

THE TRANSFORMING POWER OF  
**Information  
Technology**

MAKING THE FEDERAL GOVERNMENT AN  
EMPLOYER OF CHOICE FOR IT EMPLOYEES



## Summary Report



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

# SUMMARY REPORT

## THE TRANSFORMING POWER OF Information Technology

MAKING THE FEDERAL GOVERNMENT AN  
EMPLOYER OF CHOICE FOR IT EMPLOYEES



A Report by a Panel of the National  
Academy of Public Administration for the  
Chief Information Officers Council and the  
Administrative Office of the U.S Courts

**August 2001**



# FOREWORD

*Information Technology has the power to transform the functions of the federal government and to place the services of government at the fingertips of its citizens. To realize this goal, the federal government must be able to attract and retain the very best workforce to develop, implement, and manage a wide variety of information technology systems. And to be able to attract and retain the very best and most proficient workforce, the federal system for recruiting, retaining, compensating, and developing information technology employees must change.*



Recognizing the importance of this issue, the Chief Information Officers Council asked the Academy to initiate a study of alternative pay systems and related human resources management issues that might help the federal government attract and retain a skilled IT workforce. This study has identified a number of effective human resources management practices that can be used by the federal government to improve its competitive position in the “war for talent.”

The research and analysis for this report has been completed through an effective partnership formed by dedicated individuals from the public and private sectors. The Academy is appreciative of the extensive support of the many organizations that provided valuable staff time for focus groups, interviews, and sharing their best practices as well as concerns. The Academy extends special recognition to IBM, Booz Allen and Hamilton, and the SRA corporations; the Armed Forces Communications

and Electronics Association, the Information Technology Association of America, and the Industry Advisory Council; Administrative Office of the U.S. Courts, the Departments of Agriculture, Army, Health and Human Services, Housing and Urban Development, State, Treasury and Veterans Affairs, as well as the General Accounting Office. Individuals from these organizations met to brainstorm, share concepts, and offer proposed solutions throughout the project. Many of these discussions were critical to the final recommendations of the report. This project is an outstanding example of a public-private sector partnership working to address a significant problem facing the nation.



**David F. Garrison**

*Vice President*  
National Academy  
of Public Administration



# EXECUTIVE SUMMARY

*Office of Management and Budget Director Mitch Daniels has asked federal agencies to identify “high payoff e-government opportunities and set in motion a transformation of government around customer needs.” Harnessing the transforming power of information technology requires top notch IT leadership and technical skills. This places the federal government in a quandary. For while it is moving aggressively to modernize and make extensive use of new technologies and Internet capabilities to better serve its citizens, it is also suffering a steady and inexorable deterioration of its current IT leadership. As it seeks to deal with this challenge, it will encounter a highly competitive market for IT skills.*





The federal government is not alone in facing these challenges. Significant innovations in personnel and compensation practices have taken place in every sector of the economy, in academia, state and local government, and nonprofit and international organizations. Such efforts may prove instructive for the federal government.

The Office of Personnel Management (OPM) has made major changes in federal IT job qualification and classification standards and entry-level pay rates. Many individual federal agencies have also received special authorities that ease their IT recruitment and retention challenges. Many of these changes have been sponsored and supported by the federal Chief Information Officers Council. However, all of this work has been constrained by compensation and reward systems that are out-of-date and non-competitive when viewed in the light of a national marketplace for IT skills. Fundamental and cohesive reform is necessary to make the federal government an employer of choice for talented IT leaders and professional staff.

## A NEW APPROACH IS NEEDED

In light of the demand and competition for IT skills and the federal government's need for these skills, a new innovative approach is required. Faced with this situation, the Chief Information Officers Council and the Administrative Office of the U.S. Courts asked a panel of the National Academy of Public Administration to examine alternative pay systems and related human resources management (HRM) programs that would allow the federal government's chief

information officers to compete successfully for scarce talent in a market-driven, performance-based environment.

## RESEARCH FINDINGS

The issues and problems which follow must be solved if the federal government is to attract and retain the IT talent needed to manage its IT programs effectively and efficiently.

### ***Shortage of Qualified IT***

***Professionals***—There is a severe shortage of IT professionals nationwide that is not anticipated to improve for 20 years or more.

### ***Aging Workforce With Problematic Turnover***

—The federal shortfall in IT professionals is aggravated by the fact that over half of this workforce is eligible to retire within the next 10 years.

### ***Pay Gap With the Private Sector***

—The annual salary survey conducted by Computerworld provides an index of the annual salaries paid by various industries, including government (collectively at all levels), for specific IT jobs. The most recent survey results show that at the mid-level and senior management levels there was not one position in which government met the industry average, with most positions falling significantly lower.





***A Broken Recruitment System***—Under Title 5, the federal government does not have the tools necessary to compete for new IT professionals in a highly competitive market place; or to manage its current workforce of IT professionals effectively. The federal recruitment process is slow, lengthy, and rigid. The many inexplicable steps and prolonged delays mean that many of the well-qualified candidates for IT professional positions have already accepted another job before a federal agency can make an offer.

***Inadequate Motivational Tools***—The federal personnel system contains inadequate tools to motivate employees to achieve high performance. The Academy’s project team found that IT professionals prefer compensation systems in which increases are based solely on performance and not on longevity. Not surprisingly, the team also found that effective HRM systems for IT professionals include annual increases based on merit and not on time on the job.

***Overly Focused on Internal Equity***—The private sector is moving away from a one-size-fits-all compensation approach to one that emphasizes pay-for-performance and external competitiveness. By focusing on internal equity, the federal government’s human resources management system is severely constrained in competing for IT talent and effectively managing the IT talent that it already has.

***Too Little Investment in Continuous Learning***—There is a lack of investment in continuous learning within the federal government. This failure is especially problematic in the dynamic and rapidly changing world of IT. Such an environment makes it essential to invest in people. The Treasury Department sums up the overall picture as “one of deteriorating skills in a career field for which keeping skills current requires lifelong learning.”<sup>3</sup>

### ***Outdated Classification System—***

The federal system for classification is expensive, inflexible, and out-of-date. The current federal classification system is based on an industrial model for the 1940's mode of work. Correspondingly, the current classification system represents a hierarchical approach to performing work.

## **RECOMMENDATIONS**

The project panel recommends that the federal government transition to a market-based HRM system for IT professionals that would accomplish the following:

### ***1. Establish a Market-Based, Pay-for-Performance Compensation System***

The federal government should adopt a market-driven, pay-for-performance system to determine base pay, performance-based incentives, and appropriate pay adjustments/increases for IT workers. This compensation approach would establish broad pay ranges, tie base pay to market rates, and link increases to pay to competencies and results to attract and retain IT talent. The new system must narrow the pay gap between private- and public-sector IT workers.

### ***2. Allow for Flexibility in the Treatment of Individuals and Occupations***

The new compensation system should ensure that managers have the flexibility to pay individual workers for their respective skills and competencies as well as their contributions to the organization. The system should provide flexible salary ranges for recruitment and retention purposes.

