO we have designated human capital as a high-risk area because of the long-standing lack of effective leadership and management. And with ongoing performance and accountability challenges, this area really takes on a great prominence.

In my oral statement this afternoon, I want to cover just three points with you. First, the general status of agency actions in this area. The contribution made by the recent NAPA IT compensation study that you mentioned in your opening remarks, and I think important—challenges are important to discuss that lie ahead that will challenge us in all of these reforms.

First of all, many Federal agencies are indeed initiating strategies and plans to attract and retain and motivate a skilled IT work force. We have pointed out in several products examples of success stories and innovative practices. Yet we remain concerned because agencies' progress in meeting IT human capital needs is sluggish, it's uneven, and it often lacks comprehensive and analytical-based strategies for addressing both short-term and long-term needs.

Our work to date indicates that there is more attention needed in general basic areas like requirements, what the agency needs in its IT skill base, developing inventories of its existing skills so that it can do a gap analysis with its future needs, developing strategies and implementation plans and evaluating progress, or, if you will, the return on human capital investment. These basic proactive activities are the cornerstone of effective work force management and are used by high-performance organizations both in the public and private sector. They simply cannot be ignored.

In line with our suggestions, we are very pleased that in the President's fiscal year 2002 management agenda, strategic human capital initiative is very prominently featured. OMB is asking agencies to take full advantage of existing authorities they have at their disposal to better acquire and develop a high-quality work force. We're also encouraged that OMB is requiring agencies to undertake work force restructuring plans designed to help correct skill imbalances. OMB is also asking agencies to establish core competency that can be helpful in making tradeoffs between internal capacity and skills enhancement versus contracted assistance from the private sector.

Judging from the trends alone, it's expected—we are expected to have a long-term shortage of IT professionals, and it's likely to lead to agencies supplementing their existing work forces with external expertise, but as we know, agencies still have to have enough of the right people and the right positions with the right skills, knowledge and experience to manage these often large and complex IT procurement and service areas.

Let me turn to the work completed by NAPA. I must tell you that we find a lot of merits in NAPA's identification of inherent inadequacies that it's found with the Federal Government's human resources management system. We have not finished analyzing all of the recommendations, but we do echo their call for an increased emphasis on performance and competencies. As we note in my statement on pages 11 and 12, many of NAPA's recommendations are very consistent with suggestions we have made to the Congress and are in sync with our own human capital strategies that we have put in place at GAO. For example, we've implemented pay for performance. We've developed a competency-based employee evaluation system, and we've imposed, put in place, senior-level or SES-equivalent positions in technical and scientific areas. Many of these tools and flexibilities are available to agencies now, and we encourage them to take advantage of them.

Last, let me turn to the challenges that lie ahead. The road really to improving human capital management in the Federal Government for IT and acquisition management faces many significant hurdles. Let me focus on two crucial ones. The first is the need for sustained leadership commitment. The second is necessary changes in addressing organizational culture.

Sustained commitment from the executive and legislative branch leaders, from agency executives, from key players like OPM and OMB, and certainly the Congress are very important. NAPA recognizes this in its listing of recommendations for implementation and has an excellent list of suggestions on how these implementation strategies can move forward successfully. OPM's key responsibilities in this area are key, and we are very encouraged by the progress that OPM has made in taking special steps, including salary rates for IT professionals, creating new job classifications and establishing a generic work force model.

The second crucial challenge is implementing change and change management in light of prevailing culture, and in order for any of these reform recommendations to work that we're talking about at the hearing today, a culture of hierarchical management approaches really needs to yield to partnerial approaches. Process-oriented ways of business have to really focus on yielding to results-oriented ones, and organizational silos have to be integrated. And as we have seen, these efforts are doable, and we think they are possible in the Federal environments. So we're looking forward to moving these initiatives forward and working with you, the subcommittee, and with the executive branch in doing so.

Thank you.

Mr. TOM DAVIS OF VIRGINIA. Thank you very much.

[The prepared statement of Mr. McClure follows:]

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HUMAN CAPITAL

Attracting and Retaining a High-Quality Information Technology Workforce

Statement of David L. McClure
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GAO-02-113T

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to discuss with you this afternoon the federal government's strategic management challenges in the area of human capital, particularly regarding the information technology workforce. Few management tasks facing federal agencies are more critical to their ability to serve the nation than attracting, retaining, and motivating people. As our society has transitioned from the industrial age to the knowledge age, organizations have come to recognize people as their most critical assets. Because people create knowledge and put it to practical use, the success or failure of federal agencies, like that of other organizations, depends on having the right number of people with the right mix of knowledge and skills. This is especially true in the information technology (IT) area, where widespread shortfalls in human capital have contributed to shortfalls in agency and program performance.

In previous testimony, we have presented our recommended three-stage approach to human capital reform.[1] First, in the near term, agencies can improve their human capital management by taking advantage of the authorities already available to them under current laws and regulations. Second, the Administration and the Congress should consider legislation to allow agencies more flexibility and give them new tools to attract, retain, and motivate employees—both overall and in critical occupations such as those in IT. Third, all interested parties should work together to determine further, possibly more comprehensive human capital reforms.

In my remarks today, I will

- discuss why we view strategic human capital management as an area of high risk, particularly in light of expected long-term demand for a skilled IT workforce;
- summarize the progress of agencies in addressing IT human capital needs;
- describe the consistency between suggestions we have raised in prior testimonies and those provided in a recent report on federal IT human

[1] *Human Capital: Taking Steps to Meet Current and Emerging Human Capital Challenges* (GAO-01-965T, July 2001).

capital needs issued by the National Academy of Public Administration;[2] and

- highlight some important challenges that must be addressed in moving IT human capital reform from proposals to implementation.

Background

We at GAO use the term *human capital* because (unlike traditional terms such as *personnel* and *human resource management*) it focuses on two principles that are critical in a modern, results-oriented management environment:

- First, people are assets whose value can be enhanced through investment. As the value of people increases, so does the performance capacity of the organization and therefore its value to clients and other stakeholders. As with any investment, the goal is to maximize value while managing risk.
- Second, an organization's human capital approaches must be aligned to support the mission, vision for the future, core values, goals and objectives, and strategies by which the organization has defined its direction and its expectations for itself and its people. An organization's human capital policies and practices should be designed and implemented to achieve these goals, and assessed accordingly.

Strategic Human Capital Management Is an Area of High Risk

In January 2001, we added strategic human capital management to our list of federal programs and operations identified as high risk.[3] However, we stress that federal employees are not the problem; rather, the problem is a long-standing lack of effective leadership and management, along with the lack of a strategic approach to marshaling, managing, and maintaining the human capital needed for government to discharge its responsibilities and deliver on its promises. As the federal government struggles with the impact of more than a decade of government downsizing and curtailed investments in people, it is increasingly clear that today's federal human

[2] *The Transforming Power of Information Technology: Making the Federal Government an Employer of Choice for IT Employees* (National Academy of Public Administration, Aug. 2001).

[3] *High-Risk Series: An Update* (GAO-01-263, Jan. 2001). In addition, see *Human Capital: Meeting the Governmentwide High-Risk Challenge* (GAO-01-357T, Feb. 2001).

capital strategies are not appropriate to meet the needs of the nation's government and its citizens.

Rapid Changes in Information Technology Require a Skilled and Well-Managed Workforce

As agencies wrestle with human capital management, they face a significant challenge in the information management and technology areas. The rapid pace of technological change in these areas is reflected in the investments in information technologies made both in the United States as a whole and by the federal government. By 2004, information technology investments are expected to account for more than 40 percent of all capital investment in the United States. The federal government's IT investment is conservatively estimated in fiscal year 2002 to be $44 billion—an increase in federal IT spending of 8.6 percent from fiscal year 2000.[4]

This substantial investment should provide opportunities for increasing productivity and decreasing costs. For example, the public sector is increasingly turning to the Internet to conduct paperless acquisitions, provide interactive electronic services to the public, and tailor or personalize information. As we testified in July, there are over 1,300 electronic government initiatives throughout the federal government, covering a wide range of activities involving interaction with citizens, business, other governments, and government employees.[5] In addition, the Government Paperwork Elimination Act (GPEA) of 1998 requires that by October 21, 2003, federal agencies provide the public (when practicable) the option of submitting, maintaining, and disclosing required information electronically. We have found that agencies plan to provide an electronic option for 3,048 eligible activities by the GPEA deadline.[6]

Demand for Skilled IT Workers Remains Substantial

Despite a decrease in projected demand over the last year, the overall estimated demand for IT workers remains high. Notwithstanding the recent economic slowdown, employers from every sector, including the federal government, are still finding it difficult to meet their needs for highly skilled IT workers. The Bureau of Labor Statistics projects that the demand for computer systems analysts, engineers, and scientists will

[4] Published data from agency Exhibit 53s (as required by OMB Circular A-11), *Clinger-Cohen Act Report on Federal Information Technology (IT) Investments* (Apr. 9, 2001).

[5] *Electronic Government: Challenges Must Be Addressed With Effective Leadership and Management* (GAO-01-959T, July 2001).

[6] *Electronic Government: Better Information Needed on Agencies' Implementation of the Government Paperwork Elimination Act* (GAO-01-1100, Sep. 2001).

almost double between 1998 and 2008, and the demand for computer programmers will increase by 30 percent during the same time period.[7]

In April 2001, the Information Technology Association of America (ITAA) released a study on the size of the private-sector IT workforce, the demand for qualified workers, and the gap between the supply and demand.[8] Among the study's findings were the following:

- Information technology employment directly accounts for approximately 7 percent of the nation's total workforce. Over 10.4 million people in the United States are IT workers, an increase of 4 percent over the 10 million reported for last year.

- Overall estimated demand for IT workers is down from last year's forecast (by 44 percent), partially because of the slowdown in the high-tech sector and the economy in general. However, the demand for IT workers remains high, as employers attempt to fill over 900,000 new IT jobs in 2001. Hiring managers reported an anticipated shortfall of 425,000 IT workers in 2001 because of a lack of applicants with the requisite technical and nontechnical skills.

The ITAA also reported that despite softening in overall demand, skills in technical support, database development/administration, programming/software engineering, web development/administration, and network design/administration remain most in demand by IT and non-IT companies alike. These positions represent nearly 86 percent of the demand for IT workers expected in 2001. The study further notes that the demand for enterprise systems professionals and network designers and administrators is expected to increase by 62 and 13 percent, respectively, over the 2000 forecast.

[7] "The 1998–2008 Job Outlook in Brief," *Occupational Outlook Quarterly* (Bureau of Labor Statistics, Spring 2000).

[8] *When Can You Start? Building Better Information Technology Skills and Careers* (Information Technology Association of America, Apr. 2001).

Agencies Are Making Limited Progress in Addressing IT Human Capital Issues

For the IT workforce in particular, agencies are beginning to take action by initiating strategies and plans to attract, retain, and/or train skilled workers. Nevertheless, much remains to be done, as agencies generally lack comprehensive strategies for IT human capital management.

To date, we have issued several products on IT human capital management, including studies of practices at four agencies: the Small Business Administration, the United States Coast Guard, the Social Security Administration, and the Centers for Medicare and Medicaid Services.[9] These evaluations focused on agency practices needed to maintain and enhance the capabilities of IT staff. These practices fall in four key areas:

- **Requirements**—assessing the knowledge and skills needed to effectively perform IT operations to support agency mission and goals
- **Inventory**—determining the knowledge and skills of current IT staff so that gaps in needed capabilities can be identified
- **Workforce strategies and plans**—developing strategies and implementing plans for hiring, training, and professional development to fill the gap between requirements and current staffing
- **Progress evaluation**—evaluating progress made in improving IT human capital capability, and using the results of these evaluations to continuously improve the organization's human capital strategies

In July, we reported that agencies' progress in addressing IT human capital strategies had been sluggish.[10] Specifically, we stated that although agencies were initiating strategies and plans to attract, retain, and/or train a skilled IT workforce, key issues in each of the four areas mentioned above were not being effectively addressed.

[9] *Information Technology Management: SBA Needs to Establish Policies and Procedures for Key IT Processes* (GAO/AIMD-00-170, May 2000); *Information Technology Management: Coast Guard Practices Can Be Improved* (GAO-01-190, Dec. 2000); *Information Technology Management: Social Security Administration Practices Can Be Improved* (GAO-01-961, Aug. 2001); and *Medicare: Information Systems Modernization Needs Stronger Management and Support* (GAO-01-824, Sep. 2001).

[10] *Human Capital: Building the Information Technology Workforce to Achieve Results* (GAO-01-1007T, July 2001).

In the area of requirements, several of the agencies we reviewed had begun evaluating their short and longer term IT needs. However, none of them had completed these efforts. For instance, we found that the Small Business Administration did not have any policies or procedures to identify requirements for IT skills. Also, although the U.S. Coast Guard had conducted an assessment of the knowledge and skills needed by its IT officers and enlisted personnel, it had not done so for its civilian workforce.

Although an IT inventory identifying the knowledge and skills of current staff is essential to uncovering gaps between current staff and requirements, our work to date has revealed that none of the reviewed agencies had a complete knowledge and skills inventory. For example, the U.S. Coast Guard and the Small Business Administration maintained a limited amount of information on IT knowledge and skills, and the Social Security Administration lacked an IT-specific knowledge and skills inventory.

In addition to establishing requirements and creating an inventory, an agency needs to develop a workforce plan that is linked to its strategic and program planning efforts. The workforce plan should identify its current and future human capital needs, including the size of the workforce, its deployment across the organization, and the knowledge, skills, and abilities needed for the agency to pursue its shared vision. The workforce planning strategy should specifically outline the steps and processes that an agency should follow when hiring, training, and professionally developing staff to fill the gap between requirements and current staffing. Among the four agencies we reviewed, none had developed comprehensive IT-specific workforce strategies or plans. For example, although the Social Security Administration did have a broad workforce transition plan that includes actions to improve its processes (for projecting workforce needs, for recruiting, and for training and developing employees), these actions were not specific to IT staff.

Finally, meaningful progress evaluation systems are necessary to determine whether agency human capital efforts are effective and to ensure that the results of these evaluations are used to make improvements. While agencies we reviewed did track various human capital efforts, such as progress in filling IT positions, none of the agencies had fully analyzed or reported on the effectiveness of their workforce strategies and plans.

Shortcomings in IT human capital management have serious ramifications. Without complete assessments of requirements, agencies will lack assurance that they have identified the number of staff and the specific knowledge and skills needed or that they have developed strategies to fill these needs. Also, without an inventory of knowledge and skills, agencies will not have assurance that they are optimizing the use of their current IT workforce, nor will they have data on the extent of skill gaps. This information is necessary for developing effective workforce strategies and plans. If they cannot analyze and document the effectiveness of workforce strategies and plans, senior decisionmakers will lack assurance that they are effectively addressing knowledge and skill gaps.

Agency Reliance on Contracted IT Services Requires Improved Oversight Capabilities

Judging from trends, the shortage of qualified IT professionals is likely to lead to greater reliance on contracted workers, so that agencies can supplement their existing workforces with external expertise. Indeed, from fiscal year 1990 to 2000, federal spending on contracted IT services increased from $3.7 billion to about $13.4 billion.

Relying on contracting to fill workforce gaps is not a panacea. We have previously reported that some procurements of services are not being done efficiently, putting taxpayer dollars at risk.[11] In particular, agencies were not clearly defining their requirements, fully considering alternative solutions, performing vigorous price analyses, or adequately overseeing contractor performance. Also, agencies appear to be at risk of not having enough of the right people with the right skills to manage service procurements. Following a decade of downsizing and curtailed investments in human capital, federal agencies currently face skills, knowledge, and experience imbalances that, without corrective action, will worsen, especially in light of the numbers of federal workers becoming eligible to retire in the coming years. Consequently, a key question we face in the federal government is whether we have today, or will have tomorrow, the ability to acquire and manage the procurement of the increasingly sophisticated services that the government needs.

As we recently testified,[12] past efforts at workforce reduction were not always oriented toward shaping the makeup of the force. For example, the

[11] *Contract Management: Trends and Challenges in Acquiring Services* (GAO-01-753T, May 2001).

[12] *Human Capital: Major Human Capital Challenges at the Departments of Defense and State* (GAO-01-565T, Mar. 2001).

Department of Defense (DOD) found that its workforce reductions had led to a serious shortfall in the acquisition workforce. To improve the efficiency of contracting operations—and in part to help offset the effects of this shortfall—the department instituted streamlined acquisition procedures. However, the DOD Inspector General reported that the efficiency gains from the streamlined procedures had not kept pace with acquisition workforce reductions. The Inspector General reported that while the workforce had been reduced by half, DOD's contracting workload had increased by about 12 percent[13] and that senior personnel at 14 acquisition organizations believed that workforce reductions had led to such problems as less contractor oversight.

Unless these reductions in the acquisition workforce are addressed, they could undermine the government's ability to efficiently acquire contract services, including IT services.

Recommendations Regarding IT Human Capital Have Been Consistent

The challenges facing the government in maintaining a high-quality IT workforce are long-standing and widely recognized. As far back as 1994, our study of leading organizations revealed that strengthening the skills of IT professionals is a critical aspect of strategic information management.[14] Specifically, leading organizations identify existing IT skills and needed future skills, as well as determining the right skill mix. Accordingly, we suggested that executives should systematically identify IT skill gaps and targets and integrate skill requirements into performance evaluations. In our more recent study of public and private sector efforts to build effective Chief Information Officer (CIO) organizations,[15] we found that leading organizations develop IT human capital strategies to assess their skill bases and recruit and retain staff who can effectively implement information technology to meet business needs.

The federal CIO Council has been actively studying issues related to IT human capital, focusing on the government's ability to attract, retain, and train a qualified workforce. To examine the magnitude of federal IT human

[13] *DOD Acquisition Workforce Reduction Trends and Impacts* (Office of the Inspector General, Department of Defense, Feb. 29, 2000).

[14] *Executive Guide: Improving Mission Performance Through Strategic Information Management and Technology* (GAO/AIMD-94-115, May 1994).

[15] *Maximizing the Success of Chief Information Officers: Learning from Leading Organizations* (GAO-01-376G, Feb. 2001).

capital challenges and suggest possible solutions, the CIO Council asked the National Academy of Public Administration (NAPA) to study IT compensation strategies and to make recommendations on how the government can best compete for IT talent.[16]

NAPA's resulting study noted a number of problems inherent in the federal government's human resource management system. These problems included a pay gap with the private sector and a compensation system that is overly focused on internal equity. The study commented that current pay disparities with the private sector, overly narrow pay ranges, and the inadequacy of special pay rates hinder the government's ability to compete for IT workers. Regarding compensation, the study noted that the current system is closely aligned with internal equity by law, regulation, and practice, with little real attention paid to external equity and contribution equity.[17] According to the study, private sector organizations typically consider and establish a strategic balance among internal, external, and contribution equity in determining pay rates and reward structures.

NAPA's study also includes an evaluation of two alternative compensation models. The first of these makes limited changes to the current General Schedule (GS) system, such as eliminating steps and combining some grades. The second is a market-based model that introduces more comprehensive reforms, including increased emphasis on performance and competencies. NAPA's study concluded that the second model embodies the best approach to human capital reform. NAPA's recommendations are shown in table 1.

[16] *The Transforming Power of Information Technology: Making the Federal Government an Employer of Choice for IT Employees* (National Academy of Public Administration, Aug. 2001).

[17] In an internal equity system, pay is determined by the relative value of each job within an organization. External equity is based on a comparison with similar jobs throughout the labor market. Contribution equity is based on an employee's performance and contribution relative to other employees.

Table 1: NAPA Recommendations

NAPA recommendation	Description
Establish a market-based, pay-for-performance compensation system.	This compensation approach would establish broad pay ranges, tie base pay to market rates, and link increases in pay to competencies and results to attract and retain IT talent.
Allow for flexibility in the treatment of individuals and occupations.	The new compensation system would ensure that managers have the flexibility to pay individual workers for their respective skills and competencies as well as their contributions to the organization.
Improve recruiting and hiring processes.	The new compensation system for IT professionals needs to be linked to faster, enhanced recruitment and hiring processes.
Balance the three dimensions of equity.	A new federal IT compensation system would provide a better balance among internal equity (that is, equity among government jobs), external equity (between jobs in the government and in other sectors), and contribution equity (among individual employees).
Offer competitive benefits.	The new system would offer a more competitive benefits package for senior technical employees as well as executives.
Promote work/life balance programs.	Federal managers and human resources specialists must actively market work/life benefits and programs so that potential IT workers are aware of them.
Encourage management ownership.	Managers must (1) actively participate in the design and implementation of agency-specific features of the new system, (2) be rewarded for effectively implementing and managing the system, and (3) be held accountable for not carrying out their management responsibilities.
Support technical currency and continuous learning.	Agency management should design and support developmental activities such as formalized training, on-the-job training, computer-assisted learning, self-instructional guides, coaching, and other approaches.
Build in reliability, clarity, and transparency.	Agency budgets and management decisions must support full implementation of the new system. The new system must be reliable, meaning that it consistently conforms with policies so that the same set of circumstances always leads to a fair decision and result.

Although we have not analyzed all aspects of these recommendations, many of them are consistent with suggestions we have made in prior testimonies,[18] as well as with the practices that we have instituted in our own internal human capital management. For example, we have suggested that government pay systems should be based on performance and contributions rather than on longevity. Similarly, in our own human capital management at GAO, we have implemented pay for performance and are developing a competency-based evaluation system. We have also suggested that government employers use more flexible approaches to setting pay; in our own human capital management system, we have instituted broad pay bands for mission staff. More examples are given in table 2, which compares the NAPA recommendations with related suggestions we have made in previous work and practices we have adopted within GAO.

Table 2: Comparison of NAPA Recommendations with GAO Suggestions and Current Practices

NAPA recommendations	GAO suggestions/practices	
	GAO suggestions	GAO's own practices
Establish a market-based, pay-for-performance compensation system.	• Provide authority to establish Senior Level positions. • Address pay compression between the maximum and lower SES pay levels, perhaps by delinking federal executive compensation from congressional pay, or by raising the cap on executive performance bonuses.[a]	• Established Senior Level positions to meet certain scientific, technical, and professional needs. • Established pay for performance system. • Developing a competency model/competency-based appraisal system. • Offering pay bonuses to attract and retain workers for hard-to-fill positions, such as IT positions requiring specific technical skill sets.
Allow for flexibility in the treatment of individuals and occupations.	• Provide more flexible pay approaches. • Revise Reduction in Force (RIF) rules.[a] • Provide authority to offer voluntary early retirement.[a] • Provide authority to offer voluntary separation incentives.[a] • Pursue phased retirement approaches, whereby federal employees with needed skills could change from full-time to part-time employment and receive a portion of their federal pension while still earning pension credits.[a]	• Using broadbanding system for mission staff. • Revised Reduction in Force (RIF) rules. • Have authority to offer voluntary early retirement. • Have authority to offer voluntary separation incentives.

[18] *Human Capital: Taking Steps to Meet Current and Emerging Human Capital Challenges* (GAO-01-965T, July 2001); *Human Capital: Managing Human Capital in the 21st Century* (GAO/T-GGD-00-77, Mar. 2000); *Human Capital: Meeting the Governmentwide High-Risk Challenge* (GAO-01-357T, Feb. 2001); *Human Capital: Building the Information Technology Workforce to Achieve Results* (GAO-01-1007T, July 2001).

