WHERE'S THE CIO? THE ROLE, RESPONSIBILITY AND CHALLENGE FOR FEDERAL CHIEF INFORMATION OFFICERS IN IT INVESTMENT OVERSIGHT AND INFORMATION MANAGEMENT

HEARING

BEFORE THE

SUBCOMMITTEE ON TECHNOLOGY, INFORMATION POLICY, INTERGOVERNMENTAL RELATIONS AND THE CENSUS

OF THE

COMMITTEE ON GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTH CONGRESS

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WHERE'S THE CIO? THE ROLE, RESPONSIBILITY AND CHALLENGE FOR FEDERAL CHIEF INFORMATION OFFICERS IN IT INVESTMENT OVERSIGHT AND INFORMATION MANAGEMENT

WEDNESDAY, JULY 21, 2004

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TECHNOLOGY, INFORMATION POLICY,
INTERGOVERNMENTAL RELATIONS AND THE CENSUS,
COMMITTEE ON GOVERNMENT REFORM,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:40 p.m., in room 2154, Rayburn House Office Building, Hon. Adam Putnam (chairman of the subcommittee) presiding.

Present: Representatives Putnam, Miller, Murphy, Ose, Turner, Clay, and Lynch.

Staff present: John Hambel, senior counsel; Dan Daly and Shannon Weinberg, professional staff members/deputy counsels; Juliana French, clerk; Felipe Colon, fellow; Jamie Harper, legislative assistant; Colin Samples and Sean Hardgrove, interns; Adam Bordes, minority professional staff member; and Jean Gosa, minority assistant clerk.

Mr. PUTNAM. A quorum being present, this hearing of the Subcommittee on Technology, Information Policy, Intergovernmental Relations and the Census will come to order. Good afternoon and welcome to the subcommittee's hearing on "The Role, Responsibility and Challenge for Federal Chief Information Officers and IT Investment Oversight and Information Management."

In 1996, Congress passed the landmark Clinger-Cohen Act, bringing fundamental changes to the way the Federal Government manages information technology. One of the most important parts of the act was the establishment of the Chief Information Officer as the position that leads agency efforts to manage IT.

Now, 8 years after the passage of Clinger-Cohen, we must ask: Where is the CIO? Who do they report to? What authority do they have? And why is the turnover for the position so high?

As many know, this subcommittee releases a report card on each agency's implementation of the Federal Information Security Management Act. On the last report card, the average grade was a D. Additionally, the scores for implementing e-government under the President's management agenda, although improving, are not terribly encouraging.

The subcommittee has held several hearings throughout this Congress examining the CIO's responsibilities, including managing IT investment, developing agency-wide enterprise architectures, and implementing sound information security practices. Throughout these hearings, I have learned that CIOs in the Federal Government are facing significant uphill challenges in meeting their responsibilities.

To better understand these problems, I asked the Government Accountability Office to examine the role of the CIO in Federal agencies. As we will hear today, some of the findings, and the questions they raise, are intriguing. For example:

The average tenure for a Federal CIO is only 23 months, yet experts say that a CIO needs 3 to 5 years on the job to be effective. CIOs often do not have control over all IT investment in an agency.

Major bureaus may buy IT systems without going through the CIO, making capital planning and effective IT management all the more difficult.

CIOs juggle many responsibilities and often face internal push back as they try to institute reforms at their agencies.

CIOs have 13 major areas of responsibilities, from IT investment management to e-government to privacy. And with time and new laws, the role is sure to expand.

Finally, Clinger-Cohen requires that CIOs at the largest department and agencies report directly to the agency head, but this is not always the case.

In an increasingly networked world, the Government has become more dependent on information technology to deliver its services. Federal agencies cannot operate efficiently without solid leadership from a CIO that is supported by the top officials in the agency.

I look forward to hearing from our panels of experts on this topic, including the administration's leadership in information technology, as well as former and current CIOs, to see what this subcommittee and this Congress can do to improve the situation.

I welcome all the witnesses.

[The prepared statement of Hon. Adam H. Putnam follows:]

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Subcommittee on Technology, Information Policy, Intergovernmental Relations and the Census

Congressman Adam Putnam, Chairman

OVERSIGHT HEARING
STATEMENT BY ADAM PUTNAM, CHAIRMAN

Hearing topic: "Where's the CIO? The Role, Responsibility and Challenge for Federal Chief Information Officers in IT Investment Oversight and Information Management"

Wednesday, July 21, 2004
1:30 p.m.
Room 2154, Rayburn House Office Building

OPENING STATEMENT

Good afternoon and welcome to the Subcommittee's hearing on "The Role, Responsibility, and Challenge for Federal Chief Information Officers in IT Investment Oversight and Information Management."

In 1996, Congress passed the landmark Clinger-Cohen Act, bringing fundamental changes to the way the federal government manages information technology. One of the most important parts of the Act was the establishment of the Chief Information Officer as the position that leads agency efforts to manage information technology.

Now, 8 years after the passage of Clinger-Cohen, we must ask: Where is the CIO? Who do they report to? What authority do they have? Why is the turnover for the CIO position so high?

As many know, this Subcommittee releases a report card on each agency's implementation of the Federal Information Security Management Act. On the last report card, the average grade was a "D." Additionally, the scores for implementing e-government under the President's Management Agenda, although improving, are not encouraging.

The Subcommittee has held several hearings throughout this Congress examining the CIO's responsibilities, including managing IT investment, developing agency-wide enterprise architectures, and implementing sound information security practices. Throughout these hearings, I have learned that CIOs in the federal government are facing significant uphill battles in meeting their responsibilities.

To better understand these problems, I asked the Government Accountability Office to examine the role of the CIO in federal agencies. As we will hear today, some of the findings – and the questions they raise – are intriguing. For example:

The average tenure for a federal CIO is only 23 months, yet experts say that a CIO needs 3 – 5 years on the job to be effective.

CIOs often do not have control over all IT investment in an agency. Major bureaus may buy IT systems without going through the CIO, making capital planning and effective IT management all the more difficult.

CIOs juggle many responsibilities and often times face internal push back as they try to institute reforms at their agencies.

Federal CIOs have 13 major areas of responsibility – from IT investment management to e-government to privacy. And with time and new laws, the role of the CIO is expanding.

Finally, Clinger-Cohen requires that CIOs at the largest departments and agencies report directly to the agency head but this is not always the case.

In an increasingly networked world, the government has become more dependent on information technology to deliver its services. Federal agencies cannot operate efficiently and effectively without solid leadership from a CIO that is supported by the very top officials in the agency.

I look forward to hearing from our panels of experts on this topic, including the Administration's leadership on information technology, as well as former and current CIOs, to see what this committee and this Congress can do to improve this situation.

I welcome all of the witnesses.

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Mr. PUTNAM. As is the case with all of our hearings, it is being Webcast and can be viewed by going to reform.house.gov and clicking on multimedia.

I would like to recognize the distinguished Member from Missouri, the gentleman, Mr. Clay, for any opening remarks that he may wish to have.

Thank you.

Mr. CLAY. Thank you, Mr. Chairman, and I thank the witnesses for taking their time to be with us today.

I consider today's hearing an opportunity to extend the dialog our subcommittee established in March, when several of today's witnesses testified about the strengths and weaknesses of IT oversight within the CIO community. Since the Federal Government will spend approximately $60 billion on IT in fiscal year 2004, we must strive to utilize the best practices for implementation and oversight of our Government's investments.

According to GAO's testimony, the CIO community is facing challenges due to limited resources, a strained IT work force, and the inconsistent delegation of IT management duties among non-CIO personnel. Further, the lack of tenure among CIOs is hindering agencies from achieving their long-term IT management goals and objectives. Such factors tell us why agencies rarely meet their full potential with regard to strategic planning, IT investment management, and work force training and development.

At the heart of the matter are two issues. First, with an average CIO tenure of 23 months, we must promote mechanisms to ensure that long-term strategic planning and implementation does not cease due to limited tenures among those who serve. Second, I believe we ought to examine the issue of statutorily authorized CIO responsibilities that are being delegated to non-CIO personnel. Perhaps these problems stem from the lack of tenure among CIOs, human capital deficiencies, or inadequate agency planning. Nevertheless, it is our responsibility to identify the root cause of these problems and seek out appropriate remedies.

Thank you, Mr. Chairman, and I ask unanimous consent that the full text of my remarks be included in the record.

Mr. PUTNAM. Without objection.

[The prepared statement of Hon. Wm. Lacy Clay follows:]

STATEMENT OF THE HONORABLE WM. LACY CLAY
ROLE OF THE FEDERAL CIO
JULY 21, 2004

Thank you Mr. Chairman, and I thank the witnesses for taking their time to be with us today.