### ***3. Improve Recruiting and Hiring Processes***

The new compensation system for IT professionals must be linked to faster, enhanced recruitment and hiring processes if the federal government is to attract the workers it needs. In today's IT labor market, the approach an



organization uses to recruit, the mechanisms for getting the message out, and the speed of the process are the most critical elements of its ability to bring new employees on board.

### ***4. Balance the Three Dimensions of Equity***

A new federal IT compensation system should move to a better balance between and among internal equity, external equity, and contribution equity.

### ***5. Offer Competitive Benefits***

For senior executives or professionals at the highest levels of their career ladders, federal benefits are not competitive with the private sector. Until the federal government can offer a more competitive benefits package for senior technical employees as well as executives, it will not be successful in its recruiting battles for these individuals.



## **6. Promote Work/Life Balance Programs**

Federal managers and human resources specialists must actively market these benefits and programs so that potential IT workers are aware of them. The benefits and aspects of the different programs should also be included in recruitment materials and advertisements. Agencies also must ensure that their work/life programs are flexible enough to provide for selection by employees according to individual needs, as long as the accomplishment of agency mission is supported.

## **7. Encourage Management Ownership**

Managers must actively participate in the design and implementation of agency-specific features of the new system and must be rewarded for effectively implementing and managing the system. Conversely, managers who refuse to make the tough personnel decisions in setting pay, awarding bonuses,

scheduling training, mentoring, and other factors must be held accountable for not carrying out their management responsibilities.

## **8. Support Technical Currency and Continuous Learning**

Technical currency and continuous learning are critical components of an HRM system for IT professionals. Agency management should design and support developmental activities through a number of vehicles including formalized training, on-the-job training, computer-assisted learning, self-instructional guides, coaching, and other approaches. Overall, federal agencies—and especially the managers in agencies—must create a learning culture.

## **9. Build in Reliability, Clarity, and Transparency**

Agency budgets and management decisions must support full implementation of the system. Congress, the Office of Management and Budget (OMB), OPM, and agency political and career executives must ensure that agency appropriations are reflective of a commitment to this system. The new system must be reliable so that employees are treated in a consistent manner as dictated by individual facts. Reliability means consistent conformance with policies so that the same set of circumstances always leads to a fair decision and result.



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*The new compensation system should ensure that managers have the flexibility to pay individual workers for their respective skills and competencies as well as their contributions to the organization.*

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### **10. Implementation**

Detailed implementation planning and execution is an essential component of success. At a minimum, the following steps must be taken:

- identify champions for the new system in the political and career leadership of each agency
- translate the recommendations of the report into legislative and programmatic action items
- translate the legislative and programmatic decisions into detailed agency by agency action items
- develop a communications strategy
- develop an education strategy
- develop a detailed plan to carry out the communications and education strategies
- provide sufficient funding for both the system and the implementation activities



## **CONCLUSION**

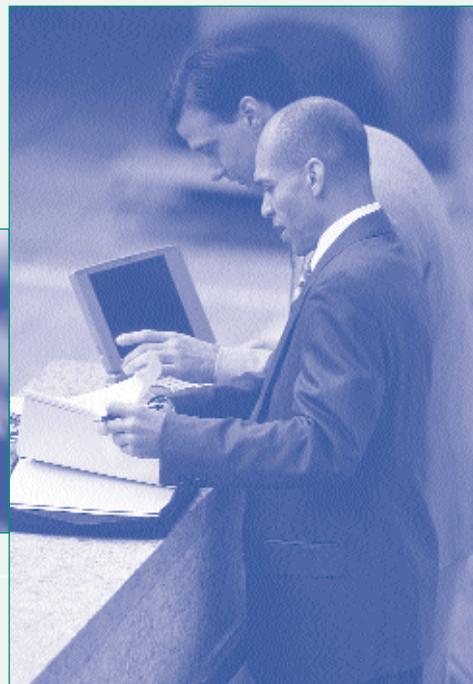
Information technology has the power to transform the level of quality and quantity of government services provided to American citizens. To realize this goal the federal government must have the tools needed to win the “war for talent.” The tools in the current system are not adequate for the challenge. New tools are necessary. In order to provide these tools, significant reform is required. This reform must have several key elements:

### **1. A Market Solution for a Market Challenge**

Pay systems must be based upon objective and dynamic market criterion determined by studies of the marketplace for IT skills. Broad and static systems that link IT pay to non-related occupations will not be responsive to the pace of change in this occupation.

### **2. A Premium for Performance**

Current federal compensation systems promote equal treatment for all employees in the guise of “internal equity.” The success of most effective private-sector systems is gauged by the ability to distinguish and disproportionately reward the top performers based upon their contribution to organizational goals and objectives. The generation now entering the



workforce strongly supports this model of “contribution equity.” A key component of this approach would be to focus on the skill sets that will be most critical for the government to maintain and develop—IT executive leadership and IT project management.

### ***3. A Balanced Work/Life Program***

Although a great deal of emphasis has been put on salary, the panel has found substantial support for approaching salary as one component in an overall program to attract and enhance the workforce. Organizations with competitive salary structures do not have to pay at the top of commercial pay ranges if they couple salary with development opportunities, flexible work arrangements, competitive benefit packages, and other job elements that are responsive to the needs of workers. Training and development are elements that are particularly important to IT workers.



### ***4. A Rational Transition***

The changes proposed in this report have been tried and tested in many private- and public-sector environments. Elements of these recommendations are already operating in a number of federal agencies and in the U.S. Courts. The panel recognizes that introducing such changes governmentwide will challenge the existing culture of many federal agencies. To be successful, significant change management and training efforts are needed for managers and their employees. The panel recommends introducing these concepts through a structured implementation plan.

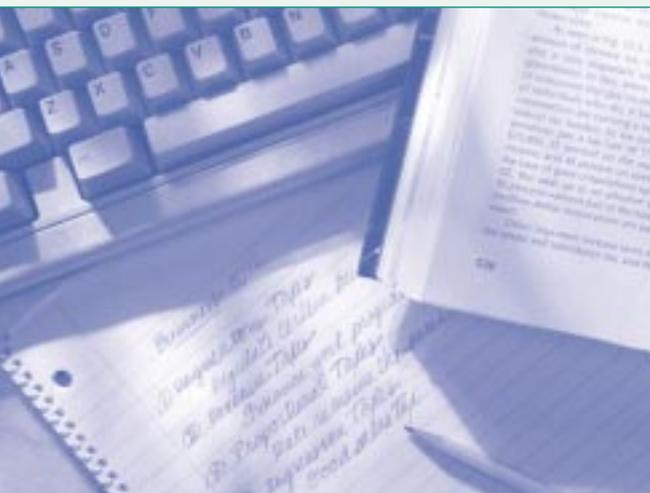


# THE TRANSFORMING POWER OF INFORMATION TECHNOLOGY:

## MAKING THE FEDERAL GOVERNMENT AN EMPLOYER OF CHOICE FOR IT EMPLOYEES

*Computer and telecommunications technologies are becoming increasingly intertwined with the way people live, work, and play. Information and its distribution through technology are now primary drivers of the U.S. and global economies. Advances in IT have also played a major role in improving productivity, quality of life, and standards of living in the United States and abroad.*





Governments at all levels rely on IT to improve their efficiency and effectiveness, institute performance-based management, and improve communications with citizens. In addition, agencies are using IT to develop e-government, which is transforming the relationship between citizens and government by enabling the delivery of services more directly, more rapidly, and electronically to the individual citizen. E-government provides an opportunity for the nation to re-engineer the way government operates by creating an accessible, unencumbered system for citizen service and engagement.