NAPA recommendations	GAO suggestions/practices	
	GAO suggestions	GAO's own practices
Improve recruiting and hiring processes.	• Improve the federal hiring system. • Authorize agencies to use appropriated funds for selective recruiting, recognition, and team building activities.[a] • Provide more hiring flexibility in such fields as information technology, where there is severe competition with other sectors for talent. • Use enabling technology to improve hiring processes.	• Using a 25-percent pay differential (equal to the OPM pay differential for executive branch IT hires) to bring aboard entry-level IT staff. • Using noncompetitive hiring authority (e.g., internship program, critical skills program). • Enhancing our Applicant Tracking System and exploring Web-based recruitment services to advertise vacancies, receive and process applications, and support recruitment targeted for specific skills.
Balance the three dimensions of equity.		
Offer competitive benefits.	• Provide flexible "cafeteria" benefits such as those available to many private sector workers under Section 125 of the Internal Revenue Service Code.[a] • Allow employees who travel on government business to keep their "frequent flyer" miles.[a] • Institute phased retirement, allowing federal employees with needed skills to change from full-time to part-time employment and receive a portion of their federal pension while still earning pension credits.[a]	• Implemented recognition and awards program. • Pay commuting subsidies (pending). • Establish college loan repayment fund (pending).
Promote work/life balance programs.		• Implemented Flexitime and Flexiplace. • Established business casual dress. • Established a day-care facility. • Established a fitness center.
Encourage management ownership.	• Improve employee accountability. • Establish performance management systems that assess and reward employee performance in light of organizational goals and values.	• Establishing a competency-based appraisal system that underscores agency goals and values, which are linked to the agency strategic plan.
Support technical currency and continuous learning.	• Enhance career development and training, and promote continuous learning. • Authorize agencies to use appropriated funds to pay for selected professional certifications, licensing, and professional association costs.[a] • Establish fellowships with the private sector, particularly in critical occupations.[a]	• Making use of contractor resources in the IT area to supplement both the numbers and skills of government employees. • Transitioning from traditional classroom training to an approach that balances classroom training with online training delivered at the desktop, as well as other learning experiences.
Build in reliability, clarity, and transparency.	• Perform workforce and succession planning. • Create mission and vision statements. • Develop strategic planning and performance measurement processes. • Align human capital policies and practices with organizational missions and core values. • Use teams, including "just-in-time" and "virtual" teams.	Implemented the following: • Human capital self-assessment checklist • Human capital profile/planning • Employee feedback survey and suggestion program • Employee Advisory Council • Enhanced employee communications/participation • Skill/knowledge inventory • Employee preference survey

[a] Legislative action is required to permit this practice.

As noted in table 2, we have identified and made use of a variety of tools and flexibilities to address our human capital challenges; some of these were made available to us through the GAO Personnel Act of 1980 and some through legislation passed by the Congress in 2000, but most are available to all federal agencies. Figure 1 shows those flexibilities that were made available to us through legislation.

Figure 1: Legislative Flexibilities Used to Address GAO's Human Capital Challenges

Broadbanding system for mission staff
Noncompetitive hiring authority (e.g., internship, critical skills programs)
Special pay rates
Positions at Senior Level for technical staff
Targeted early outs and buyout authority
Revised Reduction in Force (RIF) rules

Regarding our own IT and other technical staff, we have taken a number of steps to address our workforce needs, including the following:

- Using a 25-percent pay differential (equal to the OPM pay differential for executive branch IT hires) to bring aboard entry-level technical staff for our IT team.
- Offering pay bonuses in attracting and retaining workers for hard-to-fill positions, such as IT positions requiring specific technical skills.
- Making wide use of contractor resources in the IT area to supplement both the numbers and skills of government employees. Currently, about 60 percent of the staff supporting GAO internal IT operations and initiatives are contractor staff. Given staffing constraints and market conditions, we have found this arrangement to work very well. We focus our training of in-house staff on project management, contract management, and technical training to ensure sound project management and oversight of the contractors. Using contractor resources has given us the ability to quickly bring on staff with the IT skills needed to carry out new projects/initiatives.
- Using the authority that the Congress provided in our 2000 legislation to create Senior Level positions to meet certain scientific, technical, and professional needs and to extend to those positions the rights and benefits of SES employees. One of the areas targeted was IT. We recently established four new Senior Level technical IT positions and provided

other specialists—such as our Chief Statistician and Chief Accountant—with new titles and SES-equivalent benefits.

We believe that three of the authorities provided in our 2000 legislation may be appropriate to other agencies and are worth congressional consideration at this time. Authority to offer voluntary early retirement and voluntary separation incentives could give agencies additional flexibilities with which to realign their workforces, correct skills imbalances, and reduce high-grade, managerial, or supervisory positions without reducing their overall number of employees. Further, the authority to establish Senior Level positions could help agencies become more competitive in the job market, particularly in critical scientific, technical, or professional areas, such as IT.

Reform Implementation Faces Challenges

Implementing reforms in human capital management will present significant challenges. Among most difficult will be (1) the sustained commitment demanded from the executive and legislative branch leaders, including agencies, the Office of Management and Budget (OMB), the Office of Personnel Management (OPM), and Congress, and (2) the cultural transformation that will be required by a new approach to human capital management.

In its report on IT human capital, NAPA also recognizes the importance of these two factors. The report identifies a number of steps that would be required for implementation of a new system (see figure 2). Among these, NAPA includes the need to promote leadership by identifying champions for the new system within agencies. Further, NAPA acknowledges in its discussion that implementing its recommendations will challenge the existing culture of many agencies, and it recommends change management and training efforts for both managers and employees.

Figure 2: NAPA's Suggested Actions for Implementation of its Recommendations

Identify champions for the new system in the political and career leadership of each agency.
Translate the report recommendations into legislative and programmatic action items.
Translate the legislative and programmatic decisions into detailed agency-by-agency action items.
Develop communications and education strategies.
Develop a detailed plan to carry out these strategies.
Provide sufficient funding for both the system and the implementation activities.

We agree that the steps that NAPA describes are essential elements for an effective implementation strategy. We have, for example, identified six elements that our work suggests are particularly important in implementing and sustaining management improvements that actually resolve the problems they address.[19] These elements are (1) a demonstrated leadership commitment and accountability for change; (2) the integration of management improvement initiatives into programmatic decisionmaking; (3) thoughtful and rigorous planning to guide decisions, particularly to address human capital and information technology issues; (4) employee involvement to elicit ideas and build commitment and accountability; (5) transforming organizational culture and aligning organizations to streamline operations and clarify accountability; and (6) strong and continuing congressional involvement. I would like to particularly highlight leadership and transforming organizational culture, two of the key elements in implementing such reforms.

Implementation Will Require Sustained, Committed Leadership

The sustained commitment of leaders within the executive and legislative branches is essential to the success of any implementation. The key players in the human capital area—agency leaders, OPM, OMB, and the Congress—all need to be actively involved in leading and creating change.

Agency Leaders Need to Focus on Human Capital

As we have previously testified, the key change for agency leaders who hope to improve their agencies' human capital management is to focus on people as a strategic asset.[20] To create a workforce that shares the agency's vision and is aware of the contribution that each employee can make toward achieving it, the agency's senior leaders must convey this vision clearly and consistently throughout the organization by their words and deeds and the example they set. Political appointees and career managers may bring differing values to the team, but they must work at building mutual understanding and trust and at committing themselves to a shared set of goals for their agency. An essential step in achieving these goals is to create an effective workforce. Senior leadership need to ensure that their agencies are determining their current and future workforce needs, assessing how their current and anticipated future workforce

[19] *Management Reform: Elements of Successful Improvement Initiatives* (GAO/T-GGD-00-26, Oct. 1999).

[20] *Human Capital: Meeting the Governmentwide High-Risk Challenge* (GAO-01-357T, Feb. 2001).

compares with these needs, and developing effective strategies to fill the gaps.

A useful tool for assessing overall human capital management is GAO's human capital framework, which identifies a number of human capital elements and underlying values that are common to high-performing organizations.[21] As our framework makes apparent, agencies must address a range of interrelated elements to ensure that their human capital approaches effectively support mission accomplishment. Although no single recipe exists for successful human capital management, high-performing organizations recognize that all human capital policies, practices, and investments must be designed, implemented, and assessed by the standard of how well they support the organization's vision of what it is and where it wants to go.

OPM and OMB Must Be Leaders in Human Capital Management

We have previously reported on the crucial roles that OPM and OMB play in human capital management.[22] OPM's responsibility is to work with agencies to create systems to effectively recruit, develop, manage, and retain a high-quality and diverse workforce, and to regulate these systems. In this capacity, OPM has been emphasizing to agencies the importance of integrating strategic human capital management into agency planning.[23] Among other things, OPM has brought attention to the need to integrate human capital professionals into agencies' planning processes.[24] OPM has also taken three steps to alleviate specific IT human capital challenges: it has established special salary rates for IT professionals (as well as scientists and engineers), it has issued a new classification standard for IT specialist positions, and it has piloted a new approach to establishing and assessing qualifications for IT work. OPM has also been focusing more attention on developing tools to help agencies. For example, it is developing a workforce planning model, with associated research tools,

[21] *Human Capital: A Self-Assessment Checklist for Agency Leaders* (GAO/OCG-00-14G, Sep. 2000).

[22] *Human Capital: Meeting the Governmentwide High-Risk Challenge* (GAO-01-357T, Feb. 2001).

[23] See OPM's *Strategic Human Resources Management: Aligning With the Mission* (U.S. Office of Personnel Management, Sep. 1999).

[24] See *The HR Workforce: Meeting the Challenge of Change* (U.S. Office of Personnel Management, Jan. 2000). See also *A Call to Action: A Coalition on the Future of the Federal Human Resource Management Profession* (Federal Section of the International Personnel Management Association, Sep. 2000).

and has launched a Web site on workforce planning issues to facilitate information sharing. Further, OPM recently revised the SES performance management regulations so that in evaluating executive performance, agencies will use a balanced scorecard of customer satisfaction, employee perspectives, and organizational results.

In prior testimony, we have pointed out that OPM could make substantial additional contributions by taking advantage of its ability to facilitate information-sharing on best practices among human capital managers throughout the federal government.[25] In short, OPM should continue to move from "rules to tools"; its most valuable contributions will come less from traditional compliance activities than from its initiatives as a strategic partner to the agencies.

Like OPM, OMB has increased its efforts to promote strategic human capital management. OMB's role in setting governmentwide management priorities and defining resource allocations is critical to encouraging agencies to integrate strategic human capital management into their core business processes. In this role, OMB recently released the FY2002 President's Management Agenda, which provides the President's strategy for improving the management and performance of the federal government.[26] The report identifies strategic management of human capital as an area for governmentwide improvement. In line with suggestions we have made, OMB is expecting agencies to take full advantage of existing authorities to better acquire and develop a high quality IT workforce. OMB also wants agencies to redistribute staff to front-line service delivery and reduce the number of organizational layers as they make better use of IT systems capabilities and knowledge sharing. Also, OMB's Circular No. A-11 guidance on preparing annual performance plans states that agencies' fiscal year 2002 annual performance plans should set goals in such areas as recruitment, retention, training, appraisals linked to program performance, workforce diversity, streamlining, and family-friendly programs.

What is now required is the sustained and forceful leadership to make the promise of these initiatives a reality. Important areas for attention include

[25] *Human Capital: Meeting the Governmentwide High-Risk Challenge* (GAO-01-357T, Feb. 2001).

[26] *President's Management Agenda for Fiscal Year 2002* (Office of Management and Budget, August 2001).

benchmarking and best practices efforts within the executive branch and greater attention during resource allocation to the links between agency missions and the human capital needed to pursue them.

Congressional Leadership Will Be Critical to Improving Human Capital Governmentwide

We have previously noted that leadership on the part of Congress will be critical if governmentwide improvements in strategic human capital management are to occur.[27] To raise the visibility of the human capital issue and move toward a consensus on legislative reforms, both parties in both houses of Congress must stress commitment to people as an urgent federal management concern. Among the most encouraging developments in this regard have been the efforts of this Subcommittee to draw attention to human capital issues.

Congress has opportunities available through its confirmation, oversight and appropriations, and legislative roles to ensure that agencies recognize their responsibilities and have the needed tools to manage their people for results. For example, Congress can draw wider attention to the critical role of human capital in the confirmation process, during which the Senate can make clear its commitment to sound federal management and explore what prospective nominees plan to do to ensure that their agencies recognize and enhance the value of their people.[28]

As part of the oversight and appropriations processes, Congress can examine whether agencies are effectively managing their human capital programs. It can also encourage more agencies to use the flexibilities available to them under current law and to reexamine their approaches to strategic human capital management in the context of their individual missions, goals, and other organizational needs.

Further, Congress can play a defining role in determining the scope and appropriateness of additional human capital flexibilities that agencies may seek through legislation. When agencies request legislative exceptions from current civil service constraints, Congress can require that they make a sound business case based on rational and fact-based analyses of their

[27] *Human Capital: Meeting the Governmentwide High-Risk Challenge* (GAO-01-357T, Feb. 2001).

[28] Toward this end, we have developed a set of questions for political appointees that the Senate may use during the confirmation process. See *Confirmation of Political Appointees: Eliciting Nominees' Views on Leadership and Management Issues* (GAO/GGD-00-174, Aug. 2000).

needs, the constraints under which they presently operate, and the flexibilities available to them. For example, before we submitted human capital legislative proposals for GAO last year, we made sure not only to identify in our own minds the human capital flexibilities that we needed, but also to give Congress a clear indication of our needs, our rationale, and the steps we were taking to maximize benefits and manage risks.

Ultimately, Congress may wish to consider comprehensive legislative reform in the human capital area to give agencies the tools and reasonable flexibilities they need to manage effectively while retaining appropriate safeguards. As part of this effort, Congress may also wish to consider the extent to which traditional "civil service" approaches—structures, oversight mechanisms, rules and regulations, and direction-setting—make sense for a government that is largely a knowledge-based enterprise that has adopted and is now implementing modern performance management principles.

Organizational Cultures Will Require Change

Another critical challenge for implementing any reform is addressing needed changes in prevailing organizational cultures. As we have noted in previous testimony, a cultural transformation will be key for a successful transition to a new approach to human capital management.[29] A culture of hierarchical management approaches will need to yield to one of partnerial approaches; process-oriented ways of doing business will need to yield to results-oriented ones; and organization "silos" will need to become integrated. Although government organizations have often proven to be slow to make these kinds of cultural changes, agencies that expect to make the best use of their human capital will need to create a culture that strongly emphasizes performance and supports employees in accomplishing their missions. Such a culture will include appropriate performance measures and rewards and a focus on continuous learning and knowledge management.

Organizational performance problems are often linked to organizational culture. For example, a "siloed" culture at the Federal Aviation Administration was one of several underlying causes of acquisition problems in the agency's multibillion-dollar modernization program, which has experienced cost overruns, schedule delays, and significant

[29] *Human Capital: Meeting the Governmentwide High-Risk Challenge* (GAO-01-357T, Feb. 2001).

performance shortfalls.[30] Cultural issues have also been linked to long-standing security problems at Department of Energy weapons laboratories, and to intractable waste, fraud, abuse, and mismanagement problems in the Social Security Administration's high-risk Supplemental Security Income program.[31] Overcoming such problems requires overcoming the barriers that result from an entrenched organizational culture.

Implementing new approaches to human capital management will require agency leaders and managers to steer their organizational cultures in a new direction. A number of tools and strategies are available for this purpose, including modern performance management and incentive approaches—directed at either individuals or teams—to help empower and motivate staff, reward high performance, and ensure accountability. (For example, our study on the use of executive performance agreements found that despite variations among agencies reflecting differing agency goals and priorities, such agreements produce a consistent range of benefits, including strengthening alignment of goals with daily operations and fostering collaboration across organizational boundaries.[32]) Since the 1995 revision of the federal government's performance appraisal and rewards policies, agencies have more flexibility than previously to develop and (with OPM approval) implement performance appraisal systems to meet their specific goals and needs. Such flexibility is important as agencies try to establish a "line of sight" between individual employees and agency goals and objectives. The effort required is not trivial: agencies we have studied have struggled to link employee performance expectations to agency goals.[33] Further, many agencies have reported that they do not know whether their incentive programs are effectively motivating their employees.[34] These problems underscore the need for

[30] *Major Management Challenges and Program Risks: Department of Transportation* (GAO-01-253, Jan. 2001).

[31] *Major Management Challenges and Program Risks: Social Security Administration* (GAO-01-261, Jan. 2001).

[32] *Managing for Results: Emerging Benefits From Selected Agencies' Use of Performance Agreements* (GAO-01-115, Oct. 2000).

[33] *Managing for Results: Using GPRA to Assist Oversight and Decisionmaking* (GAO-01-872T, June 2001).

[34] *Human Capital: Using Incentives to Motivate and Reward High Performance* (GAO/T-GGD-00-118, May 2000).

innovation and flexibility in human capital management, as well as continual efforts to capture data not only on employee performance, but also on the effectiveness of agencies' efforts at human capital management.

In summary, Mr. Chairman, designing, implementing, and maintaining effective human capital strategies for all federal workers, but particularly for the IT workforce, will be critical to achieving the goals of maximizing the performance and ensuring the accountability of the federal government. In a performance management environment where federal agencies are held accountable for delivering improvements in program performance, the "people dimension" is of paramount importance. Overcoming human capital management challenges will determine how successfully the federal government can build, prepare, and manage its workforce.

Mr. Chairman, this concludes my statement. I would be pleased to respond to any questions that you or other members of the Subcommittee may have at this time.

Contacts and Acknowledgements

For further information regarding this testimony, please contact me at (202) 512-6240 or by email at *mcclured@gao.gov*. Individuals making key contributions to this testimony included Barbara Collier and Margaret Davis.

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Mr. TOM DAVIS OF VIRGINIA. Mr. Forman.

Mr. FORMAN. Good afternoon. Thank you, Mr. Chairman and members of the subcommittee. I appreciate the opportunity to testify today on the important issue of Federal information technology and acquisition work forces.

Before I get to the substance of my testimony, I need to make sure the subcommittee understands that I do not serve in a confirmed position within the Office of Management and Budget, and as a general policy OMB does not usually send officials in nonconfirmed political positions to testify before the Congress. However, in this case, because OMB does not yet have a Deputy Director for Management, the OMB Director decided it was in the best interest of the administration to have me appear on his behalf as a witness for this hearing.

In June, I was appointed the Associate Director for E-Government and Information Technology. My position was created to improve agency use of information technology and E-government practices. Critical elements for success in that effort will be assuring that the Federal Government has an effective IT work force.

It's important to keep in mind, though, that the Federal Government is not in the IT industry. Modern IT offers us opportunities to improve policymaking, service delivery and enforcement of laws and regulations, our lines of business. As such, it's important to view the Federal IT work force within the context of the Federal Government being the world's largest customer of the IT industry.

The President's management agenda contains five key elements: improving financial system performance, competitive sourcing, strategic management of human capital, performance-based budgeting and expanding e-government. As such, management of human capital generally, and of the IT work force specifically, must be addressed as part of this broader management reform framework.

So let me briefly describe the three elements of the agenda that are particularly germane to today's discussion of the Federal IT and acquisition work forces, the strategic management of human capital, e-government and competitive sourcing. First, the strategic management of human capital.

As part of OMB's efforts to develop the President's fiscal year 2003 budget, we've asked agencies for their plans on how they are going to strategically realign their work force to better accomplish the Federal Government's work. These are not plans for counting the numbers of individuals, but rather for rethinking the way the agencies operate and the skills and expertise that they need to perform effectively and efficiently in the future. The plans were due into OMB as part of the fiscal year 2003 budget submissions in September. OMB resource management offices have been discussing these plans with the agencies in the context of the 2003 budget preparation, and I should note that we are asking specifically about IT work force plans as part of that review. The results of the reviews will be evident in the President's fiscal year 2003 budget that will be proposed this coming January to help provide flexibility in the work force.

The administration will shortly propose the Freedom to Manage Act, which will give Federal managers the ability to better manage

their organizations. Don Winstead, from the Office of Personnel Management will be discussing these proposals in his statement.

The second facet of the President's management reform agenda is the e-government initiative, which I lead. We define e-government as the use of digital technologies to transform operations in a manner that drives significant improvements in efficiency, effectiveness and service delivery quality. To accomplish this vision, we need to simplify business processes to take advantage of technology, and the result will be processes that will be faster, cheaper and more efficient.

We also have to replace legacy islands of automation by unifying IT and operations across the silos. Such business transformation has become almost routine in industry as well as at State, local and foreign governments. Catching up will require new and different skills in our IT professionals. At the top of my list is the ability to communicate with the line program professionals. Other important skills include knowledge of enterprise applications such as supply chain management, customer relationship management and knowledge management. And like all information-intensive industry, we've got a shortage of architects, especially those that define the ways we can best leverage the emerging information platforms.

Finally, I believe we need more capability in preparing business cases and in managing the projects and the way to deliver on those business cases.

We have a specific committee of the CIO Council, the Workforce Committee, to advise us on IT work force issues and develop the best practices. Both the Federal contractor, Federal and contractor employees, have taken advantage of the training that committee prepared under the curriculum of the CIO University. And I should note that it is that committee, the CIO Council Workforce Committee, that proposed and executed the contract with NAPA to perform the study of the Federal IT work force.

Third, competitive sourcing. Numerous IT tasks are commercial in nature. Federal work force studies indicate that almost 80 percent of the IT jobs are currently performed by Federal contractors. Through our competitive sourcing initiative, we intend to identify and select the sources, public or private, that are best able to perform the mission and help the government execute most effectively.

Let me now turn to the NAPA study. Mr. Winstead will be addressing the report in more detail, but let me provide some background. The report was developed at the request and with the funding of the Federal CIO Council, which I now direct. When the study was initially solicited, many Federal agencies were having great difficulty recruiting and retaining IT professionals. Federal salaries were not competitive, and the dot-com boom was in full swing.

Since then OPM increased starting salaries for IT professionals through special pay rates. In addition, the dot-com boom has waned, and commensurate with that, the demand for IT professionals has lessened. CIO Magazine indicates that only 15 percent of their organizations are having difficulty filling IT positions this year as opposed to 74 percent a year ago. That said, Computer World reported this week that the decline of dot-coms doesn't sig-

nal the end of highly competitive compensation, say consultants for CIO. Therefore, I believe it's very timely for the administration to address the problems and for legislation such as the chairman has proposed. And the NAPA group report highlights and gives us some serious consideration of key recommendations.

I'd be happy to answer any questions. Thank you.

Mr. TOM DAVIS OF VIRGINIA. Thank you.

[The prepared statement of Mr. Forman follows:]

TESTIMONY OF MARK FORMAN
BEFORE THE SUBCOMMITTEE ON TECHNOLOGY AND PROCUREMENT POLICY
OF THE COMMITTEE ON GOVERNMENT REFORM
(October 4, 2001)

Mr. Chairman and members of the Subcommittee:

Thank you for the opportunity to testify today on the important issue of managing the Federal information technology (IT) and acquisition workforces.

Before I get to the substance of my testimony, I need to make sure the Subcommittee understands that I do not serve in a confirmed position within the Office of Management and Budget (OMB). As a general policy, OMB does not usually send officials in non-confirmed political positions to testify before Congress. However, in this case, because OMB does not yet have a Deputy Director for Management, the OMB Director decided it was in the best interest of the Administration to have me appear on his behalf as a witness for this hearing.

I have more than a passing interest in the issue of an effective Federal IT workforce. In June, I was appointed as the Associate Director of the Office of Management and Budget for E-government and information technology. My position was created to improve agency use of information technology and e-government practices. A critical element for success in that effort will be assuring that the Federal government has an effective IT workforce with the appropriate skills.

While Federal IT is critical to the way the Federal government operates, it is important to keep in mind that the Federal government is not in the IT industry. The Federal government is in the business of making policies, managing Federal programs, and ensuring enforcement of laws and regulations. IT is essential to government operations. Modern IT offers opportunities to improve policy making, service delivery, and enforcement of laws and regulations. As such, it is important to view the Federal IT workforce within the context of Federal government being the world's largest customer of the IT industry.

The President's management agenda contains five key elements: improving financial system performance, competitive sourcing, strategic management of human capital, performance-based budgeting, and expanding E-government. Each element of the management agenda is dependent on the others to assure maximum advantage. As such, management of human capital generally, and of the IT workforce specifically, must be addressed as a part of this broader management reform framework. Let me briefly describe the three elements of that agenda that are particularly germane to today's discussion of the Federal IT and acquisition workforces:

Strategic management of human capital

As part of OMB's efforts to develop the President's FY 2003 budget, we have asked agencies for their plans on how they are going to strategically realign their workforce to better accomplish the Federal government's work. These are not plans for counting the number of individuals, but rather for a strategic re-thinking of the way agencies operate, and the skills and expertise they will need to perform effectively and efficiently in the future. The plans were due to OMB in September as part of the FY 2003 budget submissions and annual performance plans, and OMB resource management offices have been discussing these plans with the agencies in the context of FY 2003 budget preparation. I should note that we are asking specifically about IT workforce plans as part of the review of agency workforce strategies. The results of this review will be evident in the President's FY 2003 budget that will be proposed this coming January.