I consider today's hearing an opportunity to extend the dialogue our subcommittee established in March when several of today's witnesses testified about the strengths and weaknesses of IT oversight within the CIO community. Since the federal government will spend approximately $60 billion on IT in fiscal year 2004, we must strive to utilize the best practices for implementation and oversight of our government's investments.

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Thank you, Mr. Chairman, and I ask unanimous consent that the full text of my remarks be included in the record.

Mr. PUTNAM. With that, I would ask the first panel and anyone accompanying you who will be answering your questions to please rise for the administration of the oath.

[Witnesses sworn.]

Mr. PUTNAM. Note for the record that all the witnesses responded in the affirmative, and we will move directly into testimony.

Our first witness is Mr. Clay Johnson. We are very appreciative of the time that he has made to be before this subcommittee. Mr. Johnson is Deputy Director for Management at the Office of Management and Budget, where he provides governmentwide leadership to executive branch agencies to improve agency and program performance. Before that he was Assistant to the President for Personnel, responsible for the organization that identifies and recruits 4,000 Government officials. He received his undergraduate degree from Yale and a master's from MIT's Sloane School of Management.

Welcome to the subcommittee, and we look forward to your testimony. You are recognized.

STATEMENTS OF CLAY JOHNSON III, DEPUTY DIRECTOR FOR MANAGEMENT, OFFICE OF MANAGEMENT AND BUDGET; KAREN EVANS, ADMINISTRATOR, OFFICE OF E-GOVERNMENT AND INFORMATION TECHNOLOGY, OFFICE OF MANAGEMENT AND BUDGET; AND DAVID POWNER, DIRECTOR, INFORMATION TECHNOLOGY MANAGEMENT ISSUES, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Mr. JOHNSON. Mr. Chairman, Ranking Member Clay, thank you for having me here today. I bet that I am going to refer you to Karen Evans for a lot of your questions, but let me give you my general comments and a general view of IT and e-government in the CIO world.

As you mentioned, Ranking Member Clay, we spend almost $60 billion a year on IT, more than anybody else in the world. We ought to be nearly the best at it, and we are not, and we share that goal. We need to figure out what we need to do to make sure that we are the best at IT since this is a goal we share.

Something that the Federal Government does a lot of is sending information to people and receiving information from people; we send them money, they send us money. A lot of information and money changes hands. We take large amounts of information and we try to make sense of it for intelligence purposes; we take a lot of information and put it in the hands of Federal managers so that they can manage programs and costs more effectively. We move a lot of information around, and it costs us $60 billion a year to do that.

The CIO is the person in the agency who is responsible for making sure that money is being spent most intelligently, and that the IT operations are producing the functionality that we intended when you all authorized and appropriated the money consequently, the CIO is extremely important.

Relative to a couple of questions that have been asked and suggested here, I personally do not believe that the CIO needs to report to the Secretary of the department. The CIO needs to work for

somebody who can help him or her be successful, and that is typically not the Secretary. The CIO is plenty important in an organization without having to report to the Secretary. I think the CIO ought to report to the senior management person in an organization. At Homeland Security, for instance, that is Under Secretary for Management, Janet Hale, who works most closely with Jim Loy. In a lot of agencies, it is the Deputy Secretary. To me, working for the Secretary is not the issue; it is working with somebody who is most involved in how the department is managed.

And I think in terms of the primary responsibility that a CIO has, that the CIO in an organization does a whole lot. I think the CIO's primary responsibility is to make sure that it is very, very, very clear what a new IT project or an old IT project is supposed to accomplish and what the desired functionality is. Usually, is the bigger the project, the more disastrous it is or the more telling it is. Oftentimes, we will get in the middle of the development of new IT projects, and it is not clear what it is we are trying to accomplish, and then the problems begin. And the CIO, in my mind, is the regulator, the person at the agency that can assure that does not happen. Additionally, the CIO ensures that the program managers cannot spend IT funds unless the disciplines are in place, and it is really clear what we are supposed to be accomplishing, at what cost, for whom, and by when. And that is the primary role, in my opinion, from a 20,000 foot view, for a CIO. There are other responsibilities as well, but I think our discussion here should be what does the CIO need to have to make sure he or she can perform that role most effectively.

[The prepared statement of Mr. Johnson follows:]

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF **MANAGEMENT** AND BUDGET
WASHINGTON, D.C. 20503

STATEMENT OF THE HONORABLE CLAY JOHNSON III

DEPUTY DIRECTOR FOR MANAGEMENT

OFFICE OF MANAGEMENT AND BUDGET

BEFORE THE COMMITTEE ON GOVERNMENT REFORM

SUBCOMMITTEE ON TECHNOLOGY, INFORMATION POLICY,

INTERGOVERNMENTAL RELATIONS, AND THE CENSUS

U.S. HOUSE OF REPRESENTATIVES

July 21, 2004

Good afternoon, Mr. Chairman, Ranking Member Clay, and Members of the Committee. Thank you for inviting me to speak about role of an agency Chief Information Officer. I have the opportunity to work closely with Federal CIOs, primarily through Karen Evans, the head of OMB's office of E-gov/Information Technology.

CIOs are critical to the success of their departments and agencies. The CIO is an agency's manager of information resources. In this capacity, he or she is a strategic advisor to the Secretary and Deputy Secretary about how IT investments and activities can be used to improve service levels and program efficiency and

effectiveness. The CIO ensures that service, performance and cost goals are clearly defined and the focus for each IT project and activity. Additionally the CIO ensures that our systems are secure, our citizen's personal information is protected, and IT projects are delivered on time and on budget (with particular attention to be paid to large projects). Another important CIO role is reducing the amount of burdensome paperwork created by the Federal government.

CIOs must be results-oriented and focused on performance, not outputs. To be most effective, the CIO should work most with and be responsible to the Department's top management person, which in most cases is the Deputy Secretary. The CIO needs to be personable, broad and strategic enough to form strong partnerships with Agency, financial, procurement, and real property leadership. Also the CIO should be a proven people and project manager. Finally, the CIO must keep pace with rapidly changing technology and the need to integrate all areas of agency service delivery (paper, phone, web, office visits).

Departments and agencies are increasingly deploying information technologies to serve and assist citizens, taxpayers, and Federal managers and employees, more accurately, quickly and efficiently. We spend more money on IT than any other organization in the world; so we should aspire to be the best at it. Our success in this area starts with and depends most on the capabilities of our CIOs.

Mr. PUTNAM. Thank you, Mr. Johnson.

Our next witness, our most frequent witness, is Ms. Karen Evans. Ms. Evans was appointed by President Bush to be the Administrator of the Office of Electronic Government and Information Technology at the Office of Management and Budget. Ms. Evans is a 20-year veteran of the Federal Government. Before joining OMB, she was Chief Information Officer at the Department of Energy and served as vice chairman of the CIO Council. Previously, she served at the Department of Justice as Assistant and Division Director for Information System Management.

Welcome again. You are recognized.

Ms. EVANS. Good afternoon, Mr. Chairman and Ranking Member Clay. Thank you for inviting me to speak about the critical role that chief information officers play in driving increased agency performance, achieving results, and serving our citizens.

In fiscal year 2005, the Federal Government will spend $60 billion on information technology. This afternoon I will outline the vision, strategy, and tools the Office of Management and Budget and the Federal CIO Council have developed to enable CIOs to be more successful.

Eight years ago Congress passed the Clinger-Cohen Act, creating the position of CIO and elevating them to senior management rank. Throughout the last 8 years, but especially under the focused attention of the President's management agenda and as a result of the E-Government Act of 2002, CIOs have taken on new and expansive responsibilities.

To be most effective, the CIO should work most with and be responsible to the department's top management person, which in most cases, as previously stated, is the deputy secretary. Without a high performing and capable CIO, an agency will not be able to fully achieve the goals of the President, Congress, and the American people.

As for my role, the OMB's Office of E-Government and Information Technology is statutorily responsible for managing Federal Government information technology and policy.

Throughout the past few years, we have implemented a series of tools to support Federal CIOs.

First, we are empowering CIOs to drive business and technology change through the President's management agenda scorecard. Supported by their secretary and deputy secretary, agency CIOs use the scorecard to manage agency performance.

Second, we are driving accountability and responsibility to agency bureaus and program offices by requiring agencies to score and remediate their exhibit 300 IT business cases before submission to OMB. Also, we are requiring a closer alignment between the 300's and the Program Assessment Rating Tool, or the PART, to assist the CIO in ensuring that IT investments enhance and compliment the overall objective of a particular program.

Third, we are positioning CIOs to play a key part in the long-term success of their agency through our investment in enterprise architecture. Developing their enterprise architecture, CIOs identify IT investments and develop a blueprint for the future, including detailed transition plans. Enterprise architecture, supported by

budget and related data, is bringing greater rigor and stronger decisionmaking to information resource management.