Not surprisingly, the federal government is a primary consumer of IT systems and capabilities. In fiscal year 2001, the federal IT budget exceeded \$42 billion, with a total investment of at least \$150 billion. This number is expected to grow steadily as every department, agency, and organization in the federal government—from the White House to the Capitol to the Supreme Court, from the Department of Agriculture to the Department of Veterans Affairs to the Administrative Office of the U.S. Courts—will be making significant investments in IT.

## THE GROWING NEED FOR IT SKILLS

With their rapidly increasing reliance on IT and with a huge array of often enormous and complex IT systems to maintain, federal agencies are finding that maintaining a skilled IT workforce is the backbone to accomplishing their missions. Because the federal government's use of IT impacts the lives of every citizen, from the FAA's

flight control systems to social security benefits administration to entire defense systems, it has the responsibility and duty to provide the very best workforce to manage and implement IT systems. As of the end of fiscal year 2000, OPM data show that there were a total of 59,577 IT professionals in the federal government. In the next 10 years, the Bureau of Labor Statistics predicts, the federal government will need an additional 16,000 IT workers.

## THE LABOR SHORTAGE

Against this backdrop, there is a crisis looming that if unresolved will imperil the ability of federal agencies to carry out their missions. Within the decade, the federal government is in danger of having a significant shortfall in its workforce of IT professionals who can develop, implement, and manage IT systems and provide expert policy and procurement guidance. The problem is the result of a number of converging factors facing federal IT programs:

- a need to increase the IT workforce by 20 percent over the next 7 years
- an aging workforce, of which 50 percent is eligible to retire by 2006
- an IT labor force that will have its choice of more than two positions per qualified candidate
- a major pay gap with the private sector
- an HRM system that is inflexible and unresponsive to the changing demands of the modern work world
- a significant shortage of qualified IT professionals
- a cumbersome recruitment process
- inadequate tools for motivating employees
- a lack of investment in continuous learning
- an outmoded classification system

These problems are not short term. For nearly 20 years, there have been more IT positions than there were qualified individuals to fill those positions in the public and the private sectors. The pace of change and the increase in

complexity, when coupled with the relatively low number of individuals graduating from college with IT-related degrees, assures that these problems will continue well into the twenty-first century. The Department of Commerce publication, *America's New Deficit*, cites Bureau of Labor Statistics' projections that across all sectors, there will be 820,000 new IT jobs created by 2005. By factoring in turnover among current IT workers, 1,047,000 new entrants into the job pool are needed by 2005.

## THE EFFECTS OF OUTSOURCING

In 2001, approximately 70 percent of the dollars spent on information technology will be paid to contractors. Given the shortage of skilled IT workers and the rapidly changing demand for premium skills, this trend is expected, at a minimum to continue, and possibly accelerate. Agencies are outsourcing development and maintenance of IT infrastructure, the design of IT systems, and IT support provided to non-IT staff members. With the growth in outsourcing, there is, and will continue to be, a growing demand for IT professionals who can develop IT strategic plans, assure the adequacy of IT systems security, or manage IT projects that are being performed by contractors (including IT security reviews). In April 2001, the General Accounting Office asked a 12-member panel chaired by Comptroller General David Walker to study the effectiveness of federal outsourcing policy.

## A NEW APPROACH IS NEEDED

The federal government has struggled for the last decade to acquire adequate IT skills for its workforce. Through the combined efforts of OPM, the Chief Information Officers Council, and individual agencies, the classification standards for IT occupations were revised and special pay rates, recruitment bonuses, and retention allowances were instituted. Recruitment processes are also being streamlined. All of these efforts are intended to increase the likelihood that well-qualified candidates will want to take IT jobs in the federal government. While these heroic efforts individually

and collectively have helped, they have not positioned the federal government to be an employer of choice in the "war for talent."

In light of the demand and competition for IT skills and the federal government's need for these skills, a new innovative approach is required. Faced with this situation, the CIO Council and the Administrative Office of the U.S. Courts asked a panel of the National Academy of Public Administration to examine alternative pay systems and related HRM programs that would allow the federal government's chief information officers to compete successfully for scarce IT talent.

In undertaking this study, the Academy was asked to take a broad view of compensation, including but not limited to salary, retirement/pension plans, recruitment and retention bonuses, overtime/special pay policies, and perquisites. Other issues such as work environment, work-life quality, challenging work assignments, career advancement, and knowledge growth were also factored into the assessment since they impact the ability to compete for and retain IT talent. Phase I of the study was devoted to researching IT compensation practices in the public and private sectors, benchmarking those systems, reviewing existing legislative and regulatory authorities, gathering data, performing a complete



literature review, and identifying other issues impacting the compensation of IT workers.

Phase II was devoted to evaluating alternative compensation models, conducting cost-benefit analyses of each alternative, reviewing legal issues, recommending alternative compensation models, and identifying process and organizational changes necessary to implement recommendations. The final report describes the detailed findings of the study, offers recommendations for improving the federal compensation system, and suggests implementation strategies.

## HOW THE STUDY WAS CONDUCTED

All phases of the study were carried out under the leadership of an Academy panel comprised of high-level practitioners, researchers, and executives. Additional guidance and feedback was provided by a Project Leadership Committee, comprised of representatives from various stakeholder groups concerned with the IT workforce issue. The research and production of all phases of the report were carried out by a project team from the Academy's Center for Human Resources Management.

In terms of public-sector research, contacts were made, interviews conducted, and materials received for 29 state governments, 8 international organizations or foreign governments, and 4 nonprofit organizations. The review of federal

agency issues, problems, and practices included organizations in all three branches of government—executive, judicial, and legislative. In all, more than 30 federal agencies contributed their experience to this report. These agencies represent more than 75 percent of the federal civilian workforce and a broad cross-section of the diverse IT needs and applications found in the federal sector. Further research was conducted of compensation and salary surveys and existing laws and regulations.

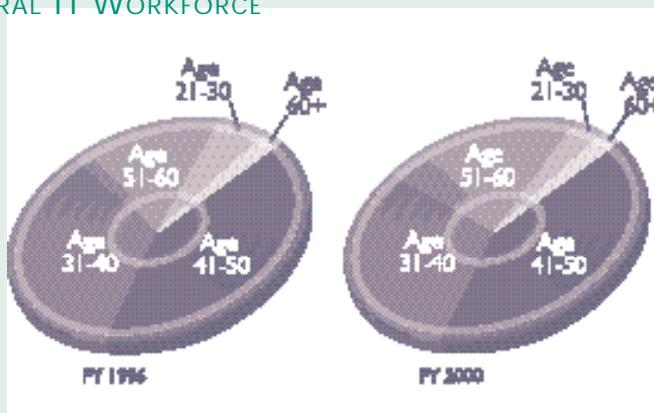
## RESEARCH FINDINGS

The problems inherent in the federal government's Title 5, HRM system are well documented in the Academy's prior research. The research performed for this study served to document further those deficiencies and to focus on the human capital problems specific to IT functions in the federal sector. The issues and problems which follow must be solved if the federal government is to attract and retain the IT talent needed to manage its IT programs effectively and efficiently.