To help provide flexibility to re-orient the workforce, the Administration will shortly propose the Freedom to Manage Act, which will give Federal managers the ability to better manage their organizations. The Administration will seek enhanced authority to use recruitment and retention bonuses, permit agencies to easily develop demonstration projects and implement alternative personnel systems, authorize managers to use workforce restructuring tools including early retirement packages and buyouts, and recruit and treat senior executives more comparably with their private sector counterparts. Donald Winstead from the Office of Personnel Management (OPM) will be discussing these proposals further in his statement.

E-government

A second facet of the President's management reform is the E-government initiative, which I lead. It is our vision that E-government will result in an order of magnitude improvement in the F2ederal government's value to the citizen. We define E-government as the use of digital technologies to transform operations in a manner that drives significant improvement in efficiencies, effectiveness, and service delivery. To accomplish this vision we simplify business processes to maximize the benefit of technology, resulting in processes that will be faster, cheaper, and more efficient. We will also have to replace legacy islands of automation by unifying IT and operations across many silos. While this has rarely been done in Federal government, such business transformation has become almost routine in industry as well as State, local, and foreign governments. Catching-up will require new and different skills in our IT professionals. At the top of my list is the ability to communicate with line program professionals. Other important skills include knowledge of enterprise applications such as supply chain management, customer relationship management, and knowledge management. Like all information intensive industries, government has a shortage of architects, especially those that design ways that we can best leverage emerging information platforms for security, web services, and ubiquitous information. Finally, I believe we need more capability in preparing solid business cases and in managing projects to deliver on those business cases.

As I noted earlier, we are the world's largest customer of the IT industry. Therefore, we need to

ensure that we can obtain the proper skills for our IT support both among Federal employees and contractors. For that reason we have a specific committee of the CIO Council, the Workforce Committee, to advise us on IT workforce issues and develop best practices. As an example of developing the kinds of skills we need in the Federal workplace, I would like to highlight the Workforce Committee's work in creating the CIO University curriculum. Both Federal and contractor employees have taken advantage of that training. I should note that it was also that committee that proposed and executed the contract with NAPA to perform their study of the Federal IT workforce.

Competitive sourcing

Numerous IT tasks are commercial in nature. Federal workforce studies indicate that almost 80 per cent of IT jobs are currently performed by Federal contractors. Through our competitive sourcing initiative, we intend to identify and select sources – public or private – that are best able to perform and help the Government execute its mission most effectively.

Agencies are currently working with the Office of Federal Procurement Policy to examine, among other things, how they are providing IT services and will then determine the best source of those services. In many respects, competitive sourcing will offer an opportunity to use market forces to develop capabilities needed to meet the Federal government's IT needs.

NAPA study

Your letter of invitation said that you would be assessing the workforce recommendations of the National Academy of Public Administration (NAPA) report titled "The Transforming Power of Information Technology: Making the Federal Government an Employer of Choice for IT Employees." Mr. Winstead will be addressing the report in more detail in his remarks, but let me provide some background on it.

The report was developed at the request, and with the funding of the Federal Chief Information Officers' Council, which I now direct. When the study was initially solicited, many Federal agencies were having great difficulty recruiting and retaining IT professionals. Federal salaries simply were not competitive, and the dot com boom was in full swing. Since then, OPM increased starting salaries for IT professionals through special pay rates. In addition, the dot com boom has waned, and commensurate with it the demand for IT professionals has lessened somewhat. For example, a recent national survey of both government and private sector CIOs by "CIO Magazine" indicates that only 15 percent of them are having difficulty filling IT positions this year, as opposed to 76 percent of them one year ago. That said, "Computerworld" reported on Monday this week that "the decline of [dot coms] doesn't signal the end of highly competitive compensation, say consultants and CIOs." Therefore it is timely for the Administration to address the problems that the NAPA report highlights and give serious consideration to NAPA's recommendations.

Conclusion

Today's workforce is making old technology work to operate Federal programs. But we can do better. Information technology offers the possibility to dramatically improve the Federal government – interactions with citizens as well as our internal operations. To be able to take advantage of that possibility we will need a skilled, motivated workforce. The Administration is moving quickly to re-orient the Federal workforce to take advantage of this opportunity. Today's hearing, and the NAPA study and its recommendations, are important contributors to our objective of a better Federal government.

I would be happy to answer any questions.

Mr. TOM DAVIS OF VIRGINIA. Mr. Winstead.

Mr. WINSTEAD. Mr. Chairman and members of the subcommittee, I appreciate the opportunity to be with you today to comment on the findings of the National Academy of Public Administration in its recent report on the Federal information technology work force. I will keep my remarks brief, but I have a longer statement that I would like to submit for the record.

We at OPM commend NAPA and its study panel for their work in producing this report. The report is part of a cooperative effort by NAPA, OPM and relevant interagency councils to improve the government's ability to attract and keep top-quality information technology workers. As a part of this joint endeavor, OPM promptly took important administrative steps to help agencies meet this challenge.

First, we initiated a study in cooperation with the Chief Information Officers Council and the Human Resources Management Council aimed at establishing appropriate special salary rates for IT positions under existing OPM authority.

Second, we worked extensively with the CIO Council and the human resources management community to update the way IT work is classified under the general schedule. These efforts resulted in new special salary rates which took effect in January of this year. In addition, we issued a new classification standard in May.

Meanwhile, NAPA launched its IT pay study. Early in its work, NAPA visited OPM's Strategic Compensation Policy Center to gather the results of the center's extensive research into job evaluation and pay practices in the private sector and other parts of the public sector. OPM's research is the basis for ideas that we intend to pursue to modernize Federal compensation practices in general.

NAPA's findings are very consistent with the conclusions we are forming about Federal compensation. We agree that the Federal compensation system is out of balance with too much emphasis on internal equity and too little sensitivity to the market. In addition, the contributions IT workers make to organizational goals and objectives need to be given more weight in the way those employees are paid and rewarded. Of course, these observations have resonance for the entire work force, not just IT and acquisition employees.

We appreciate NAPA's acknowledgment that other forms of rewards are at least as important as direct and indirect compensation for recruiting and especially for retaining IT workers. Continual skills development and the quality of the work environment, including work/life balance, are extremely important factors. The research clearly shows that retaining high-performing employees is at least as much a function of how they are treated as how they are paid.

Technical currency and continuous learning are critical to the development of the entire Federal work force of the 21st century, and especially for the IT work force. OPM has recently launched governmentwide implementation of individual learning accounts, which will be a powerful tool benefiting both agencies and individuals in the development of their IT skills.

Although we agree with NAPA's findings, we also believe these findings are valid for many other occupations in the Federal Government. It is important to consider whether the systemic flaws that have been identified should be addressed in a piecemeal fashion or more comprehensively.

The administration is developing legislative proposals designed to give agencies more flexibility in the way they compensate and reward all employees. These include a proposal designed to make it easier for Federal agencies to use recruitment, relocations and retention bonuses to recruit and retain highly qualified employees; a proposal to allow agencies to pay the cost of academic degrees and employees' licenses, certificates and professional credentials under broader conditions than currently; and a proposal to make it easier for agencies to use the personnel management demonstration project authority in Title 5 U.S. Code. This initiative would create a mechanism for making innovations that have been tested successfully in one agency available for other agencies to use, and it would authorize permanent alternative personnel systems to facilitate even more experimentation with new ways to pay and reward employees.

Finally, we are working with Federal agencies to make recruitment and hiring more efficient and effective. For example, we are conducting pilot projects to replace rigid qualification requirements with a competency-based approach to hiring.

In closing, we appreciate the work and findings of NAPA and its study panel. We're working hard to address the problems the NAPA report highlights by modernizing the government's hiring, compensation and reward systems. We look forward to further collaboration with NAPA and others in identifying ways to make the Federal Government an employer of choice not only for IT and acquisition workers, but also for outstanding employees in all occupations. I would be happy to respond to any questions you have.

Mr. TOM DAVIS OF VIRGINIA. Thank you very much.

[The prepared statement of Mr. Winstead follows:]

STATEMENT OF
DONALD J. WINSTEAD
ACTING ASSOCIATE DIRECTOR
FOR WORKFORCE COMPENSATION AND PERFORMANCE
OFFICE OF PERSONNEL MANAGEMENT

before the

SUBCOMMITTEE ON TECHNOLOGY AND PROCUREMENT POLICY
COMMITTEE ON GOVERNMENT REFORM
U.S. HOUSE OF REPRESENTATIVES

on

"THE TRANSFORMING POWER OF INFORMATION TECHNOLOGY: MAKING THE FEDERAL GOVERNMENT AN EMPLOYER OF CHOICE FOR INFORMATION TECHNOLOGY EMPLOYEES"
A REPORT BY THE NATIONAL ACADEMY OF PUBLIC ADMINISTRATION

OCTOBER 4, 2001

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

I APPRECIATE THE OPPORTUNITY TO BE WITH YOU TODAY TO COMMENT ON THE FINDINGS OF THE NATIONAL ACADEMY OF PUBLIC ADMINISTRATION (NAPA) IN ITS RECENT REPORT ON THE FEDERAL INFORMATION TECHNOLOGY WORKFORCE.

WE AT OPM COMMEND NAPA AND ITS STUDY PANEL FOR THEIR WORK IN PRODUCING THIS REPORT. I BELIEVE THE REPORT WILL HAVE A SIGNIFICANT IMPACT ON THE FUTURE OF THE FEDERAL GOVERNMENT'S PAY AND STRATEGIC REWARDS SYSTEMS.

THE REPORT IS PART OF A COOPERATIVE EFFORT BY NAPA, THE CHIEF INFORMATION OFFICERS COUNCIL, THE HUMAN RESOURCES MANAGEMENT COUNCIL, AND THE OFFICE OF PERSONNEL MANAGEMENT TO IMPROVE THE GOVERNMENT'S ABILITY TO ATTRACT AND KEEP TOP QUALITY INFORMATION TECHNOLOGY ("I.T.") WORKERS. EARLY LAST YEAR, WE CONFERRED WITH OUR PARTNERS IN THIS EFFORT ABOUT WHAT EACH OF US COULD DO TO STRENGTHEN THE GOVERNMENT'S "I.T." WORKFORCE. OPM PROMPTLY TOOK IMPORTANT ADMINISTRATIVE STEPS TO HELP AGENCIES MEET THIS CHALLENGE.

- FIRST, WE INITIATED A STUDY, IN COOPERATION WITH THE CIO COUNCIL AND THE HUMAN RESOURCES MANAGEMENT COUNCIL, AIMED AT ESTABLISHING APPROPRIATE SPECIAL SALARY RATES FOR "I.T." POSITIONS UNDER EXISTING OPM AUTHORITY.

- SECOND, WE WORKED EXTENSIVELY WITH THE CIO COUNCIL AND THE HUMAN RESOURCES MANAGEMENT COMMUNITY TO UPDATE THE WAY "I.T." WORK IS CLASSIFIED UNDER THE GENERAL SCHEDULE.

- THESE EFFORTS RESULTED IN NEW SPECIAL SALARY RATES, WHICH TOOK EFFECT IN JANUARY OF THIS YEAR. IN ADDITION, WE ISSUED A NEW

CLASSIFICATION STANDARD IN MAY. ACCORDING TO EARLY REPORTS, BOTH HAVE BEEN FUNCTIONING WELL, ALTHOUGH NEITHER HAS BEEN IN EFFECT LONG ENOUGH TO ALLOW FOR RIGOROUS EVALUATION.

AS IN MANY INFORMATION INTENSIVE COMPANIES, THERE HAVE BEEN SIGNIFICANT CHANGES IN THE JOB SKILLS, ROLES, AND RESPONSIBILITIES FOR THE FEDERAL "I.T." WORKFORCE. THE FEDERAL GOVERNMENT IS NOT IN THE "I.T." INDUSTRY. HOWEVER, TODAY'S FEDERAL "I.T." WORKFORCE REQUIRES SKILLS FOR MANAGING PROGRAMS AND PROJECTS THAT RELY HEAVILY ON THE "I.T." INDUSTRY. "I.T." WORKERS WHO DEVELOPED SYSTEMS 15 YEARS AGO NOW OVERSEE TEAMS OF CONTRACTORS THAT BRING COMMERCIAL OFF-THE-SHELF SOLUTIONS TO GOVERNMENT AGENCIES. AMONG OPM'S INITIATIVES IS WORKING WITH AGENCIES TO DEVELOP THE NEW JOB CLASSIFICATION STANDARDS AND CONDUCTING RELEVANT TRAINING COURSES AT OUR MANAGEMENT DEVELOPMENT CENTERS, SUCH AS THE MANAGEMENT OF INFORMATION TECHNOLOGY.

WHILE OPM'S EFFORTS WERE UNDERWAY, WE KNEW THAT NAPA WAS LAUNCHING AN "I.T." PAY STUDY. EARLY IN ITS WORK, NAPA VISITED OPM'S STRATEGIC COMPENSATION POLICY CENTER TO GATHER THE RESULTS OF THE CENTER'S EXTENSIVE RESEARCH INTO JOB EVALUATION AND PAY PRACTICES IN THE PRIVATE SECTOR AND OTHER PARTS OF THE PUBLIC SECTOR. OPM'S

RESEARCH IS THE BASIS FOR IDEAS THAT WE INTEND TO PURSUE TO MODERNIZE FEDERAL COMPENSATION PRACTICES IN GENERAL. WE ARE VERY PLEASED THAT NAPA HAS ACKNOWLEDGED THE VALUE OF OUR RESEARCH FOR ITS OWN WORK.

NAPA'S FINDINGS ARE VERY CONSISTENT WITH THE CONCLUSIONS WE ARE FORMING ABOUT FEDERAL COMPENSATION IN GENERAL. WE AGREE THAT THE FEDERAL COMPENSATION SYSTEM IS OUT OF BALANCE, WITH TOO MUCH EMPHASIS ON INTERNAL EQUITY AND TOO LITTLE SENSITIVITY TO THE MARKET. THE CURRENT SYSTEM ALSO FAILS ADEQUATELY TO TAKE INTO ACCOUNT WHAT NAPA CALLS INDIVIDUALS' "CONTRIBUTION EQUITY." AS THE REPORT RIGHTLY POINTS OUT, THE CONTRIBUTIONS "I.T." WORKERS MAKE TO ORGANIZATIONAL GOALS AND OBJECTIVES NEED TO BE GIVEN MORE WEIGHT IN THE WAY THOSE EMPLOYEES ARE PAID AND REWARDED. OF COURSE, THIS OBSERVATION HAS RESONANCE FOR THE ENTIRE WORKFORCE, NOT JUST "I.T." AND ACQUISITION EMPLOYEES.

WE ALSO AGREE WITH NAPA'S FINDING THAT FEDERAL PAY SYSTEMS LACK THE FLEXIBILITY TO ADJUST TO MARKET DYNAMICS. AT A GOVERNMENTWIDE LEVEL, WE ARE BURDENED BY REQUIREMENTS TO USE GROSS AVERAGES ACROSS DIVERSE OCCUPATIONS AND LEVELS OF WORK. THIS SYSTEMIC RIGIDITY CONTRASTS SHARPLY WITH WHAT WE FOUND IN EXAMINING PAY AND

JOB EVALUATION PRACTICES IN LARGE COMPANIES PERFORMING FUNCTIONS SIMILAR TO THOSE FOUND IN GOVERNMENT.

WE ALSO APPRECIATE NAPA'S ACKNOWLEDGMENT THAT OTHER FORMS OF REWARDS ARE AT LEAST AS IMPORTANT AS DIRECT AND INDIRECT COMPENSATION FOR RECRUITING, AND ESPECIALLY FOR RETAINING, "I.T." WORKERS. WE ALSO RECOGNIZE THAT CONTINUAL SKILLS DEVELOPMENT AND THE QUALITY OF THE WORK ENVIRONMENT, INCLUDING WORK/LIFE BALANCE, ARE EXTREMELY IMPORTANT FACTORS. THE RESEARCH CLEARLY SHOWS THAT RETAINING HIGH PERFORMING EMPLOYEES IS AT LEAST AS MUCH A FUNCTION OF HOW THEY ARE TREATED AS HOW THEY ARE PAID.

TECHNICAL CURRENCY AND CONTINUOUS LEARNING ARE CRITICAL TO THE DEVELOPMENT OF THE ENTIRE FEDERAL WORKFORCE OF THE 21ST CENTURY. THIS IS AN ESPECIALLY VITAL FACTOR FOR THE "I.T." WORKFORCE BECAUSE OF THE RAPIDLY CHANGING SKILL DEMANDS FACING EMPLOYEES IN THESE OCCUPATIONS. OPM HAS RECENTLY LAUNCHED GOVERNMENTWIDE IMPLEMENTATION OF INDIVIDUAL LEARNING ACCOUNTS (ILA'S), WHICH WILL BE A POWERFUL TOOL BENEFITING BOTH AGENCIES AND INDIVIDUALS IN THE DEVELOPMENT OF THEIR "I.T." SKILLS. IN ADDITION, IT'S IMPORTANT TO NOTE THAT AGENCIES CURRENTLY CAN PAY FOR ACADEMIC DEGREES FOR "I.T." OR OTHER PROFESSIONALS WHEN THERE IS A DEMONSTRATED SHORTAGE OF

QUALIFIED APPLICANTS FOR THESE JOBS.

EFFECTIVE WORK/LIFE PROGRAMS ARE AN ESSENTIAL RECRUITMENT AND RETENTION TOOL. THEY HAVE BEEN PROVEN TO REDUCE ATTRITION AND ABSENTEEISM FOR ALL CATEGORIES OF EMPLOYEES. FOR EXAMPLE, PROSPECTIVE "I.T." WORKERS SEEK EMPLOYERS WHO ARE FLEXIBLE AND COMMITTED TO ENABLING EMPLOYEES TO BALANCE COMPETING DEMANDS IN THEIR WORK AND PRIVATE LIVES. MR. CHAIRMAN, AS YOU KNOW FROM PREVIOUS HEARINGS, OPM IS WORKING INTENSIVELY WITH AGENCIES TO PROMOTE TELEWORK OPTIONS, AS WELL AS TO ASSIST EMPLOYEES WITH THEIR CHILD CARE AND ELDER CARE NEEDS. THE SATISFACTION THAT COMES FROM FOCUSING ON RESULTS, RATHER THAN PROCESSES AND PROCEDURES, IS WHAT MOST "I.T." WORKERS – AND EMPLOYEES IN GENERAL – ARE LOOKING FOR FROM THEIR EMPLOYERS.

ALTHOUGH WE AGREE WITH NAPA'S FINDINGS, WE ALSO BELIEVE MANY OF THESE FINDINGS ARE VALID FOR MANY OTHER OCCUPATIONS IN THE FEDERAL GOVERNMENT. IT IS IMPORTANT TO CONSIDER WHETHER THE SYSTEMIC FLAWS THAT HAVE BEEN IDENTIFIED SHOULD BE ADDRESSED COMPREHENSIVELY RATHER THAN IN A PIECEMEAL FASHION, EITHER AGENCY-BY-AGENCY OR OCCUPATION-BY-OCCUPATION. ONE OF OPM'S CENTRAL RESPONSIBILITIES WITHIN THE GOVERNMENT IS TO SPEAK FOR THE CONCERNS OF ALL AGENCIES

AND TO ADDRESS THE ENTIRE SPECTRUM OF FEDERAL WORK AND WORKERS. SO WE HAVE TO CONSIDER WHETHER IT MAKES SENSE TO FOCUS A GREAT DEAL OF ENERGY AND RESOURCES ONLY ON "I.T." WORKERS AND THEIR PAY, OR WHETHER WE NEED TO WORK WITH AGENCIES, INTERAGENCY COUNCILS, CONGRESS, AND OTHER STAKEHOLDERS TO PROPOSE MORE FUNDAMENTAL GOVERNMENTWIDE CHANGES.

FOR INSTANCE, THE ADMINISTRATION IS DEVELOPING LEGISLATIVE PROPOSALS DESIGNED TO GIVE AGENCIES MORE FLEXIBILITY IN THE WAY THEY COMPENSATE AND REWARD EMPLOYEES. THESE INCLUDE–

- A PROPOSAL DESIGNED TO MAKE IT EASIER FOR FEDERAL AGENCIES TO USE RECRUITMENT, RELOCATION, AND RETENTION BONUSES TO RECRUIT AND RETAIN HIGHLY QUALIFIED EMPLOYEES;

- A PROPOSAL TO ALLOW AGENCIES TO PAY THE COST OF ACADEMIC DEGREES AND EMPLOYEES' LICENSES, CERTIFICATES, AND PROFESSIONAL CREDENTIALS UNDER CERTAIN CONDITIONS;

- A PROPOSAL TO MAKE IT EASIER FOR AGENCIES TO USE THE PERSONNEL MANAGEMENT DEMONSTRATION PROJECT AUTHORITY IN TITLE 5, U.S. CODE. THIS INITIATIVE WOULD ALSO CREATE A MECHANISM FOR

MAKING INNOVATIONS THAT HAVE BEEN TESTED SUCCESSFULLY IN ONE AGENCY AVAILABLE FOR OTHER AGENCIES TO USE. IT WOULD ALSO AUTHORIZE PERMANENT ALTERNATIVE PERSONNEL SYSTEMS THAT WOULD FACILITATE EVEN MORE EXPERIMENTATION WITH NEW WAYS TO PAY AND REWARD EMPLOYEES, WITHIN CERTAIN BROAD PARAMETERS.

ALSO, WE ARE WORKING ON MAKING THE RECRUITMENT AND HIRING PROCESSES FOR ALL OCCUPATIONS IN THE FEDERAL GOVERNMENT MORE EFFICIENT AND EFFECTIVE. AS THE NAPA REPORT RECOGNIZES, OPM IS CONDUCTING PILOT PROJECTS THAT INVOLVE REPLACING THE OLD RIGID QUALIFICATION REQUIREMENTS WITH A COMPETENCY-BASED APPROACH TO HIRING. THESE PROJECTS INCLUDE THE USE OF WEB-BASED ASSESSMENT TOOLS AND STRUCTURED INTERVIEWS TO MEASURE COMPETENCIES -- THAT IS, THE KNOWLEDGE, SKILLS, AND ABILITIES -- OF JOB APPLICANTS. STRUCTURED INTERVIEWS ARE AN EXTREMELY EFFECTIVE ASSESSMENT TOOL, DESIGNED TO OBTAIN A SAMPLE OF BEHAVIORS THAT DEMONSTRATE THE COMPETENCIES THAT ARE IMPORTANT TO EFFECTIVE JOB PERFORMANCE. WE EXPECT TO FINISH EVALUATING THESE PILOTS EARLY NEXT YEAR. WE HAVE RECENTLY BEEN WORKING WITH AGENCIES TO STREAMLINE THEIR RECRUITMENT AND HIRING PROCESSES BY ASKING THEM TO EXAMINE THEIR INTERNAL PROCESSES AND DELEGATIONS OF AUTHORITY AND AUTOMATE THEIR PROCEDURES AS MUCH AS POSSIBLE.

THE NAPA REPORT INCLUDED SOME SPECIFIC PROPOSALS THAT WE WOULD LIKE TO EXAMINE MORE CLOSELY BEFORE TAKING A POSITION. THESE INCLUDE PROPOSALS DEALING WITH THE TREATMENT OF SOME SENIOR EXECUTIVE SERVICE POSITIONS AND CERTAIN DESIGN AND IMPLEMENTATION ISSUES, SUCH AS THE DUTY TO BARGAIN SPECIFIC PAY ADMINISTRATION FEATURES.

IN CLOSING, WE APPRECIATE THE WORK AND FINDINGS OF NAPA AND ITS STUDY PANEL. WE ARE WORKING HARD TO ADDRESS THE PROBLEMS THE NAPA REPORT HIGHLIGHTS BY MODERNIZING THE GOVERNMENT'S HIRING, COMPENSATION, AND REWARDS SYSTEMS. WE LOOK FORWARD TO FURTHER COLLABORATION WITH NAPA AND OTHERS IN IDENTIFYING WAYS TO MAKE THE FEDERAL GOVERNMENT AN EMPLOYER OF CHOICE, NOT ONLY FOR "I.T." AND ACQUISITION WORKERS, BUT ALSO FOR OUTSTANDING EMPLOYEES IN ALL OCCUPATIONS.