Fourth, we are enabling CIOs to provide leadership for IT investment performance by setting cost, schedule and performance requirements. Agencies are required to use the same standard used in industry. This will result in tighter management and increased investment responsibility by the immediate IT project manager and CIO.

Fifth, we are providing CIOs with the ability to realize considerable cost savings for their agencies through acquisition activities such as the SmartBuy program. This allows dollars to be invested in providing better services and stronger results for core mission responsibilities.

In addition to OMB, the Federal CIO Council plays a critical role in supporting CIOs in fulfilling their obligation to serve their fellow Americans, identify new governmentwide solutions, and ensure their agency strategic goals are achieved. The Council is successful because it exemplifies a critical e-government principle: encouraging cooperation and sharing of ideas and resources.

The Council is led by OMB Deputy Director for Management, directed by myself, and vice-chaired by Dan Matthews, the CIO at the Department of Transportation. The Council membership consists of agency CIOs who chair committees focused on critical issues before the Federal IT community. In consultation with OMB, these committees are developing the tools to assist their fellow CIOs and agency IT employees, including the CIO strategic plan and the most recent recommendations on IT work force project management qualifications.

While the necessary tools are in place, the road ahead for Federal CIOs is not without its challenges. To realize the vision of the President's management agenda and the E-Government Act of 2002, CIOs must provide leadership to achieve their e-government migration milestones. In this, cross-agency collaboration is critical, both within an agency and across agencies. We need to continue to work in partnership with Congress, industry, and State and local governments.

In conclusion, the administration will continue to work with agency heads, CIOs, and the CIO Council to empower CIOs to achieve results and transform our Federal Government into a more citizen service organization.

We look forward to continued work with the committee on this matter, and I would be pleased to take questions at the appropriate time.

[The prepared statement of Ms. Evans follows:]

STATEMENT OF THE HONORABLE KAREN EVANS

ADMINISTRATOR FOR ELECTRONIC GOVERNMENT AND

INFORMATION TECHNOLOGY

OFFICE OF MANAGEMENT AND BUDGET

BEFORE THE COMMITTEE ON GOVERNMENT REFORM

SUBCOMMITTEE ON TECHNOLOGY, INFORMATION POLICY,

INTERGOVERNMENTAL RELATIONS, AND THE CENSUS

U.S. HOUSE OF REPRESENTATIVES

July 21, 2004

Good afternoon, Mr. Chairman, Ranking Member Clay, and Members of the Committee. Thank you for inviting me to speak about the critical role Chief Information Officers (CIO) play in driving increased agency performance, achieving results and serving our citizens.

In fiscal year 2005, the Federal government will spend $60 billion on information technology (IT). This afternoon I will outline the vision, strategy and tools the

Office of Management and Budget (OMB) and the Federal CIO Council have developed to enable CIOs to be more successful.

Eight years ago Congress passed the Clinger-Cohen Act creating the position of CIO and elevating them to senior management rank. Throughout the last eight years, but especially under the focused attention of President George W. Bush's Management Agenda and as a result of the E-Government Act of 2002, CIOs have taken on new and expansive responsibilities.

To set the stage, an effective CIO is a strategic thinker and a coordinator, not a technical implementer. They are also a service provider working across the agency to use IT to resolve business problems. I like to think of a CIO as the agency's orchestra conductor of information resources and technology. They possess the necessary technical skills to play "first violin," however their role is to oversee and coordinate the vast information resources within an agency.

To be most effective, the CIO should work most with and be responsible to the Department's top management person, which in most cases is the Deputy Secretary. Their responsibilities are wide and deep. Without a high performing

and capable CIO, an agency will not be able to fully achieve the goals the President, Congress and the American people demand.

The OMB Office of E-government and Information Technology is statutorily responsible for managing Federal government information technology and policy. As such, we provide guidance, consult, and support agency CIOs on a daily basis.

Office of Management and Budget

Throughout the past few years, we have developed a set of tools to enhance the role of a chief information officer, and put these tools to work. Here are five examples.

First, we are empowering CIOs to drive business and technology change through the President's Management Agenda scorecard. Supported by their Secretary and Deputy Secretary, agency CIOs use the scorecard to manage agency IT investment performance, expand the enterprise architecture, foster e-government cooperation, develop sound business cases, and drive compliance with the Federal Information Security Management Act. In fact, CIOs are working with agency program, contracting and financial management officials and are using the scorecard as a tool to drive e-government accountability and leadership responsibility. In previous

testimony before this committee, we have identified the need for strong management leadership to achieve IT reform and robust cyber security protection. The scorecard is a helpful tool in achieving results in all of these areas.

Second, we are driving accountability and responsibility to agency bureaus and program offices by requiring agencies to score their FY06 exhibit 300 IT business cases before submission to OMB. Cases which fail agency internal scoring must be remediated before being submitted to OMB. Also, we are requiring a closer alignment between the exhibit 300s and the Program Assessment Rating Tool (or PART) to assist the CIO in ensuring the IT investments enhance and complement the overall objective of the particular program. Each year OMB receives a significant number of low quality exhibit 300s. This new requirement will enable the agencies to provide high quality budget submissions and drive greater accountability and responsibility for IT management.

Third, we are positioning CIOs to play a key part in the long-term success of their agency through our investment in Enterprise Architecture. Developing their enterprise architecture, CIOs identify IT investments and develop a blueprint for the future including a detailed transition plan. Enterprise architecture, supported by budget and related data, is bringing greater rigor and stronger decision making to

information resource management. Three years ago, the principles of the 24 Presidential E-Government Initiatives were the foundation for the building of the Federal Enterprise Architecture, and today the five lines of business task forces are identifying cost savings and technology solutions through analysis of enterprise architecture data. Architecture is one tool which enables CIOs to develop common agency and government-wide solutions.

Fourth, we are enabling CIOs to provide leadership for IT investment performance by setting cost, schedule and performance requirements. Program offices which are required to monitor these quantitative indicators cannot wait until the CIO reviews to determine if the project is off target. Instead, the requirement agency's use the same standard used in industry to monitor cost, schedule, and performance will result in tighter management and increased investment responsibility by the immediate IT project manager and CIO.

Fifth, we are providing CIOs with the ability to realize considerable cost savings for their agencies through acquisition activities such as the SmartBuy program. This allows dollars to be invested in providing better services and stronger results for core mission responsibilities. SmartBuy is changing the concept of the Federal IT "enterprise." For many decades, the "enterprise" was an ad-hoc collection of

agency bureaus, program offices and field operations. Over time, SmartBuy and other acquisition activities are redefining the enterprise as the one Federal government and driving cost savings and avoidance. Agency CIOs are using Smartbuy offerings to drive significant cost savings for agencies without loss of quality.

The Federal CIO Council

In addition to OMB, the Federal CIO Council plays a critical role in supporting CIOs in fulfilling their obligation to serve their fellow Americans, identify new government-wide solutions and ensure their agency strategic goals are achieved. The Council is successful because it exemplifies a critical e-government principle – business goals and results can be achieved by breaking down silos of thought and encouraging cooperation and sharing of ideas and resources.

The Council is led by the OMB Deputy Director of Management, directed by myself and Vice-chaired by Dan Matthews, CIO at the Department of Transportation. The Council membership consists of agency CIO's who chair committees focused on critical issues before the Federal IT community: Best Practices, Workforce & Human Capital, Governance, and Architecture & Infrastructure. In consultation with OMB, these committees are developing the

tools to assist their fellow CIO's and agency IT employees. Today I would like to highlight two examples.

The council adopted a strategic plan for 2004, which sets results-orientated goals for agency CIOs focused on cost savings, strategic IT management and project management.

The council has also collaborated to ensure our IT workforce is qualified, trained, and prepared to manage projects and integrate existing and emerging technologies and to meet the requirements in the Clinger Cohen Act. Ira Hobbs, CIO of the Department of Treasury, and Janet Barnes, CIO of the Office of Personnel Management, released guidance on IT workforce project manager qualifications for use by agency CIOs. This is one of the many products and tools this committee has developed.

Challenges Ahead

While the necessary tools are in place, the road ahead for Federal CIOs is not without its challenges. To realize the vision of the President's Management Agenda and the E-Government Act of 2002, CIOs must provide leadership to achieve their e-government migration milestones. In this, cross-agency

collaboration is critical, both within an agency and across agencies. We need to continue to work in partnership with the Congress, industry and state and local governments.

Conclusion

In conclusion, the Administration will continue to work with agency heads, CIOs and the CIO Council to empower CIOs to achieve results and transform our Federal government into a more citizen-centered organization.

We look forward to continued work with the committee on this matter and I would be pleased to take questions at the appropriate time.

Mr. PUTNAM. Thank you, Ms. Evans.