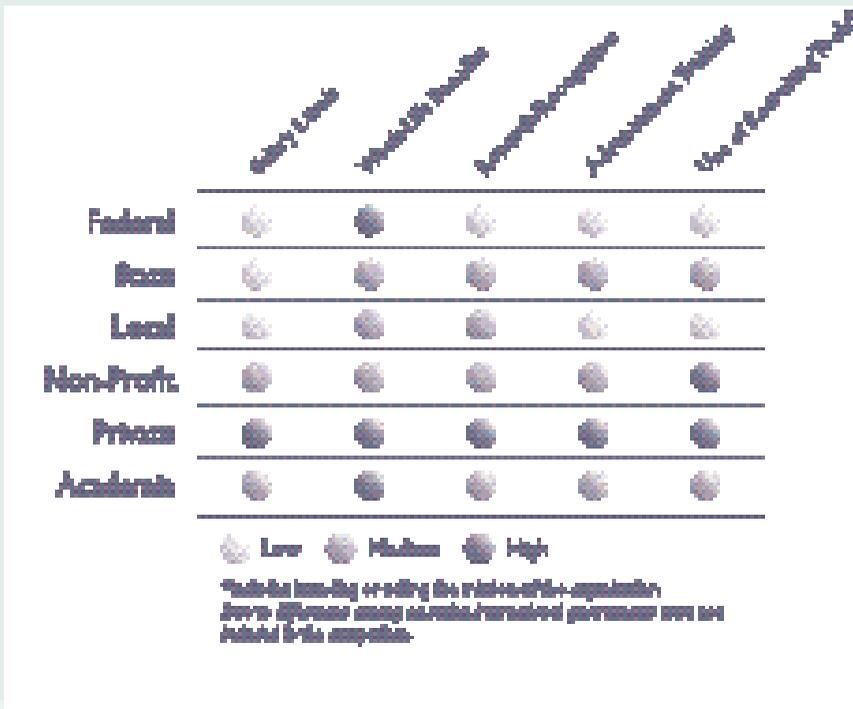
### *Shortage of Qualified IT Professionals*

There is a severe shortage of IT professionals nationwide that is not anticipated to improve for many years. In 2000, the Information Technology Association of America (ITAA) projected a 12-month demand for IT workers of 1.6 million

**FIGURE 1**  
AGE OF FEDERAL IT WORKFORCE



**TABLE 1**  
OVERALL COMPARISON OF COMPENSATION AND WORK FACTORS



and a shortfall in filling jobs of approximately 850,000. Since then, although the technology sector has experienced a slow down, with some highly publicized job losses mainly in the dot-com arena, the overall demand for IT professionals is significantly higher than the supply. According to the ITAA study, the United States has a national IT workforce of 10.4 million. The study states that U.S. companies need to hire an additional 900,000 workers this year, but 425,000 of these positions will go unfilled because of a lack of applicants with the requisite technical and non-technical skills.

### ***Aging Workforce With Problematic Turnover***

The federal shortfall in IT professionals is aggravated by the fact that over half of this workforce is eligible to retire within the next 10 years. IT workforce statistics from OPM show that the vast majority of IT workers are older than 40. In fact, 70 percent of the total IT workforce is over the age of 41 and 29 percent is over the age of 51. Figure 1 shows the aging of this workforce between fiscal years 1996 and 2000.

Most federal employees retire within three years of their eligibility for retirement. While one cannot assume that over 50 percent of federal IT professionals will retire in the next 3, 4, or even 5 years; it is probably safe to assume that the majority will have retired within the next 10 years.

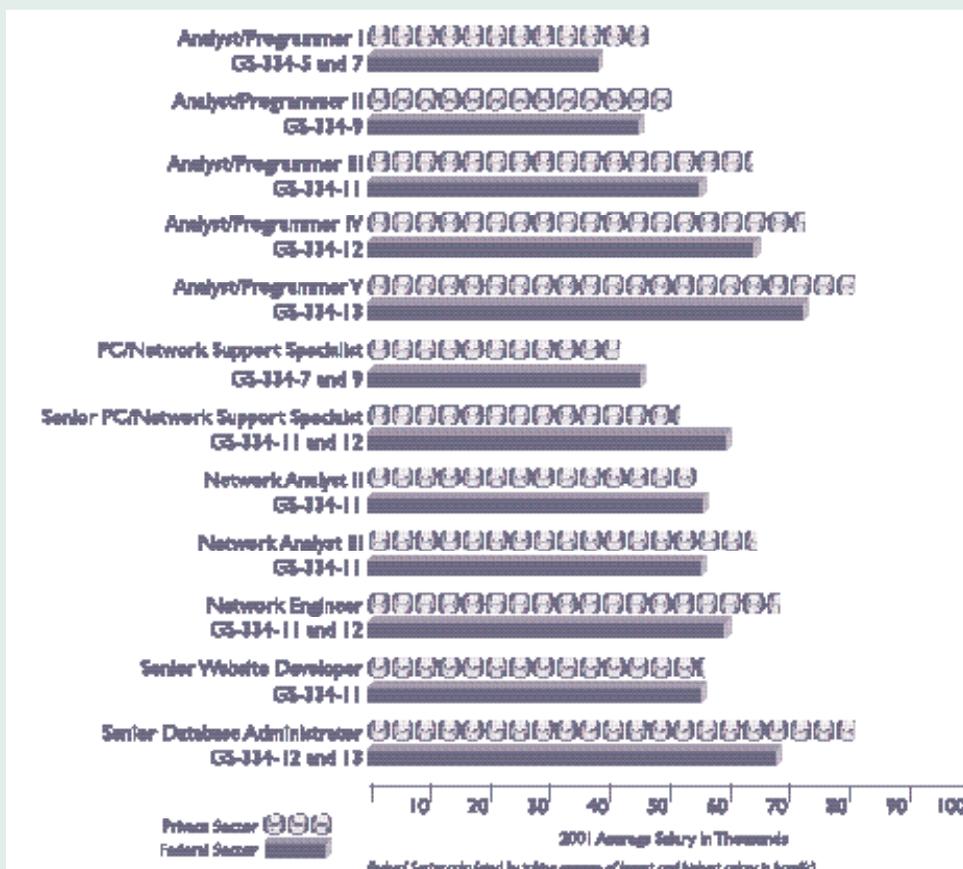
### ***Pay Gap With the Private Sector***

The annual salary survey conducted by *Computerworld* provides an index of the annual salaries paid by various industries, including government (collectively at all levels), for specific IT jobs. The most recent survey results (for 2000) allow a comparison of the federal government's annual average salary with other industries for 15 entry-level jobs, 7 mid-level management jobs, and 8 senior management/executive positions. At the entry level, 7 out of the 15 jobs surveyed were at or slightly above the industry average. However, at the mid-level and senior management levels, not one government position met the industry average, with most positions falling significantly lower.