I WOULD BE HAPPY TO RESPOND TO ANY QUESTIONS YOU MAY HAVE.

Mr. TOM DAVIS OF VIRGINIA. I think I'll start the questioning here. Let me start.

Mr. McClure, in your statement you characterized Federal agencies' efforts to address the IT human capital challenges as generally sluggish and challenging. Do you think that the recent slowdown in the technology sector is going to help us at the Federal level? This is a good time, is it not, to start going after some of these people that are out looking for work and trying to bring them in? It gives us a unique, maybe a one-time opportunity. And then, what are the weaknesses of relying on this approach? And then I will let everybody answer that because I think this goes across the horizon for the fact that workers who were out of reach just a year ago; all of a sudden some of them are just looking around for something quickly.

Mr. MCCLURE. Certainly. Two points. I think certainly the downturn in the IT market gives us a unique opportunity to recruit talent in the government. We've seen our own applications at GAO, both for our internal IT operations and for our analysts that we use to analyze the Federal Government, pick up. And I think it's a positive sign. It is something that we have to recognize is perhaps a momentary blip, and we have to keep our eyes focused on the long-term expected shortage in this area, which no one to date has gone back on the projections or forecasts for the expected shortages in the area. I think it gives the Federal agencies a unique opportunity to ramp up recruitment as well and to capitalize on the moment in time.

One thing that we have to learn in the Federal Government is when we bring in folks under these kinds of time periods, unlike the past where folks are coming in for career long-term careers, these IT specialists might be looking for short, 3 to 5-year stints for experience, skills, broader opportunities, and we have to be able to capitalize on them and use them in that capacity in a different way than we have from our mental model of the past.

In general, I think what we found that we'd like to see some improvements in the agencies that we've evaluated is a lack of recognition of what the skill gaps are. They don't have a good understanding of what the existing inventory is of skills in place versus what they expect to move toward. In many instances, a lot of the Federal agencies are moving toward more heavily contracted-out services in this area, which require a unique set of contract management, oversight, negotiation and relationship-building skills. And that's the area where I think, again, we'd like to see the agency doing analytical types of work to determine what is the priority skills that they're looking for.

Mr. TOM DAVIS OF VIRGINIA. Would you like to address that, Mr. Winstead or Mr. Forman?

Mr. WINSTEAD. Sure. I agree that this does perhaps provide a one-time, perhaps short-term opportunity for the Federal Government to be more proactive in recruiting IT employees. And in order to facilitate that, I think we would want to encourage agencies to make the best use of the flexibilities that are already in existence for Federal agencies to recruit and retain employees. And we can't—I agree that we can't focus just on this short-term opportunity, that we also have to keep our eye on the long term, and in

the long run we are going to need more flexibility and more adaptive systems than we have now to compensate employees in this field as well as in other fields.

Mr. TOM DAVIS OF VIRGINIA. OK. Do you want to add anything to that?

Mr. FORMAN. Yeah. I have to keep in mind that if the studies are correct, 80 percent of the Federal IT work force resides in the government IT industry largely in this area. And absent very good definition on our skill gaps and workload, I'm not sure that we should get into competition as a government with some very fine—you know, generally the world's best systems integrators that serve us as well.

I think that there's been a fundamental shift over the last 2 or 3 years, from the silo-based client server architectures to where most of industry has based in network-based computing, and we haven't made that shift yet as an organization. There are some major business architecture issues we have in the Federal Government, and we're working through those. So while we have a great opportunity right now, I think it's very spotty, and there is a large difficulty to have a big policy.

I think a lot of this will be worked through via the work force plans that the resource management officers are working with in the agencies now.

Mr. TOM DAVIS OF VIRGINIA. OK. Let me go to you again, Dr. McClure. You stated that the NAPA concludes that a market-based system is needed to develop a quality IT work force. What are the advantages and what are the disadvantages of employing that approach?

Mr. MCCLURE. Well, I think really the advantage lies in going beyond what I think NAPA correctly characterized as an internal equity focus in the Federal Government; that is, evaluating on our folks within the confines of their existing organization and instead looking at compensation and benefits that are being offered in external environments as a basis for comparison. In addition to that, I think rolling in this contribution equity, which we have been doing in GAO ourselves, looking at performance as applies to the outcomes or the organization, these are all tangible factors that have to come into play into a market-based approach.

So I think, on balance, this is a movement in the right direction, certainly in the IT area where we are in an environment of intense competition and one in which we need to, again, figure out the skill base that we want to bring into the government in this area, same comment that Mr. Forman just made, and make sure that we're compensating and rewarding people in similar fashions that we see in a competitive environment in the commercial sector.

We're never going to see in totality equal par in public and private sector compensation programs, so the other, I think, important element to keep in mind are these work/life benefits and social benefits that are provided to Federal Government employees that go beyond just typical compensation programs, and the balancing between those two oftentimes gives an advantage to some workers.

Mr. TOM DAVIS OF VIRGINIA. Let me go to you, Mr. Forman. In your testimony, you mention the Freedom to Manage Act that the administration will soon be proposing. One of its components is ex-

panding the use of demonstration projects to implement alternative personnel systems. Demonstration projects have worked well with technology workers at NIST and scientists at the Navy's China Lake project. What are your views about expanding the demonstration project authority to allow for an agencywide project that includes maybe pay banding and pay for performance?

Mr. FORMAN. I'll defer to Mr. Winstead on that.

Mr. TOM DAVIS OF VIRGINIA. All right.

Mr. WINSTEAD. I'd be happy to address that. We believe the demonstration project authority has been very useful to the government over the last 20 years since it was first put into place. We've had a lot of experience with demonstration projects that have experimented with pay-for-performance ideas and performance-oriented pay systems. Right now there are some restrictions in the law on the number of demonstration projects that can be in place at any one time and the number of employees that can be covered by any one such project. There are also some provisions in the law that impede the quick implementation of a new demonstration project. So as part of the President's freedom to management initiative, we expect that legislation to include some provisions that would eliminate those restrictions and also streamline the process of approving new demonstration projects, especially when agencies wish to test concepts or innovations that have already been well tested in earlier demonstration projects.

We also believe that it would be desirable to give agencies the authority to establish permanent alternative personnel systems that make use of some of those well-tested innovations that have been in place now in some cases for 20 years.

Mr. TOM DAVIS OF VIRGINIA. Let me go back to Mr. Forman. How does OMB expect the Federal agencies to demonstrate the linkage between better work force management practices and services being provided to citizens, businesses and governments and its own employees?

Mr. FORMAN. We've asked agencies to give us their plans that will show the strategic realignment for their work force and to link that back directly to performance of missions. The agencies submitted those early in September as part of the budget submissions, and we're now in the process of reviewing those plans for that alignment.

Mr. TOM DAVIS OF VIRGINIA. OK. NAPA indicates that none of its recommendations are radical, that almost 80 percent are already being done somewhere in government. Given this, what does OMB see as reasonable implementation timeframes for some of these reforms being instituted on a governmentwide basis?

Mr. FORMAN. Well, I think, as Mr. Winstead discussed in his testimony, NAPA's examining those—OPM is examining the NAPA findings. There are a number of specific legislative proposals, some of which I think are part of your legislation. But shortly those will be made, I believe, more public as part of the freedom to manage legislation. In addition, as we review the NAPA recommendations, as part of the bigger governmentwide reforms, we're looking not just at what we're doing with the IT work force per se, but what we're doing with the business architecture, if you will, of the Federal Government.

A lot of those decisions are going to require some fairly major changes in the way the government does business. At the heart, I believe, is the notion that we do have a siloed organization structure. The e-government initiatives will force us to work across those silos, and those will bring different management structures to play.

So it's a little premature to push forward in the broad-based recommendation until we work through these specifics in our budget deliberations with the agencies.

Mr. TOM DAVIS OF VIRGINIA. My only concern is that, you know, sometimes just some of these pilot programs we put forward do get a lot of opposition just getting those set up, and it just makes the implementation of where we're finally going that much further off, at a time when I think we need some radical reform in terms of the way that we're dealing with IT professionals and recruiting and retaining them. I mean, that's the concern, and I understand the problem of moving too quickly and maybe doing it wrong.

Mr. FORMAN. I understand.

Mr. TOM DAVIS OF VIRGINIA. You understand the concern?

Mr. FORMAN. And I think it's a valid concern, yes.

Mr. TOM DAVIS OF VIRGINIA. I mean, we are working here with government organizations that ought to be applauding this because it offers opportunities for increased incentives and increased pay for Federal employees. But they are concerned about giving it to one group and not to another, and you understand the drill.

So we have homework to do at the legislative end, too, and we want to work with you to get this implemented because, frankly, people, I think, are going to be more driven to government service after, you know, what's happened in the last few weeks. They're going to want to help, and we just need to make sure that if we can get them to look at the government, that we have a package that not only attracts them but can retain them and keep them here and give them some satisfaction in their work.

Work satisfaction is a critical area, not just, you know, pay and compensation, and one of the difficulties in government is we become so regulation-driven, instead of outcome-driven. You just don't always see the product of your work.

So we just have to work through these things, and I applaud what everybody said in their testimony in terms of getting there. We just want to keep nudging you and encouraging you to move ahead and try to give you tools you need at the government level to move forward.

Mr. WINSTEAD. Mr. Chairman, if I could add that the new Director of OPM has been in her job now for only a little less than 3 months, but she has been very active in pursuing ideas for compensation modernization since her arrival. She was quoted as saying that Federal compensation systems need attention badly, and they need attention now. And she is determined to work with the other administration officials to develop proposals that we can agree on and move forward with as quickly as possible.

Mr. TOM DAVIS OF VIRGINIA. Right. As you know, Ms. James and I go back many years. She was my school board appointee in Fairfax County years ago, and we look forward to continuing to work with her and you.

I've got a couple of questions for you while you're on it, though. Could you elaborate on the pilot projects that are currently under way at OPM for replacing what we called the old rigid qualifications requirements for hiring into the Federal Government with a competency-based approach?

Mr. WINSTEAD. Sure. Right now we are conducting pilot studies.

Mr. TOM DAVIS OF VIRGINIA. Let me say before you answer that we've had the same problem in procurement when we come out sometimes with this long list of qualifications, and, you know, it's not education anymore. It's training. It's what can you do, not what degrees you have.

I mean, technology is changing so quickly. Sometimes you can't always tell from a sheet of paper what somebody can do. And so we're having this problem across government as you talk about the old stovepipe, the siloed approach. It's much more multidimensional and complicated today. Private sector seems to get it. They have to. They're driven by the bottom line. It's just harder in government to get there.

Go ahead. I didn't mean to interrupt you, but it's a frustration, I think, that we are all trying to get at.

Mr. WINSTEAD. You're quite right, and we certainly have shared that frustration at OPM. One of the problems with the current rigid qualification process is that they tend to focus on some very narrow indicators such as years of experience or the number of credit hours of education, as you pointed out, or degrees. But a competency-based approach looks more at the full range of quality and of general and technical education experience.

For example, right now in the IT field, if you were to try to hire an individual at the grade 12 level using the current or the older qualifications requirements, you would have to look to see if the applicant had served for 1 year at the grade 11 level or equivalent, performing that same kind of work, and the qualifications, in fact, are based on time served performing the work that's available.

The difference in a competency-based approach here is that assessment tools, such as structured interviews, personal interviews, or Web-based interviews or Web-based tests can be used to measure an applicant's possession of a certain kind of competencies that are required for a particular job in mind. And, for example, in the case of IT jobs, the kinds of competencies that might be required at the grade 12 level might include some general competencies like oral communication and problem-solving as well as some more technical competencies like network management or software testing and evaluation. And the competency-based approach is designed to try to measure the individual applicant's ability to possess those kinds of competencies rather than just trying to find out how long has the individual been working.

Mr. TOM DAVIS OF VIRGINIA. Right. It's a much more subjective standard, though, which, you know, doesn't always make policymakers comfortable, but it's something you have got to do in the private sector.

Mr. WINSTEAD. Although in some cases, however, we do administer tests. We have Web-based tests that would be more objective in nature. Some of these competencies, of course, don't lend themselves to that kind of testing.

Mr. TOM DAVIS OF VIRGINIA. But even once you get them in, the fundamental issue after that is constantly training and retraining people, because things change very, very quickly. Systems, you know, it just changes very quickly. And traditionally, when budgets get tight, what's the first thing that gets cut. Training.

It has to have a higher priority. And training is important to keep government's competency high, but also for employee job satisfaction. You find a lot of correlation between people getting trained and updated on the latest and people who are stuck kind of in a rut and just seeing jobs going out the door and privatized because government won't invest a few dollars in retaining some very qualified and knowledgeable people to take them to the next level.

I have long argued that if you're looking at the point of view from a Federal employee and Federal employee groups, if you want to stop the hemorrhaging and outsources, you have got to do more in house, and not just on pay, but on training and these other issues. And sometimes the same groups that are fighting outsourcing are also fighting some of the reforms you need to make within the Civil Service System. And it all goes together because at the end of the day, government's responsibility is to get the job done and get the best value for the lowest cost, and that involves a lot of different variables.

But training is a key component for that. We shouldn't be driven by a desire to outsource or a desire to keep in house, but by getting it done at the lowest, at the best value for the lowest cost. And it's complicated sometimes how you arrive at that. It's controversial sometimes how you arrive at that. But that's our fiduciary duty to the taxpayers over the long term.

It just seems to me that the training side in particular, we have an opportunity next year that wasn't available to us just a year ago, and the key is getting them in here and keeping them here, and that means this is an opportunity to change the way we're doing things, and we have an opportunity with the people that are going out the door to bring in some quality people and keep them here if we have our rules and our regulations and our policies set in the right way. If we don't, as you said, it could be a temporary blip, and they're in and then they're back across the street again in 6 months or a year when the economy picks up, and we're back to where we were, and that doesn't do us any good.

So that's kind of what I see. I don't know if anybody wants to react to that.

Mr. FORMAN. Mr. Chairman, if I could a little bit on that, what we are finding out in e-government work is that you are right on target with it—almost prophetic.

Mr. TOM DAVIS OF VIRGINIA. Take as much time as you need.

Mr. FORMAN. The notion of bringing to government the knowledge, management, best practices that you see in many commercial firms really comes down to what I would call the communities of practice. In most leading companies, some of whom will be on this next panel, you see knowledge management tools that bring together training, online training techniques with the people whose jobs really are changing day in and day out, and the communities of practice allow for that training to occur.

Now, what we found out in e-government work that we have been doing, perhaps because of all the overlap in the business architecture, these communities of practice have been forming, some officially, different coordinating committees and some—because people go to different training sessions and they do meet people who do like work. What we're trying to formalize with e-government initiatives is developing that aspect of human capital. So leveraging the Web, e-training concepts, sharing the knowledge, it is incredibly important, especially if people are going to move out of the work force, as we have seen, over the next few years just based on who is eligible to retire.

And the other thing that goes along with that is this—is how kids are coming out of college, graduate school now. They are used to operating in these communities of practice. And we have to bring that into the Federal Government, especially in IT.

Mr. TOM DAVIS OF VIRGINIA. Let me just throw this out to all of you. One thing that occurred to me is we would be happy to host, our office along with Mr. Wolf and Moran and Senator Warner, something out in the Tysons area at this point where we could come out—and government where you need these folks—host kind of a job fair in terms of openings and things we might have and allow you, the different agencies, to set up and talk about some of your plans. And if you would be willing to do that, we would be happy to explore that with you.

For some of our people who are out of work, looking for work, and been laid off, this may give them some hope and an opportunity to look at government; whereas, otherwise, if you don't bring it to them, maybe they think it is too burdensome or too regulatory. But this could be a win-win. If you would be willing to do that, we will be happy to work with you with on it.

Mr. WINSTEAD. I would be happy to take that recommendation back to the director.

Mr. FORMAN. And I would be happy to support that and any commercial efforts where people coming into government or potentially considering serving with a government contractor that don't quite yet understand how we are going through a revolution, I'd be willing to support that as well.

Mr. TOM DAVIS OF VIRGINIA. Well, I think people just don't want a job now, they are also looking for a career path. And right now, one of the problems is you get a job to tide you over for a short term, but what is the career path; where are you going? And I mean it is not like the old days, where somebody maybe comes in and works for 30 years and retires; but you want to give them at least the time where they can not only get a pay check, but get training where they continue to develop themselves professionally. I think that is some of the things we are looking at.

And we have other legislation. As you know, we have other issues that we have discussed. Anything else that somebody wants to add?

Mr. WINSTEAD. Let me just mention in the area of training, and something that we're excited about at OPM, and that's the implementation of individual learning accounts, which I mentioned in my testimony. An individual learning account, or an ILA, is a specified amount of resources. It's usually a combination of dollars or

hours or, in some cases, it might be certain kinds of access to the Internet or to government computers they employ and then can use to guide their own learning. And we think this is an important way of helping, particularly IT employees.

Mr. TOM DAVIS OF VIRGINIA. It's almost a benefit package.

Mr. WINSTEAD. That is correct. Gives them more control over their own learning experiences and working in concert with their supervisors, we think it is an idea that has a great deal of value. And just recently, on September 19th as a matter of fact, the director held a satellite broadcast in which she announced the implementation of this program on a governmentwide basis.

Mr. TOM DAVIS OF VIRGINIA. Any help we can give in getting the word out; or if you need any legislative assistance, we would be happy to help. I think those are the things—doing things differently that we need as we move forward. Let me say to all of you, thank you very much for appearing with us here today. As I said before, your total testimony, not just what you spoke here, will be entered into the record and we look forward to continuing to work with you.

I'm going to declare about a 2-minute recess while we move our next panel up and give you an opportunity to move. And I think votes are still a ways off, so we will be able to get right on to the next panel.

[Recess.]

Mr. TOM DAVIS OF VIRGINIA. Thank you for bearing with me. We are debating on the floor, and I was trying to find out how long before a vote. And they have the Boehlert-Kind amendment to the farm bill is up, and it is a gutting amendment, so there is no rule on who can speak. So everybody wants to speak if you're from a farm State. And if you're not, you want to stay as far away from it.

But let me swear our next group. And if you would rise with me.

[Witnesses sworn.]

Mr. TOM DAVIS OF VIRGINIA. We are going to start with the gentleman who I have known for many years, who used to work for this committee and then went with PRC, a company I was affiliated with. In fact, our offices at one point were next door to each other. And now he has gone on to fame and fortune as the Secretary of Technology in Governor Gilmore's administration, Don Upson. And we will move right down the row. Don, thanks for coming up here today.

STATEMENT OF DON UPSON, VIRGINIA SECRETARY OF TECHNOLOGY

Mr. UPSON. Thank you, Mr. Chairman, for the opportunity. I hope the testimony that I provide is of some value to the committee. What I thought I would do is—I know you asked the statements be put in the record and keep our comments to 5 minutes. So I would like to, if I could make some observations about what we went through and what we are going through as a State, because we're all in the same boat, trying to build a work force to manage one of the largest capital expenses that government at all levels has, and that is our Information Technology. And I looked at the NAPA report and didn't fully appreciate that the Federal

compensation system is rooted really in the 1940's. Ours in Virginia was rooted basically in the 1960's. And neither system as such really reflected the Information Age, which hit us in the last 20 years.

When I was named by Governor Gilmore as Secretary of Technology 3½ years ago, we formed a Council on Technology Services that brought the senior managers in technology together from every major department and agency in higher education and local government. And what we found was that we really had a bit of a mess. We weren't able to recruit people for "help desk" positions because the pay system was too low, so we contracted out the most simple positions at rates of $80,000, $90,000 and $100,000.

On the other end of the spectrum, project managers, it was believed, from major systems acquisitions had to be government employees. Those positions went unfilled. We are hemorrhaging millions of dollars in wasted and mismanaged funds, and the projects weren't succeeding. They were behind budget or over budget and behind school. And we worked together as a government, at least in the technology component, on a broader initiative to reform compensation. And we did a lot of the things that you are talking about now. Or we tried to.

We put in sign-in bonuses of up to $10,000 and gave employees who referred qualified people bonuses of up to $1,500. We streamlined 1,650 classes of—classification of employees down to 300, 11 of which are Information Technology. We are putting in place the telecomputing program. We have retention bonuses for up to $10,000; project incentive bonuses for up to $10,000; increased leave opportunities.

But the problem that we found is that when it came time to implement those things, unless the money was appropriated, it really wasn't used. We have general fund and nongeneral fund agencies. The minute we were able to grant $10,000 bonuses to keep people retained, our entire Department of Motor Vehicles granted them to their entire IT staff, because they are not dependent on appropriated funds, which left the haves and have-nots in government, a situation that we are actually trying to deal with now.

But in terms of managing complex and large projects, one of the things we did—and it echoes to what Mark Forman spoke about earlier—we actually have brought in some of the most qualified people from the private sector to manage our most complicated projects, because we simply can't afford to pay the people the kinds of money they can make when you manage a project of $10, $30, $50 or even $100 million. And private-public sector cooperation and partnership, I think, is important. It is something I know the Federal Government has struggled with for a long time and I think you're making great progress on.

Another area I would like to talk about a little bit is the area of training. We are trying to put in place programs that allow our employees to keep up with the kind of information, education, and training they need to meet the changing demands of technology. Security—information security obviously is really important today, but has become increasingly important. It is projected the Deputy National Security Adviser or former Deputy National Security Adviser for Infrastructure, Richard Clark, projected a shortage of

43,000 information security professionals at the Federal level. And we are very pleased in Virginia that two of the seven universities designated to train information security professionals are—two of those universities are in Virginia: George Mason and James Madison University. Both have master's programs to put those kinds of individuals forward. And the Federal Government is doing a good job of providing the students and it is the kinds of incentives they need to pursue careers in government.

On the other hand, when you talk about the shortages of employees that we have and that we are facing, it is a trend now that we went through in the dot-com phase, and everybody was going to be rich and happy and retired at 30. And that did go bust. And the other kind of security, job security is cool again. And government does offer, we are finding, the opportunity for people to come in at early, and even mid-points, and even senior points, in their career and have rewarding careers in technology and technology management if the system is structured in a way that gives them the flexibility to pursue a career, not in a stratified manner, but gives them project management, development opportunities, a host of opportunities to pursue.

Government service, we believe, at least what we are seeing in our State in terms of technology positions, we are getting more applications, higher-quality applicants to fill the positions that we have available, and that is because people now have a sense that the security government offers is important.

Two points that you mentioned at the Federal level that I have some familiarity with. I am glad to hear that you asked the question about China Lake, because China Lake is the longest-running pilot project in history. It has been going for 20 years. And I am glad to hear, Mr. Chairman, that it is your intention to take some of the creativity there and move it across the spectrum of technology.

I grew up in China Lake. It is in the middle of nowhere, I can say that. It's hot, and in the middle of the Mojave Desert. But it shows that you can attract the most qualified people when you put in place the compensation and benefits program that makes it attractive for them to be there.

And finally to get a handle on the whole IT management, the whole IT work force and the management of that work force and who is getting the incentives and where the skills are lacking or not, I would like to end by saying that the best way for that to occur is for the Congress to adopt your legislation to create a Federal CIO, so there is a single point of contact. And I am delighted that Mark Forman is the e-government czar. I've worked with him for a number of years. He is a terrific person. But I think it is still important that you pursue that office of Federal CIO, not only for the IT management work force, but for those of us in States who have so many issues that intersect with the Federal Government. So I would like to throw a plug in for that as well. And with that, I conclude my remarks.

[The prepared statement of Mr. Upson follows:]

Remarks by Donald W. Upson
Secretary of Technology
Commonwealth of Virginia
Before the
Subcommittee on Technology and Procurement
Committee on Government Reform
US House of Representatives
October 4, 2001

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to speak before you today. Once again, it is a special privilege to appear before my friend and former colleague, Chairman Tom Davis. He and I worked together at the same company in the private sector, a company that worked in the Federal government's $40 billion information technology market. Just recently, the Chairman returned the favor and came to our Commonwealth of Virginia Information Technology Symposium (COVITS), held in the beautiful town of Lexington, Virginia located in the Shenandoah Valley, to speak about many of the issues this subcommittee continues to address here in Washington, DC. I would also like to recognize and congratulate Representatives Jo Ann Davis and Ed Schrock. I had the privilege of working with Representative Davis in Richmond while she was a member of the Science and Technology Committee in the Virginia House of Delegates, and Congressman Schrock served in a similar committee in the Virginia Senate, as well as a member of Governor Gilmore's Commission on Information Technology. These legislators addressed many of the same workforce issues we will discuss here today, and I am sure their experience at the state level will assist all of you and provide for an appropriate resolution. I am sure many of you share similar and strong views about not only what technology can do, but what it is capable of doing when being applied by an experienced and driven member of the country's new IT workforce. The question is: "How do we get them to work with government?"