Our third witness for this panel is David Powner. Dave Powner is responsible for a large segment of GAO's information technology work, including systems development and IT investment management reviews. He has over 15 years of public and private information technology-related experience. In the private sector, he had several positions with Quest Communications, including director of internal audits, responsible for information technology and financial audits, and director of information technology, responsible for Quest digital subscriber lines software development efforts.

He has an undergraduate degree from the University of Denver and a graduate's degree from Harvard.

Welcome to the subcommittee. You are recognized for 5 minutes.

Mr. POWNER. Thank you, Mr. Chairman, Ranking Member Clay. We appreciate the opportunity to testify on the report we are releasing today on Federal CIOs. We have long been proponents of having strong agency CIOs to lead technology solutions that improve program performance.

Eight years ago the Clinger-Cohen Act first required agency heads to designate CIOs. Effective CIOs can make significant differences in building the capabilities needed to implement improvements in the management of the billions spent annually on IT.

This afternoon I will discuss CIO responsibilities and reporting relationships, tenure, and major challenges. I will also discuss actions to address our findings.

First, CIO responsibilities and reporting relationships. As this chart to your left, Mr. Chairman, illustrates, the 27 major departments and agency CIOs are generally responsible for most of the 13 key areas required by statute on critical to effective information and technology management. Not surprising, all 27 CIOs reported that they are responsible for areas such as capital planning and investment management, enterprise architecture, and information security.

However, not all CIOs are responsible for each of the areas called for in law, and views were mixed as to whether it is important for CIOs to have responsibilities for each of these areas. A significant number of CIOs who do not hold these responsibilities believe that it did not present a problem because other organizational units were appropriately assigned these duties. A few former CIOs told us that some of these areas were distractions from CIOs' primary responsibilities.

Regarding reporting relationships, 19 of the 27 CIOs told us that they report to the agency head as required by law. Consistent with Mr. Johnson's comments, views were mixed as to whether it is important for the CIO to report to the agency head. Some stated that a direct reporting relationship was crucial, especially when influencing budgets and policy decisions. Others stated that organizational placement was not as important as credibility and relationships with other key executives.

Next, regarding CIO tenure since Clinger-Cohen was enacted. The median tenure of agencies' permanent CIOs is just less than 2 years, or 23 months. Career CIOs, on average, stayed longer than political appointees. Nevertheless, in either case CIOs are staying less than the 3 to 5 years that was most commonly cited by both

current and former CIOs as the time needed for a CIO to be effective.

Since 1996, only about a third of the permanent CIOs who had completed their time in office stayed 3 years or more. Among reasons cited for high turnover were the political environment, pay differentials with the private sector, and the significant challenges CIOs face. Too short a tenure can reduce the CIO's effectiveness and ability to address the major challenges cited. These challenges included implementing effective IT governance practices, obtaining sufficient and relevant resources, and communicating and collaborating within the agency and with external partners.

Congress and agencies can take actions to address these findings. With respect to Congress, hearings such as this, Mr. Chairman, help to raise the issues and suggest solutions. To further assist you in your oversight role, as requested, we are beginning work on private sector CIO responsibilities and best practices to complement the report we are releasing today.

Agencies too can take actions to address the high turnover rate and challenges cited. Specifically, human capital flexibilities such as recruiting bonuses, retention allowances, and critical position pay authority may help to attract and retain qualified candidates.

Regarding the major challenge of implementing effective governance practices, GAO and others have issued guides to assist agencies in institutionalizing sound governance such as our IT investment management framework.

In summary, not all CIOs are responsible for the areas called for in law, nor do they all report to the agency head. In addition, most CIOs do not stay in office for the 3 to 5 years recommended. Given the many challenges facing CIOs, having laws that focus on the most effective assignment of responsibilities, flexibilities to lessen turnover, and governance practices to effectively manage critical areas will be essential.

This concludes my statement, Mr. Chairman. I would be pleased to respond to any questions that you have at this time.

[The prepared statement of Mr. Powner follows:]

United States Government Accountability Office

GAO

Testimony

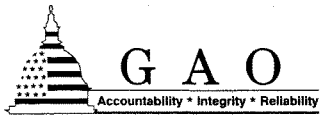
Before the Subcommittee on Technology, Information Policy, Intergovernmental Relations and the Census, House Committee on Government Reform

For Release on Delivery
Expected at 2:00 p.m. EDT
Wednesday, July 21, 2004

INFORMATION AND TECHNOLOGY MANAGEMENT

Responsibilities, Reporting Relationships, Tenure, and Challenges of Agency Chief Information Officers

Statement of David A. Powner,
Director, Information Technology
Management Issues



GAO-04-957T

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Highlights

Highlights of GAO-04-957T, testimony before the Subcommittee on Technology, Information Policy, Intergovernmental Relations and the Census, Committee on Government Reform, House of Representatives

Why GAO Did This Study

Federal agencies rely extensively on information technology (IT) to effectively implement major government programs. To help agencies manage their substantial IT investments, the Congress has established a statutory framework of requirements, roles, and responsibilities relating to IT management.

GAO was asked to summarize its report, being issued today, on federal chief information officers' (CIO) responsibilities, reporting relationships, and tenure and on the challenges that CIOs face (*Federal Chief Information Officers: Responsibilities, Reporting Relationships, Tenure, and Challenges*, GAO-04-823, July 21, 2004) and to offer suggestions for actions that both the Congress and the agencies can take in response to these findings.

www.gao.gov/cgi-bin/getrpt?GAO-04-957T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact David A. Powner at 202-512-9286 or pownerd@gao.gov.

July 21, 2004

INFORMATION AND TECHNOLOGY MANAGEMENT

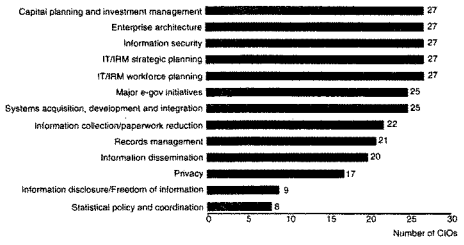
Responsibilities, Reporting Relationships, Tenure, and Challenges of Agency Chief Information Officers

What GAO Found

In looking at 27 agencies, GAO found that CIOs generally were responsible for most of the 13 areas that had been identified as either required by statute or critical to effective information and technology management (see figure below) and that about 70 percent reported directly to their agency heads. Among current CIOs and former agency IT executives, views were mixed on whether it was important for the CIO to have responsibility for each of the 13 areas and a direct reporting relationship with the agency head. In addition, current CIOs come from a wide variety of professional and educational backgrounds and, since the enactment of the legislation establishing this position, the permanent CIOs who had completed their time in office had a median tenure of about 2 years. This time in office, however, was less than the 3 to 5 years that both current CIOs and former agency IT executives most commonly cited as the amount of time needed for a CIO to be effective. Too short of a tenure can reduce a CIOs' effectiveness and ability to address major challenges, including implementing effective IT management and obtaining sufficient and relevant resources.

Both the Congress and the federal agencies can take various actions to address GAO's findings. First, as the Congress holds hearings on and introduces legislation related to information and technology management, there may be an opportunity to consider the results of this review and whether the existing statutory framework offers the most effective structure for CIOs' responsibilities and reporting relationships. Second, agencies can use the guidance GAO has issued over the past few years to address, for example, agencies' IT management and human capital challenges. Finally, agencies can also employ such mechanisms as human capital flexibilities to help reduce CIO turnover or to mitigate its effect.

Number of CIOs with Responsibility for Information Technology Management Areas



Source: Agency CIOs.

Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity to join in today's hearing on federal agency chief information officers (CIO). Our work and the work of others have shown that the federal government has had long-standing information and technology management problems. Various laws have been enacted to improve the government's performance in this area. For example, the Clinger-Cohen Act of 1996 requires agency heads to designate CIOs to lead reforms to help control system development risks, better manage technology spending, and achieve real, measurable improvements in agency performance through better management of information resources.

At your request, I will summarize our report[1] being issued today that focuses on the status of federal CIOs, including their responsibilities and reporting relationships, professional backgrounds and tenure, and what they viewed as their major challenges. In addition, I will discuss what can be done to address our findings. In performing our work at 27 major federal departments and agencies (23 entities identified in 31 United States Code 901,[2] the Department of Homeland Security, and the 3 military services),[3] we initially collected information using a data collection instrument and subsequently interviewed each of the CIOs who were in place at the time of our review. We also conducted two panel discussions with former agency information technology (IT) executives, including former CIOs, that addressed their experiences and challenges, and we held a series of discussions with our Executive Council on Information Management and Technology, which is composed of noted IT experts from the public and private sectors and from academia. The work on which this

[1]U.S. General Accounting Office, *Federal Chief Information Officers: Responsibilities, Reporting Relationships, Tenure, and Challenges*, GAO-04-823 (Washington, D.C.: July 21, 2004).