Table 1 provides a general assessment of the status of IT recruitment and retention practices of the various sectors included in the research. The level assignments (high, medium, or low) are based upon an overall evaluation of data and information obtained for organizations in each sector, in comparison to the other sectors. This table is meant to serve only as a general evaluation tool and does not attempt to account for successful individual practices.

Within Title 5, the approach to address labor shortages is to apply special pay rates for an entire class of positions (i.e., classification series and grade). The problem is that classification series do not typically reflect the labor market, in which demand for certain specialties varies, so that one specialty may be hard to fill (and, therefore, require higher salaries to attract) while another may not. OPM's special pay rates also do not apply to IT professionals who are classified to a series other than those chosen by OPM or to

**FIGURE 2**  
**COMPARISON OF PRIVATE-SECTOR AND FEDERAL-SECTOR IT SALARIES**  
**CALENDAR YEAR 2001, BALTIMORE/WASHINGTON AREA**



\* calculated by taking average of lowest and highest salary in band(s)

\*\* federal as compared to private sector

**TABLE 2:**  
INNOVATIVE PRACTICES—STATE GOVERNMENT

	NJ	SC	VA	KS	MIN	WS	MD	NV	OR	UT	WA	AZ	TX
Changes to Pay Approaches	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special Bonus Programs		✓	✓	✓	✓	✓		✓		✓			✓
Quality of Life Programs			✓	✓	✓		✓		✓	✓	✓	✓	✓
Training/Work Enhancements	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
Recruiting and Hiring Processes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

*The categorization of the states' practices in the above table does not fully capture the level of innovation and flexibility included in some of their approaches.*

those who are above the GS-12 grade level. Many agencies, for example, classify IT project managers, IT trainers, or IT requirements analysts to other series. In the research phase of this study, 8 of 19 executive branch agencies stated that special pay rates are inadequate because they do not apply above the GS-12 grade level.

Figure 2 shows that OPM's special rates have caused a reduction in the pay gap during the past year between federal-sector and private-sector IT professionals in the Baltimore/Washington area. However, of the 12 IT specialties covered in Figure 2, federal pay lags behind the private sector for 8 specialties; is about equal for 1; and is higher for 3 of them. The largest negative pay disparity is 15.7 percent for Analyst/Programmer I; the largest positive pay disparity is 17.3 percent for Senior PC/Network Support Specialist.

### ***A Broken Recruitment System***

Under Title 5, the federal government does not have the tools necessary to compete for new IT professionals in a highly competitive market place; or to manage its current workforce of IT professionals effectively.

### **Innovative Practices**

In the research phase of this study, the Academy team found excellent examples of innovative

programs and practices (at local, state, and federal levels) for improving an organization's ability to recruit and retain qualified IT professionals. These practices included broad banding, pay banding and bands of pay ranges; special salary rates and pay differentials for IT workers; various bonuses, such as signing bonuses and bonuses for scarce skills; streamlined hiring processes that include direct-hire authority; and enhanced IT training and development opportunities. Where these strategies have been in place long enough to show results, they are proving successful.

Table 2 summarizes the degree to which the states surveyed for this study are using innovation and flexibility in their recruitment efforts.

### **Cumbersome Recruitment Process**

The federal recruitment process is slow, lengthy, and rigid. The Academy's research for this study confirmed that a critical problem in competing for IT talent is the existing federal hiring process. The many inexplicable steps and prolonged delays mean that many of the well-qualified candidates for IT professional positions have already accepted another job before a federal agency can make an offer.

Rigid qualification requirements are another major problem with federal recruitment. Fortunately, the

Office of Personnel Management, in partnership with the CIO Council has changed the qualification requirements to rely on competencies. OPM is now conducting pilots with a number of agencies using competency-based structured interviews as a selection process. The challenge will be to ensure that federal managers and employees learn to use these new flexibilities, and not bureaucratic processes. The use of competencies will give the federal government a distinct advantage in trying to attract younger workers—those who most likely have the latest IT skills but have the fewest years of experience. OPM has shown progress in this area by changing the qualification standards for IT professionals to rely on competencies. OPM is conducting pilots with a number of agencies using competency-based structured interviews as a selection process.

### ***Inadequate Motivational Tools***

The federal personnel system contains inadequate tools to motivate employees to achieve high performance. The Academy team found that IT professionals prefer compensation systems in which increases are based on performance rather than on longevity and that effective HRM systems for IT professionals include annual increases based on merit and not on time on the job<sup>9</sup>

The federal personnel system does include an element of pay-for-performance, a concept the panel endorses. However, in reality, federal agencies' pay-for-performance practices frequently result in nearly identical treatment of all employees. Studies by OPM and federal agencies show that almost all employee performance ratings are either four or five on a five-point scale. Furthermore, the amount of increase available as a performance reward is less than two percent per employee. By treating employees nearly identically, the current pay-for-performance system achieves the opposite of its intent.

### ***Overly Focused on Internal Equity***

Due to law, regulation, and practice, federal agencies tend to focus almost exclusively on internal equity when determining what is fair compensation. In an internal equity system, one's

pay is determined by the relative value of each job within an organization. Typical private-sector organizations establish a strategic balance between internal, external, and contribution equity as they determine pay rates and reward structures. 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.

The private sector is moving away from a one-size-fits-all compensation approach to one that emphasizes pay-for-performance and external competitiveness. By focusing on internal equity, the federal government's HRM system is severely constrained in competing for IT talent and effectively managing the IT talent that it already has.

### ***Too Little Investment in Continuous Learning***

There is a lack of investment in continuous learning within the federal government. This failure is especially problematic in the dynamic and rapidly changing world of IT. Such an environment makes it essential to invest in people. The Treasury Department sums up the overall picture as "one of deteriorating skills in a career field for which keeping skills current requires lifelong learning."

In the federal government, though, neither traditional training nor lifelong learning is built into the HRM system. Individuals who acquire new skills or competencies to help them better perform their jobs are not rewarded, either in a formal or informal sense. In fact, for most agencies federal policy prohibits training for the purpose of obtaining an academic degree (Section 4107(a) of Title 5 U.S.C.) except in special circumstances, and it forbids payment or reimbursement for the cost of examinations, licenses, or certifications, even if required by the state where the federal employee works (Comp. Gen. B-235727) or if required as a qualification for the employee's position (Comp. Gen. B-248955).



### ***Outdated Classification System***

The federal system for classification is expensive, inflexible, and out-of-date. To a large extent, higher grades (and, therefore, higher pay) are based on supervising and managing people. The more people supervised or managed, the higher the grade. This means that organizations frequently promote their best individual contributors to supervisory and/or managerial positions as a means to pay them more and retain them longer, even though these individual contributors may not make the best managers. When this occurs, organizations tend to lose valued individual contributors and are left with ineffective supervisors or managers.