The Federal government has always been an attractive employer to many citizens of not only the residents of the DC-metropolitan area, but also to citizens across the country in its numerous field offices and courthouses. Over the years, our economy and the government along with it have evolved as the demands of its citizenry and customers have changed. However, an incredible new force has now challenged the slow growth and evolution of the economy and the government. The information age moves at a speed with which federal government is

unfamiliar. The economy with its market-driven and capitalist basis has been able to adapt and make the significant changes necessary not only to survive in a globally competitive marketplace, but also to maintain itself on the cutting edge of new developments in IT. While we all expect government to change, and we support and even lead efforts to move government into the 21st century and the Information Age, it does so at a speed that is much like that of the old barges found on the canal system of the 18th century when compared to the locomotives of the 19th century. The federal government, for all its growth and number of employees is not capable of rapid change. Due to the numerous intricacies of managing federal government and its workforce, a bureaucracy in the form of pay scales, and promotions combined with "stovepipe" agency control has produced a system that no longer serves the contemporary customer[5] of today and the age in which we live as it once did in the past. Indeed, it is no longer serving the federal employees that help provide assistance and services to the American people everyday. There are ways to make government more efficient and user-friendly through the uses of technology. However, in order to make this vision a reality, we must first enable government to engage the kinds of IT personnel necessary to manage this new system and new way of government.

The report," The Transforming Power of Information Technology", submitted by the National Academy of Public Administration identifies the problems and challenges surrounding the current and projected climate of the federal government relative to its aging IT workforce and projected shortfalls regarding unfilled Government IT jobs. While the solutions they advocate are sound, they alone are incapable of addressing the long-term IT dilemma the federal government may or may not find itself in. Regardless, the changes I advocate, those implemented in Virginia by Governor Gilmore, will help mitigate the problems found in the federal system and provide the basis and flexibility for future federal workforce issues.

When James S. Gilmore III was sworn in as Virginia's Governor, he made a promise to the citizens of the Commonwealth that government would embrace the new information age and change the way it conducts business and interacts with citizens. He stated that the people of Virginia expect government to change and improve the way it delivered services at a much-reduced rate of cost to the Virginia taxpayer. The Governor's approach was based upon forming a partnership and working with the private sector to identify their "best practices" and learn how to adapt the best the private sector had to offer to the static way of government. In the 21st century, Government must form business relationships with industry in order to improve services and management of government information. We

recognize at the state-level that despite our workforce and personnel reforms including increased incentives, most of which I will discuss in a moment, that we may not be capable of paying for a government employee at a premium level. Therefore, we have increased our contract work significantly. This has allowed organizations in the private sector with a specific purpose and task to do the job they exist to do. This permits the Commonwealth to benefit from the strengths of its IT economy, while still receiving the best services and same services offered to others around the world. Moreover, the state has partnered with the private sector on several programs to help increase the job pool in Northern Virginia while promoting further growth of the industry across the Commonwealth. Those include, but are not limited to the following:

1. Virginia Workforce Council - the Council, of which Virginia's Secretary of Technology is a member, drives and directs the local Workforce Investment Boards (WIB). The WIB's administer federal workforce funds locally.

2. The High Technology Workforce Committee, of which the President of the Center for Innovative Technology (CIT) is chair, and the Emerging Workforce Committee, chaired by the President of HRT VA Chamber of Commerce, have collaborated in their goal to assist in the development and implementation of training programs and education that meet the needs of VA employers. They went beyond counting openings and projected demand for high-growth occupations and the required skills/training.

3. Telework!va - Governor Gilmore launched telework!va, a public/ private telework partnership for businesses located in Northern Virginia. Telework!va provides financial incentives for businesses to start or expand a formal telework program - up to $35,000 over two years. This match program provides monetary incentives for telework arrangements from both home and telework centers, and provides technical assistance and training to help clients develop and implement a successful customized telework program.

4. Tax Credits - Virginia has a worker retraining tax credit and, subject to appropriation, eligibility for information technology employment performance grants

5. Northern Virginia Regional Partnership (NVRP) - NVRP's Northern Virginia IT Career Assistance Loan fund is in partnership with Sallie Mae. Unlike the traditional "student loan" programs that cover only tuition, this

pilot program provides low-interest loans for tuition - including tuition for non-credit courses - and living expenses. The State of Virginia is considering expanding this program to a statewide level.

6. Internships Job Shadowing - CIT funds internship programs specifically to help Virginia companies attract and retain Virginia college students. In the process, students gain "real-world" work experience. In addition, CIT, Northern Virginia Technology Council and other local and regional organizations work with younger students to "prime the pump" through, for instance, job shadowing and internships.

7. MetroTech - is a regional workforce development initiative designed to address the shortage of qualified individuals with technology skills in the metropolitan D.C. area. Over the next several years, MetroTech will train approximately 3,300 individuals, primarily workers who have been laid off from their jobs through no fault of their own, and place these workers with organizations where their training and skills will assist with lessening skill shortages.

Our second public/private partnership initiative combined our internal government IT positions, the Council on Technology Services (COTS), with contemporary, private sector, job recruitment and retention strategies. The COTS Council has been established to develop a blueprint for state government information technology planning and decision-making. The Council, chaired by, the Secretary of Technology has 30 members, including representatives from state agencies, institutions of higher education and local governments. One of the numerous, specific tasks it is charged with include, "assisting in the development of statewide programs, such as training, certification and IT workforce retention/recruitment." During the years 1999 and 2000, COTS had established an advisory committee to do just this, and they came up with several recommendations. Specifically, the Council worked in cooperation with Virginia's Department of Human Resource Management to craft several new ideas which were recommended and implemented by Virginia State government as part of our statewide Compensation Reform initiative. Recognizing that overall, the Commonwealth of Virginia employs approximately 63,000 classified employees with an annual payroll of approximately 2.3 billion dollars. The classified personnel system that supports this large investment should provide state agencies a framework for the effective delivery of services to the citizens of the State. The State's classified compensation system existing prior to 2000 had been essentially in place since the sixties. According to the report "The Transforming Power of

Information Technology" submitted by the National Academy of Public Administration, most of the federal workforce policies have been around far longer, dating back to the 1940's in some cases. So as you can see, while not contemporary, our state practices were at least not as outdated, but they may as well have been because both state and federal policies were implemented prior to the massive influx of IT into our everyday lives.

Under Virginia's Compensation Reform, 1650 old job classifications were consolidated into 300 new categories. Among the new classes are 11 specifically for information technology, each providing a logical career path for advancement, and each with a significantly expanded pay band. No longer for example, will an excellent technologist be forced to move to a supervisory position just to obtain a salary commensurate with his or her advanced technical skills. While many of our new workforce reforms are for ALL state employees, these new policies still embrace and reflect many of the current market-driven solutions and applications found in the IT arena for IT employees as well. The Commonwealth of Virginia has implemented the following reforms to benefit its employee workforce:

1. Salary increases for IT classes
2. Telecommuting programs with a new policy drafted this year
3. Increased tuition reimbursement and training opportunities
4. Sign-on bonuses of up to $10,000
5. Retention bonuses for critical staff up to $10,000 during a fiscal year
6. Project-based incentives up to $10,000 for any one project during a fiscal year
7. Grant up to 30 days of vacation time during a year to new or existing employees
8. Indefinite extensions of the allotted time employees have to use compensatory leave
9. Recruitment bonuses of up to $1,500 to current employees for referring external candidates to the Commonwealth

10. Recognition awards up to $1,000 per employee per fiscal year

11. More flexible pay practices such as higher percentage increases for promotions, salary adjustments of up to 10% per fiscal year for retention, internal alignment, and learning and applying new skills (such as obtaining higher education degrees or certifications)

12. Expanding pay ranges through pay banding

13. Emphasis on our entire compensation package including benefits such as health care, defined contribution plans, disability plan, and a highly rated retirement system

14. Minimal travel time - particularly appealing to consultants

15. Incentives for foreign workers - paying for H1B visas processing and permanent residency

One aspect of this list of reforms that is not as prevalent is that of leveraging our universities to the state's advantage. One thing we learned from the dot.com revolution and subsequent implosion, was that a premium has been placed upon information security. The primary concern of any government IT worker, contract or not, should be the integrity of the system and safety of the information passing through the system. In Virginia, we have two universities, George Mason University and James Madison University, which are nationally recognized in the fields of information and systems security. We use the opportunity presented to us as a state government interested in protecting its citizens and improving its IT workforce top take advantage of the curriculum and the knowledge these two institutions of higher education have to offer. I would respectfully suggest the federal government investigate a workforce training and development program to be integrated into, and consistent with the other reforms being considered here today.

In conclusion, I would like to take the opportunity to restate my belief that these efforts with regard to IT workforce recruiting and retention reform are another example of the need for a federal CIO. My friend, Chairman Davis, has introduced a bill that would create this position, and I have already gone on record at a previous hearing expressing my full support for this measure. I can assure you, these technology workforce and procurement reforms will have a much better chance if they have an advocate at the highest levels of government, and I believe

it is imperative to the success of these initiatives and most others that we have this position in statute.

Thank you once again Mr. Chairman and Members of the Committee. I am prepared to respond to any questions you may have for me at this time.

Mr. TOM DAVIS OF VIRGINIA. Mr. Amler.

STATEMENT OF ARTHUR AMLER, DIRECTOR, EMPLOYEE COMPENSATION, IBM

Mr. AMLER. Good afternoon, Chairman Davis, and members of the subcommittee. I am Art Amler, Director of Employee Compensation for IBM. I am here today on behalf of the Information Technology Association of America, which provides global public policy and national leadership for the IT industry. Thank you again for inviting me here to talk about the potential to transform the Federal Government in a way that would attract, motivate, and retain modern Information Technology workers.

First off, let me say that IBM concurs with the NAPA study. Many of its recommendations are mirrored in our own story and experience. In the next few minutes, I would like to talk about that this afternoon. Let me say IBM's ability to stay in the forefront of our industry has two fundamental roots: our technology and our people. Attracting and keeping the best technology workers has many angles, as I'm sure you appreciate.

And let us talk about scope on that. One of those angles is the breadth of the skills required. Government is the largest IT customer. However, its core competency is delivering constituent services, generally not creating IT technologies. Government participates in the market for IT skills like many other IT customers. And generally the focus here is to maximize the skills of people who apply IT solutions so agencies can achieve their missions. IT professionals tell us the compensation is not the only factor in where they choose to work; but make no mistake, get the compensation wrong and you won't get your foot in the door. Compensation has become a given in the market for these skills.

Now, can the Federal Government deal effectively with its impending brain drain? Can the Federal Government be an attractive place for the 21st century IT worker? Absolutely. Our experience tells us that it takes understanding the expectations and needs of the workers, knowing the marketplace, and a willingness to implement.

For IBM, the question of instituting the market-based pay system was not "can we" but "how will we" the biggest single factor that allowed IBM to transform its compensation programs was the top-down commitment and drive from senior management.

The IBM journey took several steps to get it to its current compensation platform. Quickly, I will tell you about those.

First, we focused on classification, moving to broadbanding, just have 10 job bands and job families. One result was that we reduced bureaucracy. Let me give you an example of that. We had 3,000 job descriptions. After we did the classification, we went down to about 1,000.

Second, we focused on a common pay increase date. It gives managers an effective and efficient way to look across at all of their employees at the same time to ensure pay decisions are consistent in approach and standards. Using our e-business solutions, we added an online tool and process. This meant that each manager, at their desk top, received a salary budget; individual employee information such as salary and performance information and history; and, most

critically, how each employee's salary compares to the marketplace. This added objectivity, credibility, and focus in the process.

Third, we instituted pay differentiation to help managers refocus on their best employees first. This became our byword, one that our chairman often liked to talk about; in order for us to be successful, we had to pay our best like the best in the market.

This journey began in 1996–1997, and these three phases were completed in 1999. In the United States today, we plan 150,000 employee increases in a 3-week period in March, communicate the decisions to each employee by April, and increases become effective on May 1.

Another component in retaining IT skills is what we call the dual ladder. It allows our people with technical skills to achieve the highest levels in the pay structure, without being forced into management where they may not perform as well and further drain key technical talent.

Change is never easy. The same applies when restructuring the pay system to put a premium on performance. You don't need to pay the most, offer large wealth accumulation schemes, or even the highest benefits.

A clear case can be made why someone should choose a career with the Federal Government as long as some of the very basic realities are addressed from the start. As I said up front, pay is only one element in a competitive package. Just as the private sector is quickly learning, the extent to which worklife options can be improved will make the government a more attractive employer. Worklife flexibility is one of the biggest issues for the modern work force and can make all the difference regarding employer choice.

With the IT worker, continuing education and skill development can't be overplayed. Organizations that ignore development because of costs will most likely face the much higher cost of replacement.

Any transition to a market-based pay for performance compensation and human resource management plan needs to be well understood. You need to establish the imperative for the transition. And actually this should be obvious, given the reality of competing in a wide field for a limited supply of technology workers. Also, managers need to be on board, committed, and clear as they begin implementation.

We believe implementation will reap numerous rewards in the skills and quality of workers you'll get to pursue your mission. Compensation is just one element to attracting, motivating, and retaining the skilled work force, but getting it right is critical to having a solid foundation. Combine that with the nature of the work, the work environment, a commitment to continuous learning and flexibility, and the government will have an extremely strong package.

Mr. Chairman, thank you very much for having me here today, and please enter my written statement into the record.

[The prepared statement of Mr. Amler follows:]

TESTIMONY
OF
ARTHUR AMLER
DIRECTOR, EMPLOYEE COMPENSATION
IBM CORPORATION
ON BEHALF OF
THE INFORMATION TECHNOLOGY ASSOCIATION OF AMERICA (ITAA)
BEFORE THE
U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON GOVERNMENT REFORM
SUBCOMMITTEE ON TECHNOLOGY AND PROCUREMENT POLICY
ON
CHANGING THE FEDERAL GOVERNMENT'S HUMAN RESOURCES MANAGEMENT FOR INFORMATION TECHNOLOGY AND ACQUISITION WORKFORCES
OCTOBER 4, 2001

Good morning, Chairman Davis, and members of the Subcommittee. My name is Art Amler, and I am the director of Employee Compensation for the IBM Corporation. I am here today on behalf of the Information Technology Association of America (ITAA) which provides global public policy, business networking, and national leadership to promote the continued rapid growth of the IT industry. ITAA consists of over 500 direct corporate members throughout the U.S., and a global network of 41 countries' IT associations. The Association plays a leading role in issues of IT industry concern including information security, taxes and finance policy, digital intellectual property protection, telecommunications competition, workforce and education, immigration, online privacy and consumer protection, government IT procurement, human resources and e-commerce policy. ITAA members range from the smallest IT start-ups to industry leaders in the Internet, software, IT services, ASP, digital content, systems integration, telecommunications, and enterprise solution fields. ITAA's workforce and education efforts are focused on ways to develop programs and partnerships to increase the number of skilled American workers in the IT workforce. ITAA works closely with our industry members, government, and the education community to produce annual workforce studies on the IT workforce, as well as projects focused on such topics as skill development, diversity, and training.

Thank you for inviting me here today to speak with you about the potential for transforming the federal government in a way that would attract, motivate, and retain modern information technology workers.

IBM is the world's largest information technology company with more than 80 years of leadership in helping businesses to be as effective as possible. Our businesses range from fundamental research to semiconductors and other technologies which comprise information technology products, to the highest end

of supercomputing. IBM software offers the widest range of applications, middleware, and operating systems for all types of computing platforms. And our services enable customers to take full advantage of the new era of e-business. Today, we have operations in more than 160 countries and have over 320,000 employees around the world.

IBM is in concurrence with the NAPA study. Many of its recommendations are mirrored in our own story and experience. I would like to tell you a little about that story this morning.

Our ability to stay in the fore of our industry has two fundamental roots – our technology, and our people. We have an imperative at IBM to attract, motivate, and retain the best talent available. People are a precious asset, particularly in this highly competitive global market in which we do business.

Attracting and keeping the best technology workers has many angles, as I'm sure you appreciate. It is steeped in their perception of opportunity, flexibility of the work environment, work/life programs, the fostering of a continuous learning environment, challenging projects, and intellectually stimulating colleagues. All these contribute to getting and keeping today's IT professionals.

Compensation is rarely the main reason today's worker decides where to work. But make no mistake, get the compensation wrong and you will not get your foot in the door. Compensation has become a given for the market savvy techie. It has to be right in the first place and is a basic building block for a firm foundation on which to build your relationship with the workforce.

Do I believe the federal government can be an attractive place for the 21st century IT worker? Absolutely. It takes understanding the expectations and needs of the workers, knowing the marketplace, and willingness to implement a regimen that will get you to the end goal.

IBM's Approach

For IBM, the question of instituting a market-based pay system after years of a system that more readily mirrored the federal government, was not "can we?" but "how will we?"

The market does not leave many alternatives. When you compete for the best talent, choices are limited. To ignore the market realities is to an employer's own detriment. Ignoring the market means allowing pay to become misaligned – paying some too much and others too little. This is particularly critical if the pay of your people with core skills falls in the "too little" bucket.

IBM adopted an approach to compensation that addresses four critical business objectives that support our ability to attract, motivate, and retain people with the skills we need to effectively compete. Those four objectives address:

1) Market competitiveness (paying competitively for the skills for which we compete)
2) Internal fairness
3) Differentiating compensation based on overall contribution
4) Tying a portion of employee pay directly to business and personal results

The biggest single factor that allowed IBM to transform its compensation programs from the traditional approach to a market-based approach was the top-down commitment and drive from senior management. Change was essential to our ability to compete.

We went from a very structured, "one size fits most" approach where key decisions were made by compensation professionals and implemented by the management team with almost no flexibility, to a flexible system where the decisions are given to managers with the guidance to pay the best like the best in the marketplace.

Key to the redesign was a focus on the foundation of the compensation system – the position evaluation/classification process. This process was simplified so managers are able to control the bulk of the decisions in this process. The number of job "levels" was reduced with our implementation of broad bands – wide-ranging pay scales and a broader degree of responsibility were established within each band.

IBM reduced the number of job descriptions by two-thirds and gave control to the managers to make classification decisions, with up-line management approval. We grouped jobs into what we call "job families" and priced those families in the market. This allows us to focus our attention on those skill groups that are most critical to IBM's business. We have about 24 groupings, or job families, that separate our core skills for comparison against the market.

We moved to a common base pay increase date. The common pay date or common review date process gives us one important advantage -- fairness in salary administration. It provides managers an efficient and effective way to look across all of their employees at the same time to ensure pay decisions are consistent in approach and standards.

Using a combination of our Lotus and IBM database software to provide a high-performance, e-business solution to a large-scale management population, we developed a common online tool, called Base Pay Manager, for each IBM manager. The tool includes indicative data about each of their employees, a simplified rating system, the salary budget for that manager, and where each employee stands in their pay range when compared to the marketplace for a similar position. Managers know the goals of the program and senior managers focus on key measurements, particularly on the spread of increases from the top

to bottom performers. The tool provides data and objectivity to the process, framing managers' decision making and making for a much smoother pay cycle.

Managers are able to use the face-to-face communication of pay decisions as an opportunity to highlight strengths and areas for improvement for individual employees. When an employee is not given an increase, or gets less than he/she might have expected, managers use the opportunity to explain again to the employees what IBM values and to provide employees with some direction on what they need to do to improve their contribution, and also reiterate the role the market plays in pay decisions.

In the end, employees can see that pay decisions are made by the people in the best position to determine their contribution – these decisions do not come from some "system", "grid", or " automated" recommendation. Uncomfortable as it was for many mangers at first, this process is now part of the culture. And because managers are able to deliver very large increases to our most deserving employees, they also recognize they have a powerful competitive advantage in the marketplace. Managers are now more tied into the objectives of the company – they are accountable and are more in control.

One major goal was and is to ensure, that in any country, office and corridor of IBM, when asked, an employee could say that he or she understands how they are paid in IBM. Employees recognize that, to a large extent, they are the ones in control of their compensation destiny. Employees know that the more skills they bring to the table, the more they improve in contribution and performance, the more they will be paid. They also know now that the market has an impact and that how the market values those skills will also have a significant bearing on their pay. Achieving this understanding is at the crux of what makes this a fair program. Focusing on some simplified rules is what makes this work, but at the core, the fundamental principle is centered on the contribution of the employee to the company.

This is not a popularity contest. This requires making tough decisions. Not everyone is entitled to the same pay at similar levels of responsibility when they exhibit different levels of performance. It requires making the right decisions. Based on performance and level differences, our most deserving employees should expect to receive an increase in base pay which is three to four times the size of an increase of a lower performing employee. And this does not include up to 20% of our employees who do not receive an increase in a year because they are already paid well for their level of contribution in the business.

How We Got to This Point

The marketplace is the source of most of the key labor for which companies like IBM compete. To ignore the market realities limits a company's ability to attract the skills it needs.

The IBM journey took several steps to get to its current compensation platform. First we focused on classification, moving to job families and broad banding. Second, we focused on a common pay date, online tool and process, which could give managers a budget with stated market-pay ranges to help each manager make individual pay decisions. Third, we honed in on pay differentiation to help managers refocus on their best employees first, making sure they maximize their scarce budget dollars and align them to this part of the workforce.

This journey began in 1996-97 and the three phases were completed and fully executed by 1998-1999. In the United States today, we plan 150,000 employee increases in a three-week period in March, communicate the decisions to each employee by April, and increases become effective on May 1st. We also use this program outside the U.S.

Restructuring Pay – Whether Corporate or Government

Change is never easy. One of the most difficult elements can be keeping employee commitment and focus during change.

The same applies when restructuring a pay system to put a premium on performance, not tenure.

A strong value statement is needed that states the importance of the work to be done and the commitment of the organization to its workforce. Long-term commitment is an outcome of an organization showing its employees that their work is valued.

The next element that cannot be emphasized strongly enough is communication. Communication will be critical throughout the process – everything from recruiting to motivating to retaining.

In transitioning to a performance-based system there should be a focus on fairness in the transition. The pay philosophy must be uniform in scope for government IT workers. One agency or department should not be allowed to opt out, or it undermines the government's long-term commitment. It will improve your ability to get and keep the best in a highly competitive market. However, phasing in a new system is perfectly acceptable and understandable – as long as the phase in is clearly communicated to all involved.

IBM's experience suggests that involving employees and managers in the discussions on what is happening, getting their thoughts and understanding their fears, is key to building a targeted communications plan. They will highlight prime issues, challenges, and misperceptions for you before they become full-blown problems, as well as highlighting what is understood and misunderstood. We have also learned that the greatest buy-in from current employees comes when first-line managers are best prepared to explain and answer questions about what the changes mean and why they are being made. A significant

commitment to management training ensured that our managers were well prepared to take the tough questions.

Another critical component in retaining critical IT skills is what we call the dual ladder. It would probably serve the government just as well. The dual ladder allows our technical people to achieve the highest levels in the pay structure while remaining in technical roles rather than moving into management. This structural commitment to reward our technical people for their technical contribution is critical for retention. Otherwise, they might leave if forced into management. We continue to benefit from their calling as technical leaders, rather than diluting their contributions by forcing them to make a choice between management and staying in a lower level with a lower pay opportunity.

Our experience has also taught us that technical professionals coming into an organization from universities have very strong ties to their profession. They stay in close touch with their colleagues and other alumni. This continued contact means comparisons between total packages of various organizations, experiences with the work environment itself, and opportunities for improvement/advancement. These are all shared freely among themselves.

As the government looks at attracting a technical workforce, it is important to consider how and what the government delivers affects its image among people with these critical skills. Redesigning and communicating the government's value statement as an employer will likely help attract and retain top talent. The government need not have to pay the highest, offer large wealth accumulation schemes, or even the highest benefits. But the government will need to provide a more level playing field – comparable to the market from which people with these skills are drawn – for advancement opportunities in pay and responsibility, and timely rewards for contribution. There is already an attraction for many looking at the federal government as an employer that is steeped in a noble tradition and in patriotism. Beyond that, the government has an advantage because of its sheer size and role. Many of the most exciting opportunities result from projects of a size, scope, and leading-edge nature that few other than the government can proffer. A clear case can be made regarding government as an employer of choice, if some of the very basic market realities are addressed at the forefront.