[2]This section of the U. S. C. requires 24 departments and agencies to establish chief financial officers. We did not include the Federal Emergency Management Agency in our review, even though it is one of the 24 departments and agencies, because this agency has been transferred to the Department of Homeland Security.

[3]The 27 agencies covered by our report are the Departments of Agriculture, the Air Force, the Army, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, the Interior, Justice, Labor, the Navy, State, Transportation, the Treasury, and Veterans Affairs; and the Environmental Protection Agency, General Services Administration, National Aeronautics and Space Administration, National Science Foundation, Nuclear Regulatory Commission, Office of Personnel Management, Small Business Administration, Social Security Administration, and U.S. Agency for International Development.

testimony is based was performed from November 2003 through May 2004 in accordance with generally accepted government auditing standards.

Results in Brief

Generally, CIOs were responsible for most of the 13 areas we identified as either required by statute or critical to effective information and technology management, and about 70 percent of the CIOs reported directly to their agency heads. However, two of the information and technology management areas—information disclosure and statistics—were the responsibility of fewer than half of the CIOs. While this alternative assignment of responsibility is not consistent with the statutes, the CIOs generally believed that not being responsible for certain information and technology management areas did not present a problem, in large part because other organizational units were assigned these duties. Views were mixed among current CIOs and former agency IT executives on whether a direct reporting relationship was crucial to the success of the CIO. In addition, current CIOs come from a wide variety of professional and educational backgrounds, and since the enactment of the Clinger-Cohen Act, the permanent CIOs who had completed their time in office had a median tenure of about 2 years. Agency CIOs' average time in office, however, was less than the 3 to 5 years that was most commonly cited by both current CIOs and former agency IT executives as the amount of time needed for a CIO to be effective. This difference in tenure can negatively impact CIOs' effectiveness and their ability to address the major challenges they cited. These challenges include implementing effective IT management and obtaining sufficient and relevant resources.

The Congress and federal agencies can take various actions to address our findings. First, as the Congress holds hearings on and introduces legislation related to information and technology management, there may be an opportunity to consider the results of this review and whether the existing statutory framework offers the most effective structure for CIOs' responsibilities and reporting (i.e., to the agency head). Second, agencies can use the guidance we have issued over the past few years to address, for example, their IT management and human capital challenges. In addition, various mechanisms, such as human capital flexibilities, are available for agencies to use to help reduce CIO turnover or to mitigate its effect.

Background

Despite a substantial investment in IT, the federal government's management of information resources has produced mixed results.

Although agencies have taken constructive steps to implement modern strategies, systems, and management policies and practices, we continue to find that agencies face significant challenges.[4] The CIO position was established by the Congress to serve as the focal point for information and technology management issues within an agency, and CIOs can address these challenges with strong and committed leadership.

The Congress has assigned a number of responsibilities to the CIOs of federal agencies. (See app. I for a summary of the legislative evolution of agency CIO responsibilities.) In addition, we have identified other areas of information and technology management that can contribute significantly to the successful implementation of information systems and processes. Altogether, we identified the following 13 major areas of CIO responsibilities as either statutory requirements or critical to effective information and technology management:[5]

- *IT/IRM strategic planning.* CIOs are responsible for strategic planning for all information and information technology management functions—referred to by the term information resources management (IRM) strategic planning [44 U.S.C. 3506(b)(2)].
- *IT capital planning and investment management.* CIOs are responsible for IT capital planning and investment management [44 U.S.C. 3506(h) and 40 U.S.C. 11312 & 11313].
- *Information security.* CIOs are responsible for ensuring their agencies' compliance with the requirement to protect information and systems [44 U.S.C. 3506(g) and 3544(a)(3)].
- *IT/IRM human capital.* CIOs have responsibilities for helping their agencies meet their IT/IRM workforce needs [44 U.S.C. 3506(b) and 40 U.S.C. 11315(c)].

[4]U.S. General Accounting Office, *High-Risk Series: An Update*, GAO-03-119 (Washington, D.C.: January 1, 2003) and *Major Management Challenges and Program Risks: A Governmentwide Perspective*, GAO-03-95 (Washington, D.C.: January 1, 2003).

[5]Three areas of responsibility—enterprise architecture; systems acquisition, development and integration; and e-government initiatives—are not assigned to CIOs by statute; they are assigned to the agency heads by law or guidance. However, in virtually all agencies, the agency heads have delegated these areas of responsibility to their CIOs.

- *Information collection/paperwork reduction.* CIOs are responsible for the review of their agencies' information collection proposals to maximize the utility and minimize public paperwork burdens [44 U.S.C. 3506(c)].

- *Information dissemination.* CIOs are responsible for ensuring that their agencies' information dissemination activities meet policy goals such as timely and equitable public access to information [44 U.S.C. 3506(d)].

- *Records management.* CIOs are responsible for ensuring that their agencies implement and enforce records management policies and procedures under the Federal Records Act [44 U.S.C. 3506(f)].

- *Privacy.* CIOs are responsible for their agencies' compliance with the Privacy Act and related laws [44 U.S.C. 3506(g)].

- *Statistical policy and coordination.* CIOs are responsible for their agencies' statistical policy and coordination functions, including ensuring the relevance, accuracy, and timeliness of information collected or created for statistical purposes [44 U.S.C. 3506(e)].

- *Information disclosure.* CIOs are responsible for information access under the Freedom of Information Act [44 U.S.C. 3506(g)].

- *Enterprise architecture.* Federal laws and guidance direct agencies to develop and maintain enterprise architectures as blueprints to define the agency mission and the information and IT needed to perform that mission.

- Systems acquisition, development, and integration. GAO has found that a critical element of successful IT management is effective control of systems acquisition, development, and integration [44 U.S.C. 3506(h)(5) and 40 U.S.C. 11312].

- *E-government initiatives.* Various laws and guidance direct agencies to undertake initiatives to use IT to improve government services to the public and internal operations [44 U.S.C. 3506(h)(3) and the E-Government Act of 2002].

CIOs' Responsibilities, Reporting Relationships, Tenure, and Challenges

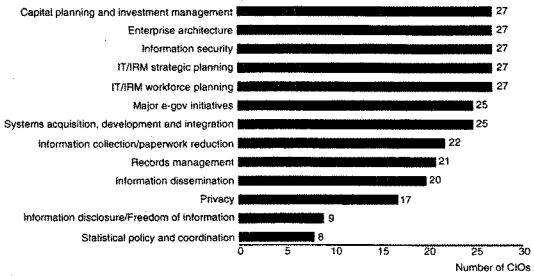
The agency CIOs were generally responsible for most of the 13 key areas we identified as either required by statute or among those critical to effective information and technology management, and most of these CIOs reported directly to their agency heads. We found that only 2 of these 13 areas were cited as the responsibility of fewer than half of the CIOs, and 19 of the CIOs reported directly to their agency heads. Their median tenure was about 2 years—less than the 3 to 5 years that CIOs and former senior agency IT executives said were necessary for a CIO to be effective; this gap could be problematic because it could inhibit CIOs' efforts to address major challenges, including IT management and human capital.

Agency CIOs Generally Were Responsible for Most Areas

As figure 1 illustrates, CIOs were responsible for key information and technology management areas. In particular, 5 of the 13 areas were assigned to every agency CIO. These areas were capital planning and investment management, enterprise architecture, information security, IT/IRM strategic planning, and IT workforce planning. However, of the other 8 areas, 2 of them—information disclosure and statistics—were the responsibility of fewer than half of the CIOs. Disclosure is a responsibility that has frequently been assigned to offices such as general counsel and public affairs in the agencies we reviewed, while statistical policy is often the responsibility of separate offices that deal with the agency's data analysis, particularly in agencies that contain Principal Statistical Agencies.[6] Nevertheless, even for those areas of responsibility that were not assigned to them, the CIOs generally reported that they contributed to the successful execution of the agency's responsibility.

[6]Principal Statistical Agencies include the Bureau of Economic Analysis (Department of Commerce), Bureau of Justice Statistics (Department of Justice), Bureau of Labor Statistics (Department of Labor), Bureau of Transportation Statistics (Department of Transportation), Economic Research Service (Department of Agriculture), Energy Information Administration (Department of Energy), Environmental Protection Agency, Internal Revenue Service's Statistics of Income Division (Department of the Treasury), National Agricultural Statistics Service (Department of Agriculture), National Center for Education Statistics (Department of Education), National Center for Health Statistics (Department of Health and Human Services), Science Resources Statistics (National Science Foundation), Office of Policy (Social Security Administration), Office of Management and Budget (Executive Office of the President), and the U.S. Census Bureau (Department of Commerce)

Figure 1: Number of CIOs Reporting That They Were Responsible for Each Information and Technology Management Area



Source: Agency CIOs.