### **AN ALTERNATIVE COMPENSATION SYSTEM**

The project panel recommends that the federal government transition to a market-based HRM system for IT professionals. This compensation approach would establish broad pay ranges, tie base pay to market rates, link increases to pay to competencies and results, completely eliminate any across-the-board increase to pay, and provide a variety of pay-related tools—bonuses—to attract and retain IT talent.

This market-based system would require major changes to the structure and management of IT professional positions, pay and appointing authority. The system would consist of four levels

or grades, with a broad pay range associated with each level:

- 1. Entry**
- 2. Developmental/Technical Supervisor**
- 3. Full Performance/Analytical Supervisor**
- 4. Expert/Manager**

Under this approach, pay ranges for each of the levels would be determined through an annual salary survey of similar positions in various industries and in various geographic locations. Salary increases and promotions would be based solely on acquiring new and/or higher-level competencies and on performance. Individuals would be appointed under the excepted service, eliminating the type of job security that is characteristic of career and career-conditional appointments. However, the trade-off would be market-based cash compensation and salaries.

Individuals in this system would be paid base salaries that are within the competitive range. Starting pay for individuals would be based on their specific experience and competencies. Since there would be no steps or similar divisions within a pay band, managers—with some restrictions—would be able to set starting pay anywhere within the band.

This compensation system would include no automatic pay increases. This means that there would be no across-the-board increases, no

**TABLE 3**  
**MARKET-BASED SYSTEM PAY RANGES**

Model Two Level	GS Level(s)
Entry	GS-5/7
Developmental/Technical supervisor	GS-9/11
Full Performance/Analytical supervisor	GS-12/13
Expert/Manager	GS-14/15 and SES

longevity increases, and no cost-of-living increases. All increases to pay would be awarded based on competencies and performance/results. In addition, this system would include a variety of bonus options, such as recruitment bonuses, retention bonuses, and "premium skills" bonuses that have proven to be effective in attracting and retaining qualified IT professionals. Within guidelines established by the overall system and/or by each agency, managers would have the authority to set starting pay and to determine specific amounts for bonuses.

**Grade Levels and Pay Ranges**

As shown in Table 3, the pay system under this market-based approach consists of four levels, each linked to a GS grade level. The highest salary in this system would still be limited by law to no more than that of the Vice President of the United States.

The approaches described under the market-based system are not new concepts and practices for the private sector. They are, however, new to much of the federal sector and to federal-sector managers, IT professionals, and HRM specialists. Therefore, managers, staff, and HRM specialists will need training and time to understand the changes and to be able to work effectively using these new tools.

Because of the move from a career/career-conditional appointment to an excepted appointment, GS employees may feel as though they are giving up too much in terms of security and stability. Accordingly, the panel proposes that the transition work something like the move from the Civil Service Retirement System to the Federal Employees Retirement System: all current employees would be given the choice to stay in the GS or to move to the market-based approach. Those who stay would receive the same total compensation treatment as the rest of the GS. All new hires will be placed in the new market based system.

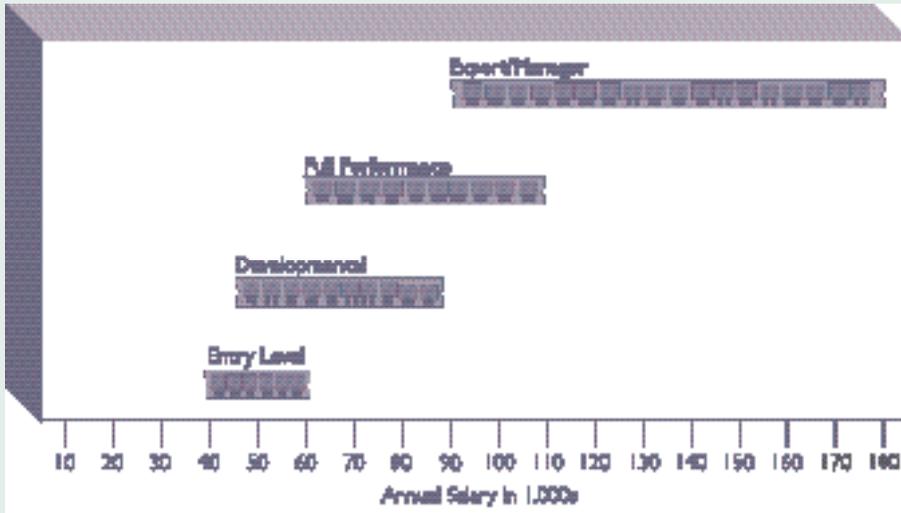
**RECOMMENDATIONS**

An effective human resource management system for IT professionals must give careful attention to a variety of pay and non-pay issues. Specifically it must accomplish the following:

**1. Establish a Market-Based, Pay-for-Performance Compensation System**

The federal government should adopt a market-driven, pay-for-performance system to determine base pay, performance-based incentives, and appropriate pay adjustments/increases for IT workers. The new system must narrow the pay gap between private- and public-sector IT workers. See Figure 3 for a breakdown of salary levels.

**FIGURE 3**  
MARKET BASED SYSTEM SALARY LEVELS



Note: Pay for expert/manager level would be capped at the salary level of the Vice President.

### TOTAL REWARDS

- Base Pay
- Lump Sum Pay
- Continuous Learning
- Streamlined Recruitment and Branding
- Flexible Benefits with Pre-tax Dollars
- Work/Life Balance
- Increase the Pay Cap

### LUMP SUM PAY

- Relocation Bonuses
- Recruitment Bonuses
- Retention Bonuses
- Performance Awards
- Referral Bonuses
- Scarce Skills Bonuses

### CHANGES TO PAY

- Increases for Performance
- Increases for Competencies
- Promotions

### SYSTEM TOOLS, POLICIES, AND PROCEDURES

- Occupational Specialties
- Short, Generic Specialty/Level Descriptions
- Annual Market Pay Survey
- Competency Framework

## **Incorporates Performance-Based Approaches**

The federal compensation system for IT workers should base pay increases on an effective performance evaluation process that distinguishes the truly outstanding performers from those who are performing at less impressive levels. This means that the most deserving employees would receive the highest pay increases and/or special bonuses. The majority of employees would likely meet but not consistently exceed expectations and would receive less in the way of financial rewards. The few who fail to meet expectations would in some cases receive no rewards.

Pay-for-performance makes sense because:

- It is consistent with the stated goals of the Clinger-Cohen Act, which underlined the need to improve performance.
- It is consistent with trends in the IT labor market and with the goal of competing for well-qualified individuals. Pay-for-performance is virtually universal for exempt employees in the private sector.
- Pay-for-performance provides a proven method for managing and controlling salary costs.
- This approach can make the federal government more attractive to younger job candidates who, research shows, look for opportunities where they can test their skills and expect rewards for their performance.
- Experts in IT management contend that the best or star performers in IT are from 4 to 10 times as productive as the typical employee.
- A well-designed financial reward system will contribute to improved individual and team performance. In short, it will help employees "work smarter."

## **Provides for and Maintains Competitive Pay/Total Compensation**

The current practice of making annual pay increases by making adjustments to the GS or by

giving step increases should be changed or eliminated. Total compensation, including base pay, should instead be determined by the competitive range(s) of the relevant labor markets using specific IT market survey data. Companies, as well as some state and local governments, rely on labor market surveys to assess the quickly changing IT job structure and prevailing pay levels against benchmarked job data.