Attraction Beyond Pay

Pay is only one element in a competitive package. Other elements include the nature of the work, people, location, opportunity, benefits, work/life flexibility, and a host of other non-monetary reasons.

Just as the private sector is quickly learning, the extent to which work/life options can be improved will make the government a more attractive employer. Work/life flexibility is one of the biggest issues in the modern workforce. And in many cases, there is no direct cost since the requirement or desire is for flexibility.

Work/life programs function best when everyone is committed to making it work and believes it can improve productivity.

Technology and tools support greater flexibility and will only increase in the future. For IT workers, this is a huge issue. Increased focus on work/life issues improves the chances that government will be able to attract and retain a diverse workforce.

Although telecommuting has its challenges, it has become one of the most important offerings available today to keep employees who would have otherwise not joined or stayed in IBM. Employees with parental responsibilities, elder care responsibilities, cost of living or commuting issues all seem to benefit the most from this flexibility. When we look at our demographics, the impact of telecommuting will touch most of our employees at some time now or in the future.

Government has similar issues with its labor force – particularly since all employers are competing for the same IT talent. Improving work/life flexibility for the technology community offers the organization a competitive advantage over those organizations that do not. At some point, this competitive advantage may become a standard offering at many organizations, increasing the pressure to adopt some form of this approach.

Flex starting times, flex lunch hours, flex weeks in summer and winter seasons, are as much a part of the IBM experience as was the eight-hour day in another generation. This flexibility is offered throughout the business, from labs to manufacturing, to sales offices to corporate headquarters, all balanced by business requirements and legal restrictions.

Virtual, mobile, and home offices are becoming more common and accommodate many of our sales force today. We support home office tools and a significant number of our employees use home connections to IBM's networks to perform their responsibilities.

With the IT worker, the critical role of continuing education and skills development, particularly business process understanding, cannot be overplayed. In addition to work/life issues, technology workers want to grow their skills and be on the leading edge. Organizations that ignore development because of costs will likely incur the much higher costs of replacement – the replacement cost (going rate) for key skills usually exceeds the going rate of current employees.

Growing skills in-house improves the perception as an employer of choice. IBM has taken on e-learning as a way to cost-effectively reach out to even more of our employees. We have received numerous awards, including the recent 2001 Gold Excellence in e-Learning Award for our *Edvisor* online manager personal-

development wizard. The benefits of improved productivity come from enhanced use of technology. Those benefits are maximized by the presence of leading-edge skills that take advantage of improving technologies.

Making the Transition

Any transition to a market-based, pay-for-performance compensation and human resources management plan needs to be rational. Government must establish the critical need for the transition. The reality of competing in a wide field for a limited supply of technology workers is a good beginning for constructing the rationale.

In IBM, we would have focus groups of employees and managers and conduct perception research to understand how changes in approach will impact the goals of attracting, motivating and retaining people within a given skill set. In compensation, in particular, concerns about fairness permeate employee perceptions about the validity of any approach. Fairness is defined as both pay in the market AND how peers are compensated.

While such a change will require tremendous internal focus and external positioning, the basis of the change is rooted in the marketplace. Current and future government employees need to understand the rationale behind the change, as well as the nature of the change. Clear communications on both the objectives and the impacts are required so everyone understands what is happening and why. Managers need to be on board, committed, and clear, as they begin implementation. Not everyone has to go to the new approach at once but the logic of the rollout needs to be clear. The ultimate measure of program success/failure will be how well your most crucial employees (those with skills key to the government's core business and whose contributions have the most impact on your ability to achieve the government's core mission) – and future employees – respond to the changes. Everyone needs to recognize that any move away from the average will create winners and losers. Properly executed, the winners will be the most critical and the losers will be the most expendable.

Not everyone likes the idea of differentiation, particularly when a tenure-based system has been the norm. Some will even say that pay differentials will erode team play and create an environment where people have regard only for themselves. But this does not have to be the case. Everyone benefits by having the best team on the field. For instance, at IBM, one of the criteria by which everyone's personal performance is judged, is teaming.

The hardest part about the transition is the first step – committing at the top that this is the way to address the challenges and opportunities presented by the 21st century workforce. The implementation is not easy, but it will reap numerous rewards in the skills and quality of workers you will get to pursue your mission.

Summary
No one is immune to losing people they do not want to lose when the market heats up, but employers can guard against it. Even during times of a technical "brain drain," creating an environment in which technically skilled people want to collaborate, giving them the opportunity to further develop their skills, allowing position advancement, offering a competitive package – voluntary attrition reduces significantly. IBM experienced this first hand during the dot.com mania of 18 months ago. While our attrition doubled last year over normal years, we still had lower rates than our competitors. Different organizations address voluntary attrition differently. Some use "golden handcuffs," some prefer to employ aggressive recruiting, others provide extensive internal training, and others employ all methods.

Compensation is just one element to attracting, motivating and retaining a skilled workforce, but getting it right provides a solid foundation. When compensation is combined with the nature of the work, work environment, the commitment to continuous learning, and flexibility, the package will be very strong.

Mr. Chairman, thank you for having me here today to discuss these issues with you. I ask that my entire written statement be entered into the record.

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STATEMENT OF JEAN BADERSCHNEIDER, VICE PRESIDENT, GLOBAL PROCUREMENT, EXXONMOBIL GLOBAL SERVICES CO.

Ms. BADERSCHNEIDER. Mr. Chairman, looks like we're shifting gears here. I am Jean Baderschneider, vice president for procurement for ExxonMobil Corp. The scope of my responsibility covers all third-party spend for ExxonMobil worldwide. In addition, to sourcing and day-to-day procurement services, I also have responsibility for all warehouse operations and accounts payables.

Basically what we did is we integrated the entire Purchase-to-Pay process in one global organization. We have got 4,000 procurement employees located in 190 countries, which adds a special dimension. We are located everywhere we do business.

I know the committee members are aware of the dramatic changes in recent years in both the function and business expectations of the procurement process. I have in my office a little cartoon. And the first frame of the cartoon has the door in a dingy basement with a light bulb that says "Purchasing." And the second frame of the cartoon, the door is open and it says, "Procurement's moved upstairs." And I think that's the case over the last 10 years. It is front and center on both efficiency and effectiveness in corporations.

Recognizing this, we created a global procurement organization with a goal to fully optimize the entire acquisition supply chain through strategic sourcing practices and gain operating efficiencies—cost reductions—through full integration of the Purchase-to-Pay process. Let me just add here, we staffed it with high potential line, business, and financial managers. In my 16 direct reports, virtually no one was just experienced in procurement. Everyone came from other functions. And clearly, implications for recruiting, career development, and salaries as a result of it.

Our mission was to provide break-through cost reductions and value generation opportunities that to date have totaled in the billions, with a "b."

In the last decade, there has been a general movement away from traditional bidding—I think you are aware of that—to a commercial focus on lowering total system costs. This has involved developing and implementing a new business process called "strategic sourcing," which is really a systematic, quantitative, rigorous framework through which we analyze the drivers of TSC. And TSC extends well beyond just price margin considerations to vendor supply chain as well as ExxonMobil's internal business and operating processes.

Consequently, many of the recommendations we get involved in go well beyond just price issues. They get into things like maintenance and installation protocols, inventory management planning. All it takes is for you to sit down once and look through one of the initiatives to know that you need people with very different skill sets than in the past.

With regard to services, we use strategic sourcing to create a new approach called "value-based costing," where we have moved away from time and materials to evaluating services by the unit of value delivered rather than the traditional focus on unit of time. To take scaffolding, for instance, which is a very easy and concrete example, we moved to dollars per foot rather than time and materials.

With those changes, we ripped tremendous costs out of our operating locations.

Last November, GAO contacted us about coming and talking to us with regards to what we do. We spent a day with them outlining the various approaches to sourcing that we have. In addition to sourcing-related savings and value, procurements knee deep in stewarding, major efficiency improvements, and day-to-day transactional processing as well, a key component of radically—and I use that word decidedly—lowering costs is implementing systems to digitize most of the procurement processes.

Now with all these changes, we had to look to new competencies. And yes, we do use competency components to our recruiting and skills to match the new roles and responsibilities. On the one hand, we needed to maintain fundamental skills like negotiating skills, commercial acumen, contracting capabilities, relationship management, etc. On the other hand, we needed to aggressively recruit, internally as well as externally, professionals with strong financial, analytical, conceptual, quantitative, general management skills, significant line experience and the capability to fully utilize technology.

And making the change is a major transformation, and it is extremely difficult to do that. Consequently, procurement has become a key entry point in the corporation for MBAs as well as experienced business line officials such as engineers, which means salaries are driven in the upward direction substantially.

Once you get these folks in place, training is key. We found that we didn't have the training available in terms of content or rigor that we needed. So consequently, we created our own training programs. And, of course, as you've already heard here, the key here is to stay the course and having the discipline to actually execute and run most of your employees through training.

It is often key that salaries for professional procurement professionals meet external competition and match salary levels in the business lines to ensure easy career development exchanges between procurement and the business units. In addition, salaries need to change according to an overall pay-for-performance program built on the basic tenet that employees progress in career and salary based on performance. And given the scope and scale of the responsibility we now have in procurement, our positions extend to the very senior executive levels in the corporation as well.

In conclusion, procurement is a key business function, with key performance expectations built into the corporate financial plan, and I am held accountable for those. We steward a number of processes that can create competitive advantage, but the key is having a skilled work force with the kind of backgrounds that I just outlined, aggressive training, and the ability to fully exploit all new technology and existing processes. Thank you.

Mr. TOM DAVIS OF VIRGINIA. Thank you very much.

[The prepared statement of Ms. Baderschneider follows:]

Written Statement

J. A. Baderschneider
Vice President, Global Procurement
ExxonMobil Global Services Company

before the

House Committee on Government Reform
Technology and Procurement Policy Subcommittee

October 4, 2001

Chairman Davis, members of the Committee, I am Jean Baderschneider, Vice President of Global Procurement, ExxonMobil Global Services Company. The divisions and affiliated companies of Exxon Mobil Corporation operate or market products in the United States and about 200 other countries.

My scope of responsibility covers all third-party spend for ExxonMobil, worldwide. In addition to sourcing and day-to-day procurement services, I also have responsibility for warehouse operations and accounts payable. We have 4000 procurement employees located in 190 countries.

Procurement Organization

Introduction

In order to provide a context for understanding the changes we have made in the composition and management of ExxonMobil's Procurement/Acquisition workforce, the following provides a brief overview of the significant changes in recent years in the procurement function and business expectations for the value to be delivered by the procurement process. With the merger of Exxon and Mobil in 1999, we created a global Procurement Organization with a goal to fully optimize the acquisition supply chain through strategic sourcing and gain operating cost efficiencies through full integration of the Purchase-to-Pay (PtP) process. The mission is to provide breakthrough opportunities related to ExxonMobil's multi-billion dollar spend on goods and services. The scope excludes the acquisition of crude, feedstocks and finished products.

Mission Statement

- To implement the business process, strategic sourcing, on a global basis and achieve:
  - Breakthrough reductions in the total cost of materials and services acquired,
  - new avenues for revenue enhancement and reliability,
- To provide procurement services to the business at "best in class" cost, by radically simplifying the transactional flow.

Background

In the last decade, there has been a general movement away from the traditional purchasing approach where bidding prevailed to a commercial approach where the focus is on lowering the Total System Cost to the acquiring organization. This has involved developing and refining a new business process called Strategic Sourcing and rolling it out under global stewardship, fully leveraging scale, scope, and cross functional synergies.

While Strategic Sourcing is the core technical capability in the procurement function, it has a direct relationship with the physical movement of goods and the payment processes. Consequently, materials management and accounts payable are key components of an efficient, effective, and competitively advantaged Purchase-to-Pay (PtP) process. Therefore, the Procurement function within ExxonMobil stewards the entire PtP process. As much of this activity directly affects transaction costs, an increasingly important element in driving costs down is fully leveraging technology at all points along the process. (See Attachment: Purchase-to-Pay Process).

Traditional Purchasing		Globally Matrixed Procurement
Local/Regional Organization(s)	→	Globally Matrixed Organization with strong Regional and Local Implementation
Transactional Focus	→	Strategic and Transactional Focus
Pricing & Bidding Procedures	→	Strategic Sourcing Process
Commodity Experience	→	Commodity and Supply Chain Experts
Purchasing Experience	→	Financial Skills and Analytical Modeling
Support Role to Business Units	→	Advocate & Integrated Business Partner
Purchasing Studies	→	Cross-functional Sourcing Teams
Local Transactional and Inventory Management	→	Global Processes Exploiting and Leveraging Technology

Supply Chain Optimization: Total System Cost & Strategic Sourcing

In the past, Procurement's focus was more reactive than proactive. Our internal clients communicated very specific requirements, often with a limited lead time, and expected that buyers would obtain the specified items within the established procedures at the lowest price. While the process was supported by the typical "three" bids, it did not always lead to the best result for the organization. Employees involved in this activity were called "Buyers." In general they had a good knowledge of the commodity market and the administrative procedures and were also expected to perform most of the expediting activities.

Changes in procurement were triggered by increasing awareness that acquiring materials and services is as much a commercial activity as is marketing and sales. The impact on the bottom line results can be very substantial also since a large portion of all operating and capital expenditures are procurement related. We learned that traditional competitive bidding is not the right answer in all circumstances. When there is no effective competition in the market, when continuous improvement is paramount, when the lowest initial purchase cost leads to locking in future maintenance activities and spare parts.... a different approach may be warranted.

We also learned that, in order to be more effective, acquisition activities need to be positioned within the context of the business processes they are supporting. Let's illustrate this with an example. When we acquire drillbits, it is not only important to understand the technicalities of the purchasing process and the commodity market, but it is also important to understand the impact of the different qualities of drillbits on the performance of the drilling rig, including how faster wear and tear on a cheaper bit leads to shorter runs and more frequent downtime. Since no single drillbit performs best in all circumstances, we must know the nature and location of each drilling campaign. All these factors determine the total cost/value of a drillbit.

Alignment with our business clients plans and understanding of their objectives and work process is as important as intimate knowledge of the commodity market. It represents the difference between buying what the user requests based on lowest price and sourcing based on lowest total system cost that provides competitive advantage.

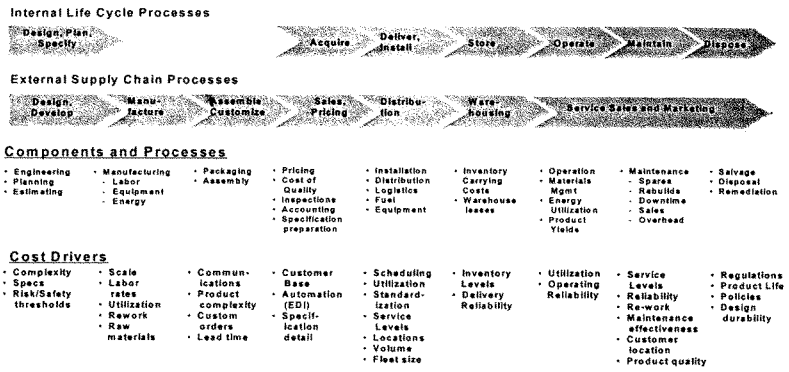
Total System Cost

The total system cost perspective on the supply chain extends beyond the traditional price/margin considerations to the vendors' supply chain as well as ExxonMobil's internal business and operating processes.

Total System Cost (TSC) encompasses all costs incurred along the entire supply chain. In particular it:

- Reveals the supplier's cost levers that ExxonMobil can influence through its commodity specifications or business processes
- Incorporates all internal drivers of costs
- Extends through the lifecycle of the commodity, from acquisition to use and, finally, through disposal
- Identifies sustainable savings greater than the traditional "squeezing" of supplier margins
- Identifies revenue enhancement opportunities (e.g., well up-time, reliability, monetizing assets, etc.)

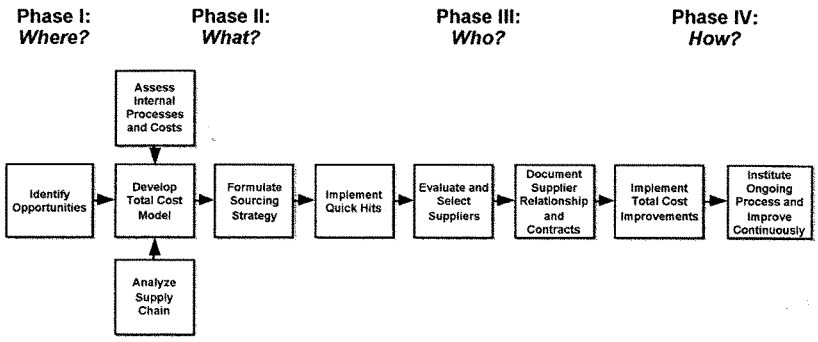
Typical Total System Cost Components & Drivers



Strategic Sourcing

Strategic Sourcing analyzes the drivers of Total System Cost and identifies areas of opportunity leading to a series of initiatives benefiting both ExxonMobil and our suppliers. The four-phase process uses resources from the line organization, suppliers and Procurement. The process is data driven, using strong analytical tools to determine optimal strategies. These strategies result in the lowest overall cost of ownership and operations. Strategic sourcing workplans not only affect the overall methods of procuring, but very often involve recommended changes to business processes such as installation & maintenance protocols, materials management, supervision, etc.

Strategic Sourcing Process Steps



	Phase I	Phase II	Phase III	Phase IV
Elements of TSC	**Opportunity Identification**	**Strategy Development**	**Supplier Evaluation and Selection**	**Relationship Management/ Contract Admin**
Activity Definition	• Develop high level process flow reflecting commodity's supply chain and life cycle • Layout relevant large blocks of TSC structure	• Define blocks of activities at a level of detail matching cost drivers • Develop understanding of cost components of each activity block	• Implementation of Strategic sourcing recommendations	• Develop detailed processes for strategy "refreshing"
Costs	• Derive relative order of magnitude of the costs of each activity from spend data • Utilize a highly skilled multi disciplined team	• Develop generic costs for industry • Achieve 80% accuracy • Develop "what if" model (including impact of cost drivers)	• Develop supplier specific costs • Achieve 90% accuracy • Estimate cost of changing internal processes	• Achieve 95% accuracy • Develop baseline for metrics (potentially use for supplier compensation)
Cost Drivers	• Business Unit's strategic plan • Supply market	• Prioritize lists of cost drivers • Determine extent to which driver can be controlled and by whom • Outline degree of leverage each driver has over TSC • Define leading Key Performance Indicators (KPIs)	• Define qualifying criteria and hurdles • Change management	• Monitor leading Key Performance Indicators (KPIs) and take corrective action, as needed
Savings Estimates	• Link percentage savings estimates to TSC activities	• Link TSC reduction potential to each activity block • Reflect probability and timing of implementation	• Validate with selected suppliers and client	• Link to KPIs • Validate and report by business units.

The process is equally successful when applied to non-traditional purchasing areas such as utilities, management consulting, transportation, logistics, travel, maintenance services, etc. as it is to traditional commodity areas such as plant equipment and office supplies.

"Services" Contracting: Value-Based Costing

Because of a particular interest expressed in "services" contracting during our preparation for this hearing, the following briefly summarizes our strategic sourcing program employed for the improved delivery of labor-related services. We refer to it as Value-Based Costing or VBC. While we have used VBC largely for construction and maintenance services, it has application to other services areas such as IT and management consulting.

Value-Based Costing provides a means for evaluating services by the "unit" of value delivered by the services rather than the traditional focus on unit of time spent at the job-site (as in "Time & Material" contracting). The sourcing workplan for VBC involves detailed task analysis as well as an assessment of ExxonMobil and suppliers cost drivers. The outcome is the achievement of lowest Total System Cost, by optimizing wage rate, productivity, interaction processes and reengineering of processes, where warranted.

The VBC approach shifts emphasis from the cost of a specific service to the cost of capturing value sought by ExxonMobil. The goal of the VBC approach is to align and complement ExxonMobil and supplier goals, and to establish mechanisms to drive ongoing process and value improvements. VBC generally results in changes to the method of payment to the contractor, and introduces financial rewards to promote improved performance and continued focus upon key outcomes desired.

The key paradigm shift for moving to the VBC approach is the change in emphasis from the cost of a "time and materials" service to the cost of actual work performed by a supplier. There are five key tenets to VBC, which are highlighted below:

1. Pay for value delivered based on the most meaningful unit of work
2. Assign accountability to the party that controls the resources or processes
3. Utilize performance incentives to align ExxonMobil and supplier goals
4. Benchmark costs to best practice on an ongoing basis
5. Ensure the transactional processes are efficient

Shifting to the VBC approach has been a highly successful exercise for ExxonMobil. Since its inception a few years ago, the process has yielded substantial savings in Total System Cost at various company facilities. Productivity gains often contribute the largest savings, often in the range of 5 to 20 percent, depending on the past emphasis on productivity, new technology, work methods and procedures. Additional cost reductions can be captured through reducing supplier fixed overhead through better baseloading of labor over a planned demand horizon. Optimizing the supplier mix to fully utilize lower wage rate labor on low skilled tasks can also contribute to savings, depending on the degree of supplier integration with ExxonMobil's work management processes.

In conclusion, the application of Value Based Costing as the delivery model for services has proven to be very cost effective. For the details of the VBC process, we have attached an overview document we prepared for the U.S. General Accounting Office in November 2000.

Optimization of the Purchase-to-Pay Process (P2P)

The foregoing focussed on Strategic Sourcing as the core technical capability used by Procurement to generate bottom line effectiveness. Also central to Procurement's role in ExxonMobil is the stewardship of tools and technologies to support the efficiency of the day-to-day transactional processes. This means becoming the lowest cost provider of Procurement Services.

By creating one organization accountable for the entire Purchase-to-Pay process (PtP), we have the capability and scope to examine how all the process components interact. For example, when developing a Sourcing Strategy, the teams must consider how the goods will be moved physically, how the contract will be administered, how the invoices will be received, verified and paid. Having a global scope creates the scale and platform necessary to transfer best practices faster and with a larger impact, benefiting all our affiliates. Through re-engineering efforts across the entire PtP process, our intent is to continuously increase the productivity of the entire organization while enhancing the effectiveness.

A key component of radically lowering the cost to support our business clients, is leveraging digitization to the maximum extent possible. Similar to other large corporations, we are implementing a number of Enterprise Resource Planning Systems (ERP's) which will allow us to optimize internal interactions and digitize most of the procurement processes, from requirement planning through approval for payment.

The real leverage from these technologies comes in the next phase which focuses on external interactions. The key here is to apply Internet technologies as a complement to our internal digitization to take cost out of the entire supply chain. For example, where we have agreements:

- Internet technology allows us to transmit purchase orders digitally to our suppliers,
- suppliers can use this information to eliminate data entry into their systems, thereby reducing their cost,
- suppliers can then provide electronic invoices, eliminating data entry on the ExxonMobil side,
- linking these transactions with tracking information then optimizes the expediting and logistics aspects

We have also seen benefits in using Reverse Auctioning as a tool to meet Total System Cost objectives. In addition to reducing the time necessary to bid and negotiate contracts, Reverse Auctioning can bring real transparency to the market. We are currently learning the conditions under which it contributes to competitive results.

Workforce Implications

Organization Structure

In order to support all Procurement activities, we needed a major change in our organizational structure. While traditional buying activities could be supported by local groups, an effective procurement process requires an organization structure that ensures appropriate linkages at all levels and with all stakeholders. We, therefore, created a global functional organization that operates as a matrix of commodity families responsible for developing strategies on a global basis and regional offices responsible for strategy implementation, tactical initiatives and transactional support of our operations.

A globally matrixed organization has been key to the successful development and implementation of sourcing strategies leveraged across geographic and business unit boundaries. While not all procurement strategies are global, coordination of strategies across units has been key to extracting full value. This global approach minimizes fragmentation by suppliers (i.e., suppliers individually negotiating pricing and terms with different affiliates), fully leverages economics of scale and scope, and facilitates transfer of best practices and key learnings.