In those cases where the CIOs were not assigned the expected responsibilities, and they expressed an opinion about the situation,[7] more than half of the CIO responses were that the applicable information and technology management areas were appropriately held by some other organizational entity. Moreover, one of the panels of former agency IT executives suggested that not all 13 areas were equally important to CIOs. A few of the former agency IT executives even called some of the areas relating to information management a distraction from the CIO's primary responsibilities. Those sentiments, however, are not consistent with the law, which envisioned that having a single official responsible for the various information and information technology functions would provide integrated management.

Specifically, one purpose of the Paperwork Reduction Act of 1980 (PRA) is to coordinate, integrate, and—to the extent practicable and appropriate—make federal information resources management policies and practices uniform as a means to improve the productivity, efficiency, and effectiveness of government programs by, for example, reducing information collection burdens on the public and improving service

[7]Out of a total of 69 possible responses (instances of CIOs without responsibility for one or more of the 13 information and technology management areas), in 42 instances CIOs expressed an opinion on whether they had any concerns with their agency's assignment.

delivery to the public. Moreover, the House committee report accompanying the PRA in 1980 asserted that aligning IRM activities under a single authority should provide for both greater coordination among an agency's information activities and higher visibility for these activities within the agency.[8]

In addition to specifying areas of responsibility for the CIOs of major departments and agencies, the Clinger-Cohen Act calls for certain CIOs to have IRM as their primary duty.[9] All but a few of the agencies complied with this requirement. The other significant duties reported by some CIOs generally related to other administrative or management areas, such as procurement and human capital. We[10] and Members of Congress[11] have previously expressed concern about agency CIOs having responsibilities beyond information and technology management and have questioned whether dividing time between two or more kinds of duties would allow CIOs to deal effectively with their agencies' IT challenges.

CIOs Generally Reported to Their Agency Heads

Federal law—as well as our guide based on CIOs of leading private sector organizations—generally calls for CIOs to report to their agency heads, [12] forging relationships that ensure high visibility and support for far-reaching information management initiatives. Nineteen of the CIOs in our review stated that they had this reporting relationship. In the other 8 agencies, the CIOs stated that they reported instead to another senior official, such as a deputy secretary, under secretary, or assistant secretary.

[8]U.S. House of Representatives, *Paperwork Reduction Act of 1980*, House Report 96-835, (Washington, D.C., Mar. 19, 1980).

[9]The Clinger-Cohen Act requirement that agency CIOs have IRM as their primary duty applies to the major departments and agencies listed in 31 U.S.C. 901(b), which does not include the Department of Homeland Security or the Departments of the Air Force, the Army, and the Navy.

[10]U.S. General Accounting Office, *Chief Information Officers: Ensuring Strong Leadership and an Effective Council*, GAO/T-AIMD-98-22 (Washington, D.C.: Oct. 27, 1997).

[11]U.S. Senate Committee on Governmental Affairs, *Paperwork Reduction Act of 1995*, Senate Report 104-8 (Washington, D.C., Jan. 30, 1995).

[12]The Homeland Security Act of 2002 states that the CIO for the Department of Homeland Security shall report to the Secretary of Homeland Security or to another official as directed by the Secretary. As allowed by the law, the Secretary has directed the CIO to report to the Under Secretary for Management.

The views of current CIOs and former agency IT executives about whether it is important for the CIO to report to the agency head were mixed. For example, of the 8 CIOs who did not report directly to their agency heads, (1) 3 stated it was important or critical, (2) 2 stated it was not important, (3) two stated it was generally important but that the current reporting structure at their agencies worked well, and (4) 1 stated it was very important that a CIO report to at least a deputy secretary. In contrast, 15 of the 19 CIOs who reported to their agency heads stated that this reporting relationship was important.[13] However, 8 of the 19 CIOs who said they had a direct reporting relationship with the agency head noted that they also reported to another senior executive, usually the deputy secretary or under secretary for management, on an operational basis. Finally, members of our Executive Council on Information Management and Technology told us that what is most critical is for the CIO to report to a top level official. The members of our panels of former agency IT executives also had a variety of views on whether it was important that the CIO report to the agency head.

CIOs Have Diverse Backgrounds and Generally Remained in Office about 2 Years

At the major departments and agencies included in our review, the current CIOs had diverse backgrounds, and since the enactment of the Clinger-Cohen Act, the median tenure of permanent CIOs whose time in office had been completed was about 2 years.[14] Both of these factors can significantly influence whether a CIO is likely to be successful. First, the background of the current CIOs varied in that they had previously worked in the government, the private sector, or academia, and they had a mix of technical and management experience. Virtually all of them had work experience and/or educational backgrounds in IT or IT-related fields. For example, 12 current agency CIOs had previously served in a CIO or deputy CIO capacity. Moreover, most of the CIOs had business knowledge related to their agencies because they had previously worked at the agency or had worked in an area related to the agency's mission.

Second, the median time in the position for agencies' permanent CIOs was 23 months. For career CIOs, the median was 32 months; the median for political appointees was 19 months. When asked how long a CIO needed to

[13]One agency CIO stated that reporting to the CIO was not important, one CIO did not clearly address the question, and we not discussed this issue with two CIOs.

[14]We did not include acting CIOs in this calculation, unless the acting CIO was later put in the permanent position. Further analysis of tenure data is provided in appendix IV.

stay in office to be effective, the most common response of current CIOs and former agency IT executives was 3 to 5 years. Between February 10, 1996 and March 1, 2004, only about 35 percent of the permanent CIOs who had completed their time in office reportedly had stayed in office for a minimum of 3 years. The gap between actual time in office and the time needed to be effective is consistent with the views of many agency CIOs, who believed that the turnover rate was high and that the political environment, the pay differentials between the public and private sectors, and the challenges that CIOs face contributed to this rate.

Agency CIOs Face Major Challenges

Current CIOs reported that they faced major challenges in fulfilling their duties. In particular, two challenges were cited by over 80 percent of the CIOs: implementing effective information technology management and obtaining sufficient and relevant resources. This indicates that CIOs view IT governance processes, funding, and human capital as critical to their success. Other common challenges they cited were communicating and collaborating internally and externally and managing change. Effectively tackling these reported challenges can improve the likelihood of a CIO's success. The challenges the CIOs identified were as follows:

IT Management. Leading organizations execute their information technology management responsibilities reliably and efficiently. A little over 80 percent of the CIOs reported that they faced one or more challenges related to implementing effective IT management practices at their agencies. This is not surprising given that, as we have previously reported, the government has not always successfully executed the IT management areas that were most frequently cited as challenges by the CIOs—information security, enterprise architecture, investment management, and e-gov.[15]

Sufficient and Relevant Resources. One key element in ensuring an agency's information and technology success is having adequate resources available. Virtually all agency CIOs cited resources, both in dollars and staff, as major challenges. The funding issues cited generally concerned the development and implementation of agency IT budgets and whether certain IT projects, programs, or operations were being adequately funded.

[15]See, for example, U.S. General Accounting Office, *High-Risk Series: Protecting Information Systems Supporting the Federal Government and the Nation's Critical Infrastructures*; GAO-03-121 (Washington, D.C.: Jan. 1, 2003); GAO-04-49; GAO-04-40; and GAO-03-95.

We have previously reported that the way agency initiatives are originated can create funding challenges that are not found in the private sector.[16] For example, certain information systems may be mandated or legislated, so the agency does not have the flexibility to decide whether to pursue them. Additionally, there is a great deal of uncertainty about the funding levels that may be available from year to year. The government also faces long-standing and widely recognized challenges in maintaining a high-quality IT workforce. In 1994 and 2001, we reported the importance that leading organizations placed on making sure they had the right mix of skills in their IT workforce.[17] About 70 percent of the agency CIOs reported on a number of substantial IT human capital challenges, including, in some cases, the need for additional staff. Other challenges included recruiting, retention, training and development, and succession planning.

Communicating and Collaborating. Our prior work has shown the importance of communication and collaboration, both within an agency and with its external partners. For example, one of the critical success factors we identified in our CIO guide focuses on the CIO's ability to establish his or her organization as a central player in the enterprise.[18] Ten agency CIOs reported that communication and collaboration were challenges. Examples of internal communication and collaboration challenges included (1) cultivating, nurturing, and maintaining partnerships and alliances while producing results in the best interest of the enterprise and (2) establishing supporting governance structures that ensure two-way communication with the agency head and effective communication with the business part of the organization and component entities. Other CIOs cited activities associated with communicating and collaborating with outside entities as challenges, including sharing information with partners and influencing the Congress and the Office of Management and Budget (OMB).

Managing Change. Top leadership involvement and clear lines of accountability for making management improvements are critical to overcoming an organization's natural resistance to change, marshaling the

[16]U.S. General Accounting Office, *Chief Information Officers: Implementing Effective CIO Organizations*, GAO/T-AIMD-00-128 (Washington, D.C.: Mar. 24, 2000).