## ***2. Allow for Flexibility in the Treatment of Individuals and Occupations***

The new compensation system should provide managers with flexible salary ranges for recruitment and retention purposes. Pay differentials, adjustments, and increases should be based on what an individual brings to the organization as a whole or for specific mission-critical projects. This assessment should be predicated on the individual's skills as well as his/her performance on the job.

The compensation system should provide for agencies to use components or features that support each agency's specific mission and functions. Managers could decide how the new system could best be used to support their missions. This flexible system for IT professionals could serve as a model for the rest of the federal government.

Finally, those organizations (external and internal to a federal agency) impacting the implementation of any compensation system must ensure that their implementing and operating procedures support the required flexibility. If the new IT compensation system becomes bound by agency-specific rules and requirements, it will fail.

## ***3. Improve Recruiting and Hiring Processes***

The new compensation system for IT professionals must be linked to a faster, enhanced recruitment and hiring process if the federal government is to attract the workers it needs.

Branding is the latest approach to recruiting. It involves developing a clear identity and using all available outreach activities to promote that identity. Beyond what the organization does and the specifications of vacant jobs, an identity also encompasses the character and value of the organization by highlighting what is important to that organization and to its employees.

The speed of the hiring process is the second key to redefining recruitment in the IT labor market. The federal government's rules and regulations present real barriers in designing and implementing speedy hiring processes. Efforts to highlight the barriers and to recommend improvements include the recent Academy conference addressing recruitment and retention issues for hard-to-fill jobs and related research found in *Recruitment Strategies for Federal Agencies* (NAPA September 2001). Results of the conference discussions, the publication, as well as other stakeholder input, can serve as guidance for legislative and regulatory changes.

Agencies, in conjunction with OPM, should ensure that hiring process barriers are identified and eliminated or minimized. They should also evaluate the capabilities of their hiring systems with the goal of quickly adapting them as needed.

#### ***4. Balance the Three Dimensions of Equity***

A new federal IT compensation system should move to a better balance between and among internal equity, external equity, and contribution equity. In such a system, salary ranges would be truly market driven. Pay for new hires would be determined by the mix of competencies and skills that each individual IT hire brings and by the market demand for these skills. In a more balanced system, federal IT workers comparative value would play a more important and determinant role in how they are compensated.

#### ***5. Offer Competitive Benefits***

The federal benefits package for the average employee compares very favorably to benefits typically offered in the private sector. A compre-

hensive study of the federal benefits program completed in 1997 by Watson Wyatt & Company for the Congressional Budget Office compared the value of federal benefits with those provided by 800 predominantly large corporations. The study revealed that the value of benefits depend on age, salary, and length of service, and could range from 26 to 50 percent of salary for federal employees and from 24 to 44 percent for the corporations.

However, for senior executives or professionals at the highest levels of their career ladders, federal benefits are not competitive with the private sector. Private employers typically provide supplemental benefits such as life insurance, retirement income, and stock ownership plans that as a total package tend to dwarf anything the government can offer. These senior executives offer the expert management and policy guidance that are critical in implementing complex IT programs across the federal system. Until the federal government can offer a more competitive benefits package for senior technical employees as well as executives, it will not be truly successful in its recruiting battles for these individuals.

#### ***6. Promote Work/Life Balance Programs***

Research results from the first phase of this project consistently showed that IT workers value flexible work arrangements and other non-pay benefits, such as child care centers and subsidies,





casual dress codes, and casual work environments. If pay is within a competitive range, these work/life programs can tilt the recruitment process in favor of the IT employers offering such programs.

As a whole, the federal government offers excellent work/life programs to its employees. Many of these programs are just now being introduced or expanded in the private sector and in state/local governments. Federal agencies across the board are offering flexible working schedules including flex-time and days off as well as expanding telecommuting or tele-working for its employees.

However, federal managers and human resources specialists must actively market these benefits and programs so that potential IT workers are aware of them. The benefits and aspects of the different programs should also be included in recruitment materials and advertisements. Agencies also must ensure that their work/life programs are flexible enough to provide for selection by employees according to individual needs.

## ***7. Demonstrate Management Ownership***

The importance of the role of supervisors and managers in a new compensation system cannot be overstated. Managers must actively participate in the design and implementation of agency-specific features of the new system. Their sense of ownership in the system and the processes is pivotal to their acceptance of accountability and change. Managers also must be rewarded for effectively implementing and managing the system. At the same time, managers who refuse to make the hard personnel decisions in setting pay, awarding bonuses, scheduling training, mentoring and other factors must be held accountable.

## ***8. Support Technical Currency and Continuous Learning***

Technical currency and continuous learning are critical components of an HRM system for IT professionals. As the project team found in its research, IT professionals place high value on professional growth and on keeping their skills up to date. Therefore, a continuous learning organization will have the edge on attracting and retaining IT professionals.

### **Technical Currency**

Keeping the skills of IT workers up-to-date is the responsibility of both the employer and the employee. Agency management should design and support developmental activities through a number of vehicles, including formalized training on-the-job training computer-assisted learning, self-instructional guides, coaching and other approaches.

### **Continuous Learning**

The way work is structured is the primary mechanism for continuous learning. Managers today primarily make assignments based on the skills of the individual and/or team. These are called "skill assignments." In a continuous learning organization, managers make "learning assignments" as well as "skill assignments."

The “learning assignments” approach works best when managers and supervisors also function as coaches; and when managers and supervisors leverage off the knowledge that already resides in the organization. Overall, federal agencies—and especially the managers in agencies—must create a learning culture.

### ***9. Build in Reliability, Clarity, and Transparency***

Agency budgets and management decisions must support full implementation of the system. Congress, OMB, OPM, and agency political and career executives must ensure that agency appropriations reflect a commitment to this system.

The new system must be reliable so that employees are treated in a consistent manner as dictated by individual facts. Reliability means consistent conformance with policies so that the same set of circumstances always leads to the same decisions and results.

Features of the new system also must be clearly understandable to participants and managers alike. Simple guidelines for each component will ensure that there are no suspicions or confusions about how new hires and existing employees are compensated and moved throughout the system. Agencies need to provide adequate training so that managers and employees are comfortable with their respective roles in the new system.

## **CONCLUSION**

All of the recommendations for a market-based system and its related components described in the recommendations are already in place somewhere in the federal government. These recommendations are unique only in that they focus on a particular occupational group. However, there are other significant factors that will determine the success or failure of the new system. They include the following:

### ***Relevance to Mission***

Any change in the status quo is usually met with some resistance. The best way to convert those reluctant to accept the proposed change is to convince them that the changes will enhance their ability to accomplish their organizational objectives.

### ***Leadership***

Leadership is the key to successful implementation of the changes recommended in this study. There must be central agency and organizational leadership from the CIO Council and its members, OPM, OMB, the President’s Pay Agency (OMB, OPM, Department of Labor), and the President’s Management Council and similar entities. There must also be leadership within individual agencies from both the political and the career executives.