In addition, on the transactional front, global stewardship has provided a broader understanding of lowest cost transactional/processing "channels" around the world.

Required Competencies

First, it is important to maintain strong procurement fundamentals. Negotiating skills, commercial acumen, contracting capability, relationship management, and the ability to follow administrative procedures and maintain a strong "controls" environment

are the prerequisites to building the framework for competitive advantage. However, the full set of competencies required to succeed in today's acquisition/procurement world are very different from those in the traditional purchasing organization.

A large proportion of procurement professionals need to have significant line experience and career paths back to the line. The mix of this line-experienced staff with an already strong Procurement expertise contributes to an integrated business partner approach and the necessary understanding of key business processes.

Strong financial analysis capabilities and technical skills are also essential. These include the following skills:

- Conceptual – Establishing rigorous frameworks
- Analytical – Modeling Total System Costs
- Quantitative – Applying the right tools to the problem
- General Management – Understanding the cross-functional nature of the business (e.g. financial, operational, marketing, planning)
- Supply Chain – Understanding suppliers' businesses
- Systems – Enabling processes to promote integration and efficiency

Given these skill requirements, Procurement has become a key entry point in the corporation for new MBA's as well as experienced business line professionals. MBA training provides analyst capabilities for sourcing initiatives and the sourcing work provides rapid cross-function development and global perspective for new graduates.

Influencing skills are a premium for all procurement professionals. The ability to matrix across a global organization, resolve conflict, gain consensus on strategies, reflect cross cultural needs, and sell it to all clients is the key to closure, delivery, and bottom line impact. It is also the key to building credibility and demand for key procurement processes.

Finally, the capability to understand Internet technologies and link them to procurement processes through reengineering efforts is necessary to fully leverage these technologies and achieve step change advances.

Training

Once people with the right competencies are in place, training becomes central to developing the complete skills portfolio. We have not found training with the content and rigor we need to support our activities readily available in the market. Instead, we have created training programs in 4 key areas:

Fundamentals of Procurement

Provide new entrants with an understanding of the organization, process and interfaces, and a foundation of commercial principles

Total System Cost

Broaden the knowledge of TSC concept and understand how to apply TSC within procurement and client organization

Advanced Negotiation

Enhance skills of negotiators and establish rigorous contracting approaches

Sourcing Leadership

Provide tools and concepts to enhance strategy development and execution

Without going into the details of each program, the key is maintaining the organizational discipline and resource allocation to ensure all professionals are actually trained.

Pay for Performance

As a matter of corporate philosophy, ExxonMobil procurement professionals are part of an overall pay-for-performance program. The basic tenet of our program is that employees progress in their career or salary based on strong performance. While quantitative results are one of the factors considered, teamwork, communication, problem solving, safe operations and ethical behavior are among other criteria used.

While salaries for procurement professionals must meet external competition the key is to ensure that salaries are consistent with overall ExxonMobil professional levels. They must match salary levels in the business lines to ensure easy exchange

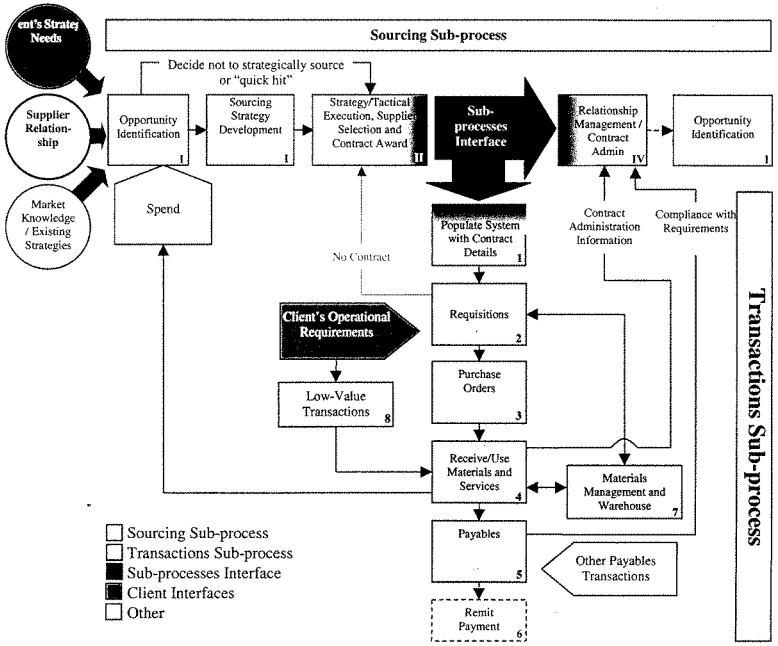
of professionals between business unit's and procurement. Given the scope and scale of responsibility, Procurement positions extend to senior executive levels of the Corporation.

Summary

- The strategic sourcing process and a strong focus on integrating the entire Purchase-to-Pay process has changed the face of procurement in today's corporation. It is a strong business function with key performance expectations built into the corporate financial plan.
- Strategic sourcing can produce significant savings but requires strong financial, analytical and business skills and experience. It is necessary to recruit for these competencies and then provide on-going training.
- Procurement professionals must be compensated at levels consistent with an aggressive external competitive market and match other professionals with comparable scale and scope within the organization.
- Career and salary progression must be performance based to provide incentives to transition to the new organization and sustain long term performance.

ATTACHMENTS

Purchase-to-Pay Process
A Partnership Between Client and Procurement



Contracting for
Construction, Maintenance & Engineering Services

Presentation to
US GENERAL ACCOUNTING OFFICE

November 28, 2000

ExxonMobil

Procurement

VALUE-BASED COSTING

A methodology for evaluating CME service cost by unit of value delivered rather than primarily focusing on unit of time (as in T&M contracting). Value-based costing involves detailed task analysis and an assessment of internal/external cost drivers to achieve lowest total system cost by optimizing both rate and productivity. Could potentially result in changes to the method of payment as well as instituting financial rewards to promote improved performance and focus upon the key outcome desired.

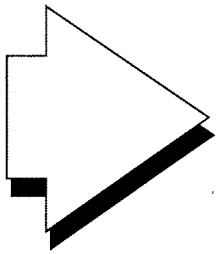
- Pay for value delivered based on the most meaningful unit of work
- Assign accountability to the party that controls resources
- Utilize performance incentives to align Mobil and supplier goals
- Benchmark costs to best practice on an ongoing basis

Focus of Value-Based Service Contracting

Switching to the Value-Based approach shifts the emphasis from the cost of a time & materials service to the cost of the actual work performed

TRADITIONAL APPROACH

- Pay for service using T&M
- Overheads, delays, disruptions, non-productive time are lumped into one price
- No incentive for contractor to improve productivity or planning
- Budgets controlled by contractor headcount

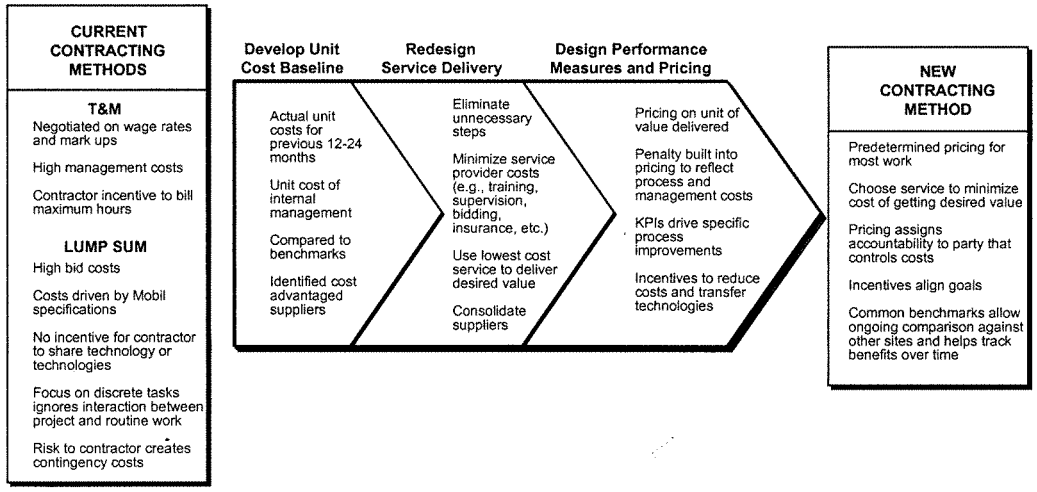


NEW FOCUS

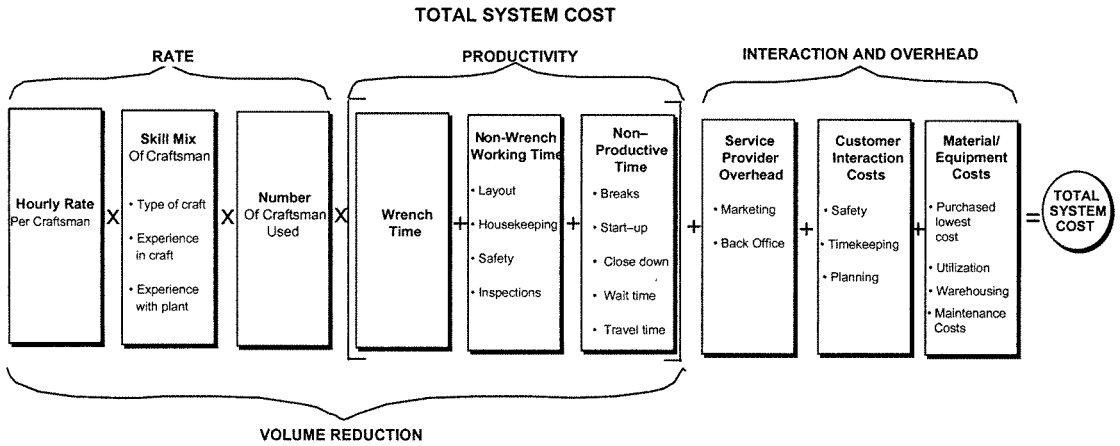
- Pay for work done using unit rates ($/ft or $/sf)
- Overheads delays and disruptions are tracked and paid separately
- Contractor assumes risk if crew is non-productive. Contractor makes money if crew meets or beats set productivity level

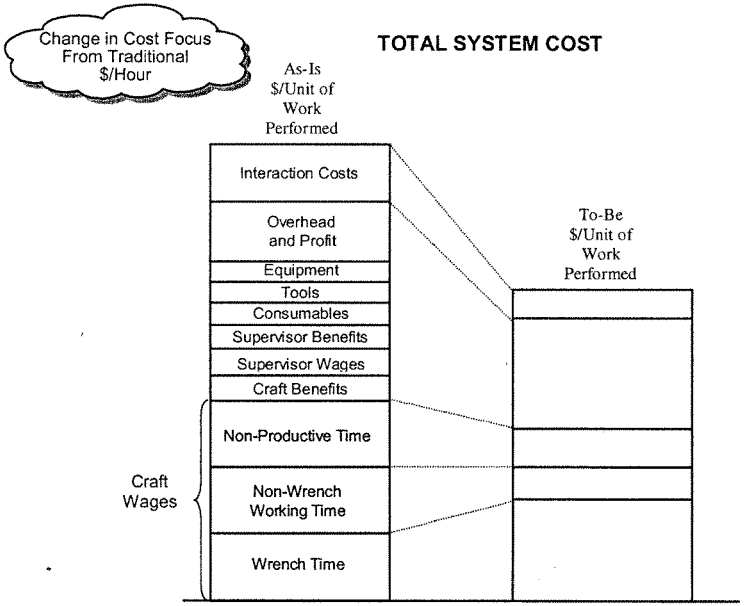
Development Process

VALUE–BASED COSTING IMPLEMENTATION FRAMEWORK



TSC Components




Change in Cost Focus
From Traditional
$/Hour
TOTAL SYSTEM COST
As-Is
$/Unit of
Work
Performed
Interaction Costs
Overhead
and Profit
Equipment
Tools
Consumables
Supervisor Benefits
Supervisor Wages
Craft Benefits
Non-Productive Time
Non-Wrench
Working Time
Wrench Time
Craft
Wages
To-Be
$/Unit of
Work
Performed

EXAMPLE

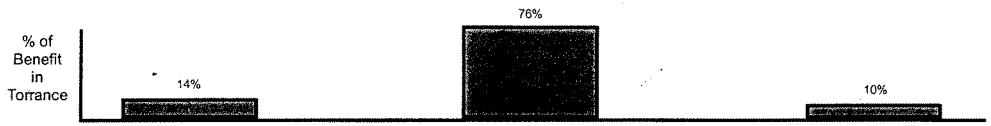
AREAS OF RESPONSIBILITY FOR REDUCING TOTAL SCAFFOLDING COSTS

AREAS WHERE CONTRACTOR HAS PRIMARY RESPONSIBILITY	
AREA	INCENTIVES
• Minimize wage and benefit costs • Minimize corporate overhead	• Unit price means lower wages result in higher margins • Unit price means lower overhead result in higher margins

AREAS OF JOINT RESPONSIBILITY	
AREA	INCENTIVES
• Improved labor productivity	• Unit price for contractor means better productivity results in better margins • Direct penalties for critical productivity and drivers (e.g. delays)
• Better utilization of material	• Unit price for material encourages contractor to maximize utilization and Mobil to minimize use
• Use low cost access method	• Direct incentive for contractor, KPI for ExxonMobil
• Minimize overtime	• KPI for ExxonMobil and contractor
• Reduce workers comp (good safety)	• KPI for ExxonMobil and contractor

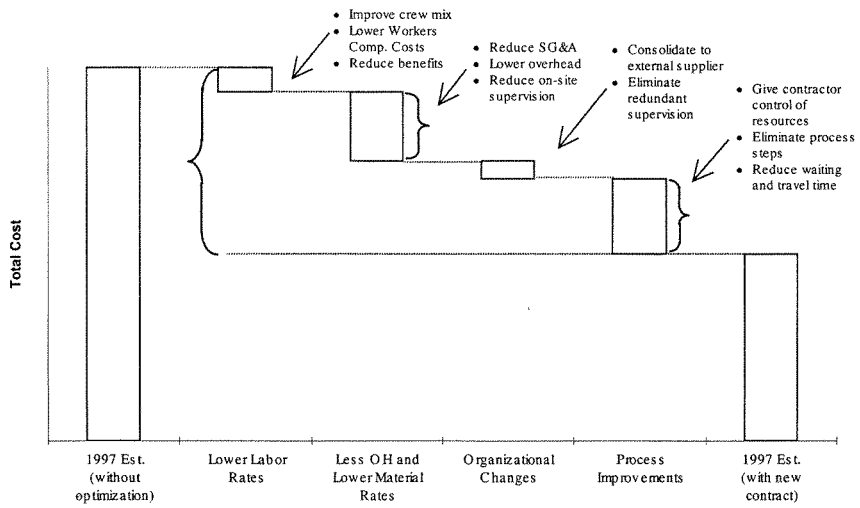
AREAS WHERE MOBIL HAS PRIMARY RESPONSIBILITY	
AREA	INCENTIVES
• Selecting service provider	• Lower unit cost

SERVICE PROVIDER CONTROLLED → CUSTOMER CONTROLLED



EXAMPLE

SAVINGS OPPORTUNITIES - SCAFFOLDING EXAMPLE



VALUE-BASED COSTING IMPLEMENTATION STEPS

STEP 1
Identify Meaningful Units of Output and Unit Spend Levels

- Develop historical total service spend baseline
- Identify correct units of measure
- Develop unit spend for sample period
- Create cross site bench marks
- Evaluate differences in unit spend and quantify high level opportunity

STEP 2
Understand Service-Specific Cost Drivers

- Define current service provider expense structure
- Map work processes
- Quantify current productivity performance through baselining
- Quantify customer interaction process costs
- Direct / Indirect service provider supervision requirements
- Complete detailed data gathering
- Complete detailed unit cost model

STEP 3
Define and Quantify Improvement Opportunities

- Quantify cost reduction opportunities and demonstrate feasibility
- Develop specific recommendations to achieve transferable cost advantages
- Create service demand profile
- Define factors influencing supplier evaluation and potential selection
- Create initial supplier selection screen if needed

STEP 4
Validate and Implement Findings

- Validate Value Based Costing strategy with key stakeholders
- Compare service strategy with other service strategies
- Develop and execute implementation plan
- Develop RFP and analyze contractor responses
- Structure and award contract
- Document and package findings to help other business units

STEP 5
Implement New Contracting Method

- Institute new practices
- Train plant personnel
- Begin tracking KPI's
- Implement individual process changes
- Provide guidance for other sites

STEP 6
Drive Continuous Improvement

- Surface and validate additional improvement opportunities
- Identify problems and adjust processes
- Ongoing benchmarks
- Drive Global roll-out

Mr. TOM DAVIS OF VIRGINIA. Mr. Toregas.

STATEMENT OF COSTIS TOREGAS, PRESIDENT, PUBLIC TECHNOLOGY INC.

Mr. TOREGAS. Mr. Chairman, thank you very much. Congressman Turner, Congressman Horn, members of the committee. The National Academy of Public Administration appreciates very much the opportunity to be here to discuss the recently issued report that transformed hardened Information Technology. Many of the witnesses at this table and at the table before have referred to it. I thought I would show you a copy of it to make sure—and I would hope it is entered into the record along with my written testimony. It is a research outcome that took about a year to conduct.

And I wanted to take just a minute to describe NAPA for you. A lot of people spoke about NAPA. National Academy of Public Administration is an independent nonprofit organization chartered by you, the Congress, to assist Federal, State, and local governments in improving effectiveness, efficiency, and accountability. It has worked for more than 30 years to meet the challenge of cultivating this excellence in public management. We have a membership of more than 500 Fellows, including former and current Members of Congress, including a member of this very committee here; Cabinet-level appointees; senior Federal, State and local executives; private sector executives; nonprofit leaders and scholars.

The hallmark of our Academy work is total independence of its research, its analysis, and our recommendations. We received the mandate from the Council of Chief Information Officers and also the Administrative Office of the U.S. Courts to look at alternative compensation systems, and I was privileged to be the chair of the Academy panel of Fellows that provided oversight and direction for this effort. We had eight distinguished individuals. You on this council here have met Martin Faga, the president of Mitre Corp., who appeared before this committee on July 31st to share the research done on the study. So I will not cover the research results, because Martin Faga has done an excellent job of summarizing those on July 31st.

What I do want to do is I want to very quickly highlight the outcomes. And I am very happy to have heard from the previous witnesses expressed support for those recommendations.

The first one, the most important perhaps, is that we recommend that in order to address a market-based problem, we have to deal with a market-based solution. Think of it. We spend as a Nation $45 billion on Information Technology. And it is about time we maximize the performance of that $45 billion investment by having qualified, competent, and strong IT professionals to do that management. The pay increases have to be linked to competency and results, not time on the job.

The pay system would have four levels: entry, developmental, full performance, and expert. And it would have a dual track where technology managers would exist side by side with general managers. The new system would balance three dimensions of equity—and you heard a prior speaker say this—internal equity, which means how does my job compare with other jobs within the agency. But there are two other kinds of equity: external equity, how does

my job compare to jobs in private industry, to jobs in academia? That's external equity. And then, most importantly, contribution equity. Not how does my job do it, but how am I doing on the job? It's that internal contribution equity that is so vital to bring to the floor along with internal and external equity arguments.

The Federal Government can make maximum use of our worklife programs, excellent programs that offer Federal agencies a true competitive edge.

Continuous learning, we have already heard about it, I won't belabor the point—very important—mentoring, coaching and so on.

Management ownership, buy-in participation is important. Anytime you talk about pay-for-performance, you have to make tough decisions, and that requires strongly trained managers. We have to give our managers the necessary tools to support them in their decisionmaking.

We also looked at the costs, and looking into the future, we think over a 10-year horizon, the return on investment is solid.

Most of these recommendations, Mr. Chairman, and the related components that we have described are already in place somewhere in the Federal Government. Let me say, in a different way, all that the NAPA study is doing is saying that it's time to assemble best practices for the Federal Government. It's time to assemble experiences from demonstration programs and then to implement them aggressively, and hopefully with good results, quickly.

These recommendations are unique in that they focus on a particular occupation group and they give all agencies management tools that are now restricted to only a few agencies.

The recommendations also offer the Federal Government the opportunity to attract and retain a well qualified Information Technology work force that can produce maximum benefit for the dollars invested.

Mr. Chairman, I wanted to also respond to your idea about maybe hosting something in Fairfax and talking about the excitement and opportunities for Federal employment. What you have introduced into the dialog is a very creative, different idea. Instead of attacking issues at governmental agency levels, perhaps we also ought to think geographically and to think about IT professionals in a certain geography, whether it is Fairfax County or any other counties in the States, and think about how can we help the private sector, Federal Government, State government, local government. And I should say that many of the recommendations in this report reflect excellent States'—like Secretary Upson's State of Virginia—and many fine local government experiences. We were able to aggregate these.

I think the time has come for some creative movement forward. I was very happy to hear both from OPM, OMB, and GAO that they are giving an endorsement in support of the recommendations. So it is now up to us, to all of us, to engage in a dialog and find some constructive way to move the recommendations to action.

Mr. Chairman, this completes my testimony and I am available to answer any questions you may have.

[The prepared statement of Mr. Toregas follows:]

The Transforming Power of Information Technology: Making the Federal Government an Employer of Choice for IT Employees

Testimony of Dr. Costis Toregas
President, Public Technology, Inc.
before the House Subcommittee on Technology and Procurement Policy
October 4, 2001

Good afternoon, Mr. Chairman and members of the Committee. The National Academy of Public Administration appreciates the opportunity to share the findings and recommendations of its recent study on federal information technology (IT) compensation. I would ask that a copy of the Academy's recent report, The Transforming Power of Information: Making the Federal Government an Employer of Choice for IT Employees, be made part of the hearing record.

The National Academy of Public Administration is an independent, nonprofit organization chartered by Congress to assist federal, state, and local governments in improving their effectiveness, efficiency, and accountability. For more than 30 years, the Academy has met the challenge of cultivating excellence in public management and administration. Its membership of more than 550 Fellows includes current and former members of Congress, cabinet-level appointees, senior federal executives, state and local practitioners, businesspeople, nonprofit leaders, and scholars. The Fellows are the foundation of the Academy's activities, from inception through implementation. They serve on project panels and guide other major endeavors. As with other Academy reports, this one provides the independent assessment of a Fellows panel that oversaw the project.

The Chief Information Officers Council's Federal IT Workforce Committee and the Administrative Office of the U.S. Courts requested the Academy study of alternative IT pay systems and human resources management issues. The objective of the study was to generate recommendations that would allow the federal government to attract and retain well-qualified IT employees needed to meet the challenges of the 21st Century.

This study benefited from the participation of representatives from many agencies. They were involved in every stage of the year-long study. The project panel was composed of individuals who possessed first hand knowledge of the needs of the IT community, as well as the needs of federal agencies and local governments. I served as chair of the panel, which included individuals from the private sector, public sector, and academia. In addition, a committee composed of current members of the federal community—chief information officers, human resources managers, and line managers—and the private sector met throughout the project to give its input and observations and share questions and issues with employees. The goal of this convening group was to make sure that the problems and solutions identified by the project team

were in line with the situations that the government faces. Additionally, the Office of Personnel Management and General Accounting Office were briefed throughout the process to share ideas and gain insight into the types of measures these two organizations were proposing or implementing. Focus groups were held with federal IT, human resources, and finance line managers to ensure that individuals directly affected would have a chance to provide feedback. This was critical as the compensation models were mapped out. Private sector experts from IBM and SRA briefed the team on compensation in their organizations. During the study's research phase, more than 30 agencies participated and gave accounts of their best practices and mission needs.

The challenge facing the federal IT community centers on the growing need for IT skills: IT now impacts the mission of every agency and has the capability to transform the relationship between citizens and their government. In the overall labor market, there are more than two IT positions available for every qualified candidate. Within the federal government, there will be significant retirements in IT leadership and experienced talent during the next five to ten years. How will government fill these upcoming vacancies? Outsourcing is one option and IT is a leader in seeking alternative sources. In 2001, approximately 70% of federal dollars spent on IT will be paid to contractors. Many agencies rely on outside experts for new technologies, a trend consistent with private industry. Internal resources must be focused on core functions including strategic planning, procurement, and project management.