[17]U.S. General Accounting Office, *Executive Guide: Improving Mission Performance Through Strategic Information Management and Technology*, GAO/AIMD-94-115 (Washington, D.C.: May 1, 1994) and GAO-01-376G.

[18]GAO-01-376G.

resources needed to improve management, and building and maintaining organizationwide commitment to new ways of doing business. Some CIOs reported challenges associated with implementing changes originating both from their own initiative and from outside forces. Implementing major IT changes can involve not only technical risks but also nontechnical risks, such as those associated with people and the organization's culture. Six CIOs cited dealing with the government's culture and bureaucracy as challenges to implementing change. Former agency IT executives also cited the need for cultural changes as a major challenge facing CIOs. Accordingly, in order to effectively implement change, it is important that CIOs build understanding, commitment, and support among those who will be affected by the change.

Actions Can Be Taken to Improve Agencies' Information and Technology Management

The Congress and agencies can take various actions to assist CIOs in fulfilling their vital roles. With respect to the Congress, hearings such as this, Mr. Chairman, help to raise issues and suggest solutions. Also, the report we are releasing today contains a Matter for Congressional Consideration in which we suggest that, as you hold hearings on and introduce legislation related to information and technology management, you consider whether the existing statutory requirements related to CIO responsibilities and reporting to the agency head reflect the most effective assignment of information and technology management responsibilities and the best reporting relationship. To further assist in your oversight role, as you requested, we are beginning work on the development of a set of CIO best practices, based on the practices of leading organizations in the private sector, to complement the report we are releasing today.

Agencies, too, can take action to improve their information and technology management. First, to address concerns about the high CIO turnover rate, agencies may be able to use human capital flexibilities—which represent the policies and practices that an agency has the authority to implement in managing its workforce—to help retain its CIOs. For example, our model on strategic human capital management notes that recruiting bonuses, retention allowances, and skill-based pay can attract and retain employees who possess the critical skills the agency needs to accomplish its mission.[19] We have also issued several reports that discuss these issues in more depth and provide possible solutions and

[19]U.S. General Accounting Office, *A Model of Strategic Human Capital Management*, GAO-02-373SP, Exposure Draft (Washington, D.C.: Mar. 15, 2002).

recommendations.[20] Second, we have issued various guides to assist CIOs in tackling the major challenges that they have cited. This guidance includes (1) information security best practices to help agencies with their information security challenges;[21] (2) an IT investment management framework, including a new version that offers organizations a road map for improving their IT investment management processes in a systematic and organized manner;[22] and (3) a framework that provides agencies with a common benchmarking tool for planning and measuring their efforts to improve their enterprise architecture management.[23]

In summary, the report we are issuing today indicates that CIOs generally stated that they had most of the responsibilities and reporting relationships required by law, but that there were notable exceptions. In particular, some agency CIOs reported that, contrary to the requirements in the law, they were not responsible for certain areas, such as records management, and that they did not report to their agency head. However, views were mixed as to whether CIOs could be effective leaders without having responsibility for each individual area. In addition, most CIOs did

[20]See U.S. General Accounting Office, *Human Capital: A Guide for Assessing Strategic Training and Development Efforts in the Federal Government*, GAO-04-546G (Washington, D.C.: Mar. 1 2004), *Human Capital: Selected Agencies' Experiences and Lessons Learned in Designing Training and Development Programs*, GAO-04-291 (Washington, D.C.: Jan. 30, 2004), *Human Capital: Key Principles for Effective Strategic Workforce Planning*, GAO-04-39 (Washington, D.C.: Dec. 11, 2003), *Human Capital: Insights for U.S. Agencies from Other Countries' Succession Planning and Management Initiatives*, GAO-03-914 (Washington, D.C.: Sept. 15 , 2003), *Human Capital: Opportunities to Improve Executive Agencies' Hiring Processes*, GAO-03-450 (Washington, D.C.: May 30, 2003), *Human Capital: OPM Can Better Assist Agencies in Using Personnel Flexibilities*, GAO-03-428 (Washington, D.C.: May 9, 2003), and *Information Technology Training: Practices of Leading Private-Sector Companies*, GAO-03-390 (Washington, D.C.: Jan. 31, 2003).

[21]U.S. General Accounting Office, *Executive Guide: Information Security Management: Learning from Leading Organizations*, GAO/AIMD-98-68 (Washington, D.C.: May 1, 1998) and *Information Security Risk Assessment: Practices of Leading Organizations*, GAO/AIMD-00-33 (Washington, D.C.: Nov. 1, 1999).

[22]U.S. General Accounting Office, *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, Version 1.1, GAO-04-394G (Washington, D.C.: Mar. 1, 2004). See also, U.S. General Accounting Office, *Executive Guide: Measuring Performance and Demonstrating Results of Information Technology Investments*, GAO/AIMD-98-89 (Washington, D.C.: Mar. 1, 1998).

[23]U.S. General Accounting Office, *Information Technology: A Framework for Assessing and Improving Enterprise Architecture Management (Version 1.1)*, GAO-03-584G (Washington. D.C.: Apr. 1, 2003).

not stay in office for 3 to 5 years—the response most commonly given when we asked current CIOs and former agency IT executives how long a CIO needed to be in office to be effective. Agencies' use of various mechanisms, such as human capital flexibilities, could help reduce the turnover rate or mitigate its effect. Reducing turnover among CIOs is important because the amount time CIOs are in office can affect their ability to successfully address the major challenges they face. Some of these challenges—such as how IT projects are originated—may not be wholly within their control. Other challenges—such as improved IT management—are more likely to be overcome if a CIO has sufficient time to more effectively address these issues.

Mr. Chairman, this completes my prepared statement. I would be happy to respond to any questions that you or other Members of the Subcommittee may have at this time.

Legislative Evolution of Agency Chief Information Officer Roles and Responsibilities

For more than 20 years, federal law has structured the management of information technology and information-related activities under the umbrella of information resources management (IRM).[1] Originating in the 1977 recommendations of the Commission on Federal Paperwork, the IRM approach was first enacted into law in the Paperwork Reduction Act of 1980 (PRA).[2] The 1980 act focused primarily on centralizing governmentwide responsibilities in the Office of Management and Budget (OMB). The law gave OMB specific policy-setting and oversight duties with regard to individual IRM areas—for example, records management, privacy, and the acquisition and use of automatic data processing and telecommunications equipment (later renamed information technology). The law also gave agencies the more general responsibility to carry out their IRM activities in an efficient, effective, and economical manner and to comply with OMB policies and guidelines. To assist in this effort, the law required that each agency head designate a senior official who would report directly to the agency head to carry out the agency's responsibilities under the law.

Together, these requirements were intended to provide for a coordinated approach to managing federal agencies' information resources. The requirements addressed the entire information life cycle, from collection through disposition, in order to reduce information collection burdens on the public and to improve the efficiency and effectiveness of government.

Amendments to the PRA in 1986 and 1995 were designed to strengthen agency and OMB implementation of the law. Most particularly, the PRA of 1995 provided detailed agency requirements for each IRM area, to match the specific OMB provisions. The 1995 act also required for the first time that agencies develop processes to select, control, and evaluate the results of major information systems initiatives.

In 1996, the Clinger-Cohen Act supplemented the information technology management provisions of the PRA with detailed Chief Information Officer (CIO) requirements for IT capital planning and investment control and for

[1]IRM is the process of managing information resources to accomplish agency missions and to improve agency performance.

[2]P.L. 96-511, December 11, 1980.

performance and results-based management.[3] The 1996 act also established the position of agency chief information officer by amending the PRA to rename the senior IRM officials CIOs and by specifying additional responsibilities for them. Among other things, the act required IRM to be the "primary duty" of the CIOs in the 24 major departments and agencies specified in 31 U.S.C. 901. Accordingly, under current law,[4] agency CIOs are required to carry out the responsibilities of their agencies with respect to information resources management, including

- information collection and the control of paperwork;
- information dissemination;
- statistical policy and coordination;
- records management;
- privacy, including compliance with the Privacy Act;
- information security, including compliance with the Federal Information Security Management Act;
- information disclosure, including compliance with the Freedom of Information Act; and
- information technology.

[3]P.L. 104-106, February 10, 1996. The law, initially entitled the Information Technology Management Reform Act (ITMRA), was subsequently renamed the Clinger-Cohen Act in P.L. 104-208, September 30, 1996.

[4]The E-Government Act of 2002 reiterated agency responsibility for information resources management. P.L. 107-347, December 17, 2002.

Together, these legislated roles and responsibilities embody the policy that CIOs should play a key leadership role in ensuring that agencies manage their information functions in a coordinated and integrated fashion in order to improve the efficiency and effectiveness of government programs and operations.

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Mr. PUTNAM. Thank you very much.