### ***Culture***

In the past, many federal managers have viewed responsibilities such as pay administration, performance appraisals, and employee development as the exclusive domain of HR professionals. This mindset must change if all benefits of the proposed pay system are to be realized. Managers must invest in human capital to develop a workforce with the requisite skills for now and the future. Managers must also ensure fair and equitable treatment of all employees, while providing recognition and pay commensurate with employees’ competencies and contributions.

### ***Change Management***

All federal agencies will need to invest in developing and implementing change management strategies. This will require commitment at every level of individual agencies as well the commitment of the central agencies and organizations.

### ***Workforce Planning and Data Collection***

The proposed IT pay reform will require strategic workforce planning for forecasting future IT skill requirements and ensuring that agencies are paying to attract, retain, and develop the correct skills. In order to accomplish the strategic

workforce planning objectives, HR and IT managers will have to enhance their data collection activities. Data regarding skills and competencies will be essential for the federal government to evaluate and compare workforce trends with the private sector.

### ***Funding***

The government must be willing to make the funds and other resources required for successful implementation available. There must be both an understanding of the costs and a willingness to bear those costs because of the benefits that will ultimately be realized.

### ***Utilize Federal Expertise***

The federal government is at risk of losing knowledge and skills that are not immediately replaceable through a wave of retirements. Historically when retired federal employees returned to work, they could only earn the difference between their annuity and the pay of the position to which they returned. Recently, those restrictions were lifted for IT workers. This flexibility should continue and be incorporated into the new system for IT employees. In addition, policies and procedures should be established to provide incentives for retirement eligible employees, whose skills are needed by their agencies, to remain on the rolls for a transition period (e.g. part-time) without reducing their retirement annuity.

### ***Executive Compensation***

The Senior Executive Service (SES) was created as the platform for identifying, developing, and compensating federal executives. It is based on the premise that executive roles can be filled by generalists with demonstrated executive capabilities. The SES was never intended to fill those unique jobs where technical knowledge is at least as important as the leadership skills. Moreover, SES pay levels are not significantly different from the executive pay levels in some of the states and counties that surround Washington, D.C. The goals of the SES and the political

constraints on SES pay levels were never considered in light of the need to attract and retain well-qualified IT executives.

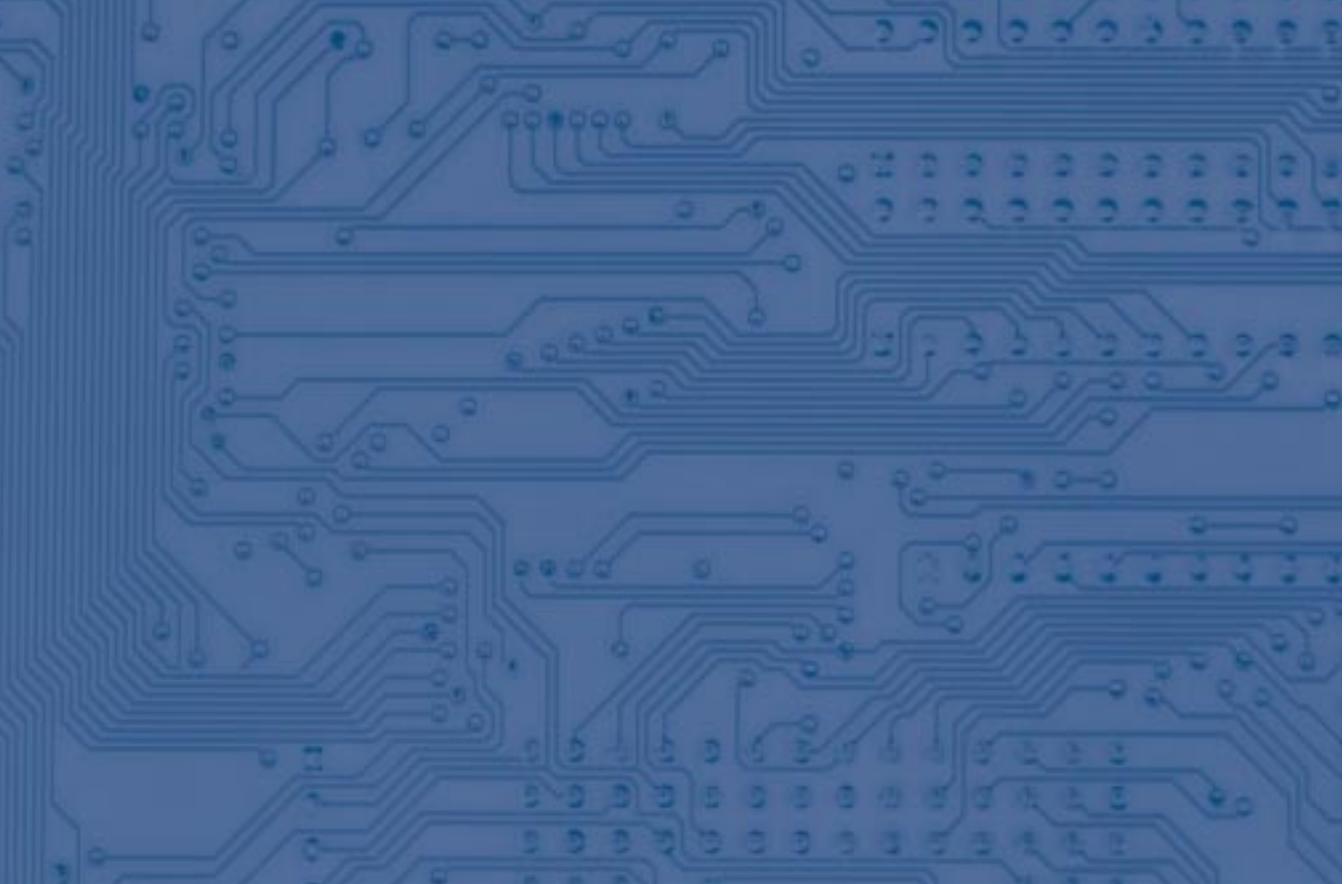
For these reasons, the panel recommends a separate executive salary band for IT executives that will give agencies the flexibility they need to maintain at least minimum salary differentials among the levels of executive management. In recognition of the political constraints, the panel recommends that the top salary of the executive band be equivalent to the salary of the Vice President of the United States.

The panel further recommends that all IT executives participate in a corporate-style incentive plan, with awards linked to the achievement of agency IT goals. All IT executives and managers in an agency should have a portion of their cash compensation dependent on reaching or exceeding performance goals. The total of an executive's base salary and annual incentive award, should be capped at the salary of the Vice President.

### ***Implementation***

Detailed implementation planning and execution is an essential component of success. At a minimum, the following steps must be taken:

- identify champions for the new system in the political and career leadership of each agency
- translate the recommendations of the report into legislative and programmatic action items
- translate the legislative and programmatic decisions into detailed agency-by-agency action items
- develop a communications strategy
- develop an education strategy
- develop a detailed plan to carry out the communications and education strategies
- provide sufficient funding for both the system and the implementation activities



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