Although the federal government is a major consumer of IT products and services, it has just begun to explore the use of technology for delivering services electronically to citizens, creating systems for citizen engagement, and using forces of the market to obtain products and services. Recent e-gov legislation illustrates the need for government to become even more involved in providing citizen services through advances in technology. To aid in this effort, government and industry must facilitate the exchange of ideas and employees. The IT senior executive exchange legislation sponsored by Chairman Davis is a vital first step toward meeting that goal.

Based on its assessment of the current IT workforce, the Academy panel believes the following recommendations will help make the federal government an employer of choice for IT professionals. **First and foremost, the government must establish a market-based, pay-for-performance compensation system**. This recommendation is consistent with the stated goals of the Clinger-Cohen Act. Younger IT workers look to be recognized for their contributions to their organization, validated by their compensation. The panel-recommended model provides for and maintains competitive pay by establishing broad pay ranges and tying base pay to market pay.

Recent OPM special pay rates for IT positions help to bring government salaries closer to current industry salaries. Yet they will not keep government pay attuned to the fluctuations in the market—they are a retroactive fix, not a proactive solution. In

addition, the OPM rates do not address the salary needs of higher-level IT supervisors and managers. As the IT workforce grows older, the federal government must be able to entice managers to stay beyond their retirement eligibility, rather than allow them to walk away and take their institutional knowledge with them. Furthermore, incentives are lacking to draw high-level executives into the government. To have the "best and the brightest" IT skills in the federal workforce, benefits for IT professionals must be competitive, especially for the senior executive level, and offer profit-sharing and other incentives currently provided by private sector companies.

Under the new system proposed in the Academy report, pay increases would be linked to competencies and results. Some characteristics of the new pay system include:

- *Four pay levels*
  - Entry (GS 5/7)
  - Developmental/Technical Supervisor (GS 9/11)
  - Full Performance/Analytical Supervisor (GS 12/13)
  - Expert/Manager (GS 14/15/SES)

- *Raising the pay cap for IT executives to the level of the Vice President's salary.*

- *Creating a dual track system.* In the current system, technical experts are pushed into supervisory roles as they have no other way to advance. Research has shown that this process is extremely frustrating to many employees already in the system. Agencies lose their best technical talent yet gain an ineffective supervisor.

- *Establishing an opt-in provision.* The panel recognizes that many IT workers have a long history with the federal government and may not want to accept the risk associated with this new market-based system. All new hires would be placed in the system while established members of the IT community could decide whether to move into the market-based program.

The system outlined in the panel report allows for flexibility in the treatment of individuals and occupations. Each individual's pay is based on what that individual brings to an organization. IT helps support the mission of every federal agency. Yet as the missions vary among agencies, so too do the IT needs of the agencies. For example, the Social Security Administration's critical IT needs are different from the State Department's. The panel realizes that a one-size-fits-all solution will not work in today's federal government. Each agency is encouraged to tailor the panel's recommendations to fit specific needs.

Another recommendation is the need to improve recruiting and hiring processes. **Hiring practices must be faster, better enhanced, and provide more feedback to the applicant**. Anecdotal information indicated that IT professionals have been offered jobs up to 18 months after submitting their applications. For an atmosphere in which

those with "hot" skills are being offered private sector jobs in a matter of days or weeks, cumbersome recruitment processes place the federal government behind the power curve from the outset.

Equity has come to mean equal pay for an equal position within the federal government. This is known as internal equity. In reality, there is a need to balance three dimensions of equity, not just that one. The government must examine external equity aspects, or how one IT position is paid relative to all others in that occupation across sectors. The third is contribution equity, or how IT workers are compensated based on their contribution to their organization. With the number of contractors working in IT shops, individuals sitting side by side on a project are already likely to have compensation differences.

The Academy's study revealed an encouraging sign. Research indicates that federal work-life balance programs are in-line with what IT professionals are looking for. Many private sector companies pointed out that if federal agencies actively marketed their work-life programs to prospective hires, the private sector would be given a run for their money. Telecommuting, alternative work schedules, and programs such as child care facilities are exactly what IT professionals are looking for. Several agencies started a "brand" for their programs, with great success.

Management ownership and participation are key to the success of this new pay system. Pay-for-performance will require federal supervisors to make tough decisions setting pay. Managers must have the necessary tools to support them in their decisionmaking so that they truly have the "freedom to manage." Additionally, agency budgets and management decisions must support full implementation of the system. In times of budgetary shortfalls, there is a tendency to cut training budgets first. IT employees place a high value on keeping their skills up-to-date. As a result, there must be support for *continuous* learning. IT workers must be challenged on exciting projects. Doing so provides the opportunity for them to learn on the job, and participate in classroom training sessions and other opportunities.

Champions are needed for implementation to be successful. Fortunately, the project leadership committee members and the CIO Council have been very willing to give their time and effort to ensure this moves forward, but they cannot do it alone. Legislative support is critical. The approaching wave of retirement provides a unique opportunity to restructure the methods used to compensate federal IT employees. As with any new implementation plan, there must be an involved communications and education strategy to educate employees and managers on the benefits and procedures of the new system. Last, there must be sufficient funding for pay-for-performance; otherwise, the incentives used in the program will have little meaning.

The Academy team took preliminary steps to examine the costs associated with implementing these recommendations. Academy research, expert views, and

demonstration project results provided several conclusions. Demonstration project data were used as many provide excellent baselines for cost comparisons. Cost projections point to an initial increase, both in costs for salaries and continuous learning. Yet, over a 10-year period, there will be a return on learning and growth. Not having to rely on the current, antiquated pay classification system will produce even more cost savings. The indirect financial benefits include reduced retraining costs, improved customer satisfaction, and improved productivity. Another important benefit is a long term return on investment based on IT's ability to implement transformation objectives.

Our research shows that the recommendations being offered fit with the desires of "Generation Y." These individuals are comfortable with technology and want to perform well at work. *The Journal of Career Planning and Employment* (Spring 2000) points out that candidates expect "realistic" recruiting, job training, career clarity, career development, work autonomy, competitive salary and benefits, job alternatives, mentoring, and opportunity for advancement. The National Association for Colleges and Employers (NACE) surveyed current college students and their perceptions of federal government careers. Eighty-four percent expressed interest in federal careers. Thirty-seven percent had little awareness of the application process. Forty-nine percent considered the application process lengthy or complicated. Across all sectors, NACE discovered that the most effective techniques for hiring IT talent included (in order of effectiveness) offering internships and co-ops, offering projects using cutting edge technology, employee referrals, sourcing through career services offices, offering higher salary, and signing bonuses. Most students expect to stay with their first employer less than 3 years (NACE 2001 Graduating Student and Alumni Survey), while 22% leave within 5 years.

None of the recommendations that the Panel proposes is radical. In fact, over 80% of the recommendations are currently being implemented somewhere in government. In short, we propose a market solution for a market challenge, offering a premium for performance. In addition, we believe the sharing of best practices and skilled staff among agencies, and between public and private sector organizations, are vital to infusing the federal workforce with new, innovative IT talent. The time is now for a rational transition to allow the federal government to become an employer of choice for IT employees.

Mr. Chairman, this concludes my prepared statement. I would be pleased to answer any questions that the committee may have.

Mr. TOM DAVIS OF VIRGINIA. I thank all of you very much. And let me go back and start with Don Upson and I am going to move down. I have a few questions for everybody.

Don, those $10,000 bonuses, how was that received by other people who were already employed by the State? Were they looking for $10,000 to re-up or anything, and what kind of implementation problems do you have on that?

Mr. UPSON. The obvious ones; that everybody's job was as important as Information Technology and shouldn't they get that right, too. So, in fact, it was expanded across other categories. The truth is, the only people who could really use those bonuses were the nongeneral fund agencies. And so as good as it sounds—and the point I would like to leave you with is that unless the funds are appropriated and there is some meat put on that, it doesn't work as well as we had expected it to. And the Department of Motor Vehicles, they stuck to it, they defended it. And as a result, I can tell you that they have got the best technology—and not necessarily as a result—but they are the best compensated. They have the best package and the best incentives; and, as a result, they have got the best technology managers in our government.

Mr. TOM DAVIS OF VIRGINIA. And it runs pretty efficiently compared to most places.

You talked about the NAPA reforms being by themselves incapable of addressing the long-term IT dilemma for the Federal Government. Can you elaborate on that? In the written remarks, the NAPA reforms by themselves don't address the long-term IT dilemma.

Mr. UPSON. The long-term IT dilemma—and I go back to it—and I am not sure where in the remarks I said that, but one of the points I wanted to make as I listened to all this stuff and the reports and all the objective criteria for putting out—putting together a compensation package, I think back to when we were at PRC; Cora Carmody was the CIO, and she reported to the chairman and she had a mission that was central—not only central to the mission, but the IT managers knew it was central and they knew that the President thought it was central. And I go back to the point that the leadership and the management—again that's in the bill that you have proposed to create a CIO—has an effect on the quality of the work force because it has an effect on how they feel about the jobs they do.

In Virginia, the fact that there is a Secretary of Technology—soon there will be another one—that has an impact on how people feel about their jobs. But the private sector, the technology professionals, have a sense of mission and they know that the people at the top think it is important.

Mr. TOM DAVIS OF VIRGINIA. In Virginia, you took about 1,650 old job classifications and moved them into 300 categories. And I assume the private companies, you did the same kind of thing. You just had to look and reclassify everything in line with the new reality. How did that work?

Mr. UPSON. For us? It works much better. It gives more flexibility to the managers. At least in terms of technology it works much better. We brought ours down to 11. It gives more flexibility to the managers. When you add that with our new philosophy and strat-

egy of incorporating private sector employees, where we can't hire and we are not able to attract the right kinds of people but they work side by side, the strategies work very well in some key areas like the Department of Health and Department of Social Services that, frankly, get tens of million dollars every year from the Federal Government to administer these systems.

So giving both the managers and the employees greater flexibility was our goal, and we found that it has worked very well, very fast.

Mr. TOM DAVIS OF VIRGINIA. You know, outsourcing, at least up here, is controversial. And in Virginia you did more of it. But you could take things in-house. I mean, you have worked both in government and outside of government for a contractor. What are your general thoughts on that?

Mr. UPSON. My general thoughts are that it is so refreshing—State government—because of that lack of fear of outsourcing; the fact that we can have a Department of Tax Modernization system in Virginia, where we have 60 private sector employees working side by side public sector employees. But ours is a little bit of a hybrid of both. We are bringing them in. They are training. And they are modernizing the system. They get to recoup a share of the profits over a 6-year period. And then they go away and the jobs go back to public employee jobs.

Mr. TOM DAVIS OF VIRGINIA. And that's almost like a share-in-savings contract?

Mr. UPSON. That's exactly right.

Mr. TOM DAVIS OF VIRGINIA. Which we are trying to allow more of at the Federal level and encourage it.

Mr. UPSON. And it is good. I think the model that we've got a little bit, it's the best of both worlds. You get the private sector to come in, but you're not really a threat to the employees. They're going to train them and give them the best stuff.

Mr. TOREGAS. Mr. Chairman, could I piggyback on that for just a second? In our study in NAPA, we looked at outsourcing and we came up with a number that has surprised a few people on outsourcing. We found that in 2001, this current year, when all was said and done, about 70 cents on the Federal IT dollar will have been spent with private contractors. That's a very high number.

The question that arose on the panel dialog about this high number is, does the Federal Government have the IT management skills to oversee the expenditure of the 70 cents on the dollar? So it was an unusual number. I would have guessed, if somebody had asked me, I would have guessed a lower number. And it is 70 percent.

Mr. TOM DAVIS OF VIRGINIA. And I think we can agree. I mean, government has within its employ some of the most capable people around; but if you aren't constantly retraining them, you almost force yourself into a situation—I mean, we have really gotten lax on some of the training needs. And some of it gets down to times when budgets were cut and the first thing that gets taken off is training. Training has to take priority if you want to have an effective management and IT force.

Let me move to Mr. Amler, just going down the line. The NAPA study reports that while no governmentwide data is available on training budgets, that the Department of Treasury in 1998 spent only 1.5 percent of its IT payroll on the development of IT staff. NAPA contrasts this finding with the 4.39 percent of payroll, almost three times as much, spent by their leading-edge IT companies on training.

Goes back to the point I was just making. Can you comment how much is spent by IBM, by companies within ITAA, on training and development of IT staff?

Mr. AMLER. Yes, Mr. Chairman. That number 4.39, although that is a level of precision, that may be give or take. You are somewhere right. From our perspective, 4 to 5 percent. If you look at IBM in terms of its employees, many types of employees, also nontechnical, we may run a little higher because of the fact that we do invest as much in technical training. But 5 percent, 4 percent, in that range, is about what we are seeing and what I believe is out there. So we believe that it is very, very important to have that level of commitment.

I was just on the phone with some of our people in the training area and we have, just to go to your remarks about cost cutting, we have a commitment where even though we are doing a lot of belt-tightening here at IBM, you have to understand we are really focusing still on training our people, even in this environment. So that tells you about the commitment we are trying to make even in an economy that has uncertainties.

We think it is, by the way, also a key motivator, as you mentioned. There is nothing like having availability of training programs to upgrade yourself, and also degree programs that you can avail yourselves, which can be reimbursed by the business to enhance your skills, to move ahead for your career, to get a degree. It is attractive for young professionals, bachelors who want to go for a master's. From my standpoint, it has been a key retention tool for us.

Mr. TOM DAVIS OF VIRGINIA. And one of the saddest things is, within government I have known some of the smartest, most dedicated, loyal, hardworking people you find; but you don't give them the training and it goes out the door. And it is our loss, and we have to wake up. And what you are saying is that the private sector is spending roughly three times as much on training.

Ms. BADERSCHNEIDER. Mr. Chairman, just on that particular question. I do believe training budgets are only one element that you need to look at. I've got $400 million operating expenditure. I only spend $2 million direct costs on training. And—but, in fact, we run almost everybody through massive training programs. And we do train the trainers and we integrate the training process into everyone's job. So the people who actually do the training are folks that are doing the jobs. It is a pretty rigorous training program as well. In addition, then, we supplement it with rotations and exchanges and other things. I think the point is, you get the training budget but you don't necessarily get the whole thing you are looking for.

Mr. TOM DAVIS OF VIRGINIA. Again, Mr. Amler, one of the NAPA findings is that individuals are turned off about government service

getting bogged down in process rather than focusing on the completion of projects. What are your views on the importance of rewards for good performance, such as when an employee accomplishes a project goal, maybe under budget, ahead of time or whatever, and what kind of reward system does IBM implement?

Mr. AMLER. I think it is one of the key motivators for a person who is looking to excel for the business, excel for themselves, that they know that if they produce for the business, that they don't have to wait for a year or 2 years, 3 years, to be promoted or to get an increase that looks like a promotion increase.

By going to the broadbanding approach, what we are able to do is get to our top people who have been driving performance for our business and give them much more significant increases than either the OK performer or the performer who wasn't performing as well. And that was a tremendous motivator, that we recognized a difference to that person who was stretching, trying to make the organization more successful, and we didn't necessarily have to promote that person, although we do promote people in a 10-band system. But that they could see very timely increases that were significant increases, that only they saw years gone by if you were promoted.

So that is the kind of reward system that people now expect if they really stretch themselves.

Mr. TOM DAVIS OF VIRGINIA. Let me ask this, too. And Don, we had these same kind of problems at PRC. Sometimes the people, if you are not in management but you are technically very competent, a lot of times in government, the tendency is you reward people as they go up the management ladder. But some of the best technically competent people who are just wizards in the back room or with a computer, they are not managers and you don't want them to be managers. We found the guys who could make the sale couldn't manage it.

How do you handle that in terms of compensation? That is a huge problem for government, because we reward—not everything, but a lot of our reward system is based on managing people.

Mr. AMLER. I think it is well called out in the NAPA study as one of the critical problems. I think the way we break it down in IBM is there are two ways to exhibit leadership in IBM. One is technical leadership and one is business leadership, and reward people for both. And they can achieve to the highest band in both. They can stay as an engineer all the way to the highest bands, right through into the executive bands, and need not go into management.

What is the problem here is that some of your best people, you're trying to keep them happy, and perhaps the best way to get them more pay is put them into a management job so they can get more pay, and you're going to drain your key technical people. And that person who goes into the management job may not be the right person for management. So what you have done is you hurt yourself with good technical drain—draining your good technical people, and you may not have made a very good manager in the process.

So that is why we go with the dual ladder approach. And we have been successful in keeping people happy, motivated, and with

a sense of opportunity no matter how they feel about the business, whether they want to stay in technology or go into management.

Mr. TOM DAVIS OF VIRGINIA. Just one last question. It took IBM 3 years to fully implement the changes that you outline in your statement. What is a reasonable timeframe do you think for Federal departments to implement some of these NAPA reforms?

Mr. AMLER. I think it can be accomplished if there is the sense of urgency and commitment from the top team here in a similar time period. We are dealing at IBM in the United States alone with 150,000 employees—in just the United States—300,000 worldwide. And think about it. We went to a broadband system as a first step in the first year, and we are able to accomplish that. That required the real big assistance of your management team to help map people into that kind of classification system.

Mr. TOM DAVIS OF VIRGINIA. But to do that you really need the vision of this as what we are going to implement, not the pilot program and the following up. It is just a huge difference in time in terms of getting this up and running.

Mr. AMLER. Right. We didn't think it could be done as quickly, but we had a big commitment from top management to make it happen and it has worked out quite well in terms of the transition. If it takes government 4 years or maybe 3 years, you know, the point is to start. And the idea is to look at it in phases.

And the other recommendation I'd give you is that it's not necessary to have every agency participate in year one, but they transition to that perhaps year 2 or year 3 and so you're done in a 3-year period.

Mr. TOM DAVIS OF VIRGINIA. Ms. Baderschneider, you talked about total system costs, strategic sourcing, you know, value-based costing. How can these impact the Federal Government? And what I want to ask is, how exploitable are these concepts of total costs of strategic sourcing, value based costing to the government?

Ms. BADERSCHNEIDER. I think anytime you have a supply chain on anything, they are importable. You can bring them in and you can make them work. And I looked real quickly at a document that the GAO left with us in November about the $90 billion spent on services, and I looked across at equipment, maintenance, construction, all the different areas that are large chunks of the spend. You can take TSC and do commodity assessment; that will get you very different answers than just a price equation in all those areas. The key, though, is whether or not you get the skills and you've got the breadth of coverage, because you've got to be able to cover your entire supply chain. Do you coordinate across a wide enough breadth, which are often not just lowest price, but a process or planning related as well. So I think they are importable.

I made a note to go back and call the GAO folks and say, you had a whole day with us, did you do anything with it? I would like to find out whether they were able to do anything. And I talked to Dee Lee a couple of times, and her frustration in trying to import some of these same kinds of processes. They are doable, but you've got a skills issue.

Mr. TOM DAVIS OF VIRGINIA. Remember this. In the private sector, you get rewarded for a fast, quick decision behind closed doors. In government, the process—everything is open. It's process-ori-

ented. Takes a long time. I mean, we spend a lot of time on process and procedure in government because we want it open and want to keep people in government from stealing money. And we do a pretty good job of that. But they can't do much of anything else either. And that's one of the problems, is that there is a tradeoff here in finding the right balance.

Now if you know what you want to do, can you move quickly? You can. But there is always a tentativeness.

Ms. BADERSCHNEIDER. The only thing, though, is what TSC does, it gives you transparency on the cost drivers. I sit oftentimes in a political mess with chemicals, production, refining, development, and they all don't want to relate. But once you've got transparency on this is what it's going to take and this is what it's costing you, that can drive a lot. So I do still think that TSC offers a great way to put a window on your cost drivers.

Mr. TOM DAVIS OF VIRGINIA. You also mentioned that procurements become a key entry point in the corporation for new MBAs. As the Federal Government sees more and more of its experienced acquisition professionals retiring, are the skill sets that are inherent in an MBA something that the government will both need to seek out and to immediately train for its efforts to replace the retiring work force?

Ms. BADERSCHNEIDER. Yes, I do. But it's not an MBA. That is more a symbol of analytical, conceptual competencies that you can't go out and develop, and then a framework that you can develop. So I think the ability to do financial planning and assessment, having the analytical skills that allow you to use technology and relate technology to your business processes, all of those things, I think the answer is yes.

I tell you, the other groups—undergraduate physics, math—we have had great luck—I know you are grimacing back there. We have had great luck with people with quantity backgrounds because it teaches them a mindset to conceptualize problems in a different way, in addition to influencing skills, team building, project management.

Mr. TOM DAVIS OF VIRGINIA. I would like to tell a story about it. Today a graduate with a degree in science asks: Why does it work? A graduate with a degree in engineering asks: How does it work? A graduate with a degree in accounting asks: How much does it cost? And a graduate with a degree in liberal arts asks: Do you want fries with that?

When you talk about the total skill on that, I have one other question. Based on your corporate experience, do you think there are core IT skill areas in government, just as in your own organization, that are not candidates for private sector outsourcing?

Ms. BADERSCHNEIDER. Two or 3 years ago, I would have said yes. I don't think that's the case today. I think there are companies that can do almost anything: software, hardware, telecom, networking; you name it, it can be done.

I think the bigger issue is whether outsourcing works or not and how you structure it, because most outsourcing fails unless you have the right kind of interfaces, unless you maintain some kind of core capabilities to manage it. Most outsourcing is abdication. It's "get it out of here," and it hasn't been reengineered. You don't

have KPIs or key performance indicators to make sure your costs don't go through the roof.

I think all that stuff can be outsourced, but it is how you do it. And I haven't seen too many examples of good outsourcing.

Mr. TOM DAVIS OF VIRGINIA. Mr. Toregas, let me ask you a few questions. During the research phase of the study, NAPA had the participation of more than 30 agencies. What participation was there by Federal agencies in the evaluation and report stages?

Mr. TOREGAS. We had developed a leadership council to support the deliberations of the panel and the staff work. And there were several agencies that constantly kept contributing after the research stage, all the way up to helping us evaluate the alternatives.

In addition, we had representatives from the private sector and ultimately from IBM, was one of the key providers of expertise from private industry. So what we tried to do, once we finished the research stage and went into the developmental alternatives in creation of a key choice, was to continue that dialog, but not at the entire developmental level but through a leadership council that we organized.

Mr. TOM DAVIS OF VIRGINIA. Now, OPM has said that its ongoing efforts to increase pay flexibility, such as increasing demonstration project authority, doing pilot projects for a compentency-based hiring and so on, hold a lot of potential for making the Federal Government more attractive to prospective employees. Given the number of reform efforts that are underway already by OPM, you still recommend implementing and legislating for market-based pay-for-performance and pay banding approaches of NAPA?

Mr. TOREGAS. Yes. The two statements are not contradictory at all. I think what OPM is finding is good success. And what we're saying is let's go. Instead of demonstrating or piloting, the time has come to actually step to the plate and implement it. So we are mutually supportive of one another.

Mr. TOM DAVIS OF VIRGINIA. What can Congress do to help promote this?

Mr. TOREGAS. I think you hold the power of persuasion. You create laws, you create direction to the administration in various key areas, and you give the platform for action. The difficulty for this particular area is there is no one single stakeholder.

As you can well appreciate, Mr. Chairman, there are many stakeholders in this complicated area. And it is very difficult to conceptualize where you can sit at a table and dialog and discuss. And I think this very hearing is a good example where you have had industry, State, local governments, private sector representatives and you have had Federal agencies all beginning to dialog about the elements of the NAPA report that should move forward toward implementation.

So I think perhaps as you move forward, you conceptualize the bills that can give Congress the authority and the administration some direction in which way to go. I think it is an excellent first step. And NAPA, I should say the National Academy, stands ready to help you in that effort.

Mr. TOM DAVIS OF VIRGINIA. Anything else anyone wants to add? Let me just say before we close, I want to take a moment to thank

everyone for attending the subcommittee's important legislative hearing today. I want to thank our witnesses, Congressman Turner and Representative Horn, and I want to thank my staff for organizing this. I think it has been very productive.

I am going to enter into the record at this point the briefing memo distributed to subcommittee members.

The record is open for 2 weeks if anything occurs to you that maybe you didn't put in and you want to get into the record. And thank you very much. These proceedings are closed.

[Whereupon, at 4 p.m., the subcommittee was adjourned.]

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