I want to thank all of you for your opening remarks, and at this time I will yield for the first round of questions to the ranking member, the gentleman from Missouri.

Mr. CLAY. Thank you, Mr. Chairman, and thank all the panelists for being here today.

Mr. Johnson, GAO found that agency CIOs were unanimously responsible for IT areas such as information security and IT investment management, but were much less likely to be responsible for areas such as information disclosure or statistical policy, all of which they are statutorily responsible for. Should the CIOs be responsible for each of these 13 areas, and are OMB or the CIO Council planning to respond to these findings?

Mr. JOHNSON. Ask Karen Evans after me, and you should pay more attention to what she says than what I do. To answer your question, if that is the law, then that is what they are supposed to be doing, is one. I do think that 80+ percent of the value of a CIO is in those top four, five, or six categories. And when we have major problems in the IT arena, it is because we have a $100 million project that is producing nothing, or a $500 million project that is 2 years past due. And that is where the bigger numbers are and bigger opportunities to perform or fall behind.

But in terms of the CIO Council addressing those particular things, I really don't know. If it was agreed to that is what they are supposed to be doing, then that is what they are supposed to be doing.

Mr. CLAY. Let me ask you, then, a followup. Whose responsibility does it become to fulfill the CIO's role when the position is vacant? And are there circumstances where the bureaucracy is demonstrating better results in agencies where the CIO position is vacant?

Mr. JOHNSON. When the position is vacant, the chief operating officer of an agency, which may be the head of a smaller agency or under secretary for management at larger departments will fill the vacancies. If there is a vacancy in a political position or a career position, the work is supposed to be go on. Big IT development projects are supposed to continue on budget and on schedule. We are supposed to be running these agencies, and they are responsible for designating somebody to serve in an acting capacity in the absence of a CIO; and it might be the deputy CIO, it might be somebody from the outside, it might be any number of different people. But we are not supposed to stop spending $60 billion wisely just because the CIO is missing. We hold the operating head of the agency responsible for everything that goes on in that agency, whether all his or her senior positions are filled or not. The absence of people in those positions is not an excuse.

Mr. CLAY. OK, thank you for that response.

And I will ask you, too, Ms. Evans. Welcome today. What about GAO's findings that the agency CIOs were responsible for IT areas such as information security and investment management, but much less likely to be responsible for areas such as information disclosure?

Ms. EVANS. In looking at those responsibilities—and I have had the opportunity to be an operational CIO, as well as being in component organizations, and I have had the opportunity to work with

statistical agencies. Statistical agency and policy coordination is usually jointly developed in those agencies where statistical agencies are present, because by law statistical agencies have information requirements that are levied on them, as well, as to how they need to protect that information before it is released out to the public. And so usually what will happen is those responsibilities will be jointly done. The two that you specifically mentioned are usually jointly done with the general counsel's office and the CIO's office, because there is an information dissemination piece where the CIO's policies and rules and procedures would come in place, but there is also a programmatic piece associated with the management of that information.

So I think those two areas really highlight the partnership that is required that a CIO must have into multiple program areas, because we don't necessarily have the expertise in all the program areas, so we have to partner with the appropriate expertise that we need. So there is a programmatic aspect to the two pieces that you have brought up that we would generally rely on general counsel advice as well as the statistical heads of the agencies as designated by law.

Mr. CLAY. OK, let me ask one last question. Do you believe the requirement to have agency CIOs report directly to the agency heads still make sense in today's environment?

Ms. EVANS. I would like to think that the focus of this is that IT is a strategic asset, and so the agency head, or the chief operating officer in this particular case, views IT as a strategic asset; therefore, the CIO would be involved in those. Do I think it is necessary that they directly report to the secretary? I don't think that is the case. I think that what is important is the way that IT is managed within that agency, and that it is viewed as a strategic asset and that the CIO manages it that way with the appropriate staff.

Mr. CLAY. Thank you for your response.

My time has expired.

Mr. PUTNAM. Mr. Johnson, thank you again for being with us. If you would just step back and in your time you have had an opportunity to evaluate this, see what is working, what is not working. If we were to make modifications to the law governing CIOs, what changes to the statute make the most sense for the operational day-to-day activities of making the Government work, holding it accountable, and running it efficiently?

Mr. JOHNSON. Well, I have a better sense of what we need to make sure that all of this happens. If you are asking what of the Clinger-Cohen currently allows or doesn't allow, I don't know. But what I think the CIO needs to be able to do, and needs to be charged to do is to define really clearly what any dollars spent on IT is supposed to produce which is their most important role as I mentioned earlier. And oftentimes program managers say we need a new intelligence system or a new financial management system, and people start spending large sums of money before it is really clearly defined what it is that we are trying to accomplish. The CIO is the person that the head of the agency, Karen, all of you, and I should look to when we have IT projects that run amok, that are not producing defined goals with defined benefits at an accept-

able cost, on schedule. That is their primary responsibility, in my mind, and they are the ones that we should hold accountable for that.

If they need extra authorities or extra tools to be able to do that, then we should allow that. I don't know what Clinger-Cohen allows now or not, but I do know that all too often we are not a very good client; we don't develop most of these systems ourselves, we hire other people to come in, we act as their client, and we work with them. The fact that we allow large, large sums of money to be spent on these projects that are years behind or have not achieved the functionality we expect, says that we are not as good a client and as good a spender of these resources as we should be. To me, we have to be a disciplined client and a disciplined spender. This means we have to be rigorously inclined to define what it is we consider success and what it is we are trying to accomplish: by when, for whom, and at what cost. And that is the discipline. That is the rigor that is missing, I think, between a really good spender of $60 billion and a not-so-wonderful spender of $60 billion.

Mr. PUTNAM. What is the best management tool to impose that discipline, that rigor, to have that accountability when programs do go south? And, frankly, it happens more frequently than any of us would like, and it involves an awful lot of commas and zeros.

Mr. JOHNSON. I think it is a combination of things. I think one of the things the President's management agenda points out is the value of clearly defining what you expect to achieve in human capital, in IT or budget integration, or competitive sourcing. Then you can hold someone accountable for achieving it, and you give quarterly updates on how good a job they are doing. So, for instance, one of the things that the President's management agenda does is require the IT operations in the agencies to use Form 300's, which develop really well thought-out business cases. Are the business cases acceptable or not; do they define the adequacy of the management of the project, the security provisions being made, the desired functionality, and so forth? How good are our business cases, and does the value of the system far exceed the cost? And we could talk about what percent of the business cases are acceptable or not. That is information, particularly with the bigger projects, that we probably ought to be more interested in and pay more attention to than we are.

But I think one of the things we have done is start to publicize what percent of the case are acceptable or not and, what percent of the systems are secure. That information is public, and some agencies are great and some agencies are not so great. We ought to be kind of hard on the agencies that are not so great. We required CIOs to utilize earned value management for all projects to determine whether projects are on budget and on schedule. And we keep track of what percent of the projects are within 30 percent of the planned budget and schedule, as an intermediate goal, and the ultimate goal is to get within 10 percent of the budget and schedule. That information ought to be made public; people ought to be held accountable for getting it to an acceptable level and holding it there.

So it is a clear definition of success, and I think information about how good each CIO is or how good each agency is at achiev-

ing those standards should be made public. And we ought to be relentless about it. I think that we do a good job with the President's management agenda, but it can be even more visible than what it is today, which is a charge to us. In the past, what I heard a lot of people say about management issues in general in the Federal Government was: we have always had goals, we have always said we want to accomplish this with GPRA, and we want to accomplish this with IT. What seems to be new in the last couple of years is that we are actually expecting people to achieve those goals, and we are actually defining more clearly what success means. We are publishing report cards, and we are publishing performance information and letting the American people and Congress know who is achieving those goals, who is not, and making it real clear that we expect people to produce results.

There are things that we are employing now: earned value management, Form 300's, President's management agenda. There have been other things as well that will allow us to do that even better. I don't know that we necessarily mandate those by statute, but that discipline, I think is, in general, what is called for.

Mr. PUTNAM. So the oversight, the scrutiny, and the publicity that arises from failing to meet those goals then is the accountability you speak of.

Mr. JOHNSON. Yes. Karen and I have talked about understanding that the more money involved, the greater the risk. Maybe there is a second and a third level of quality control that should exist for large IT projects. How do we ensure that it happens? Do we require it? Do we suggest it? I don't know yet. But whenever we are trying to write something new or develop a system, we are trying to do something that has never been done before, so there is risk involved. We must find out how to manage that risk. We just need to be more conscious of our track record, ensuring that it is not going to go awry. We need to try to do more things to make sure it doesn't. So, to do so, we can identify where we do have problems, identify where we do have success, make sure that we spread our best practices and avoid our worst practices, and have lots of clarity and accountability.

Mr. PUTNAM. Ms. Evans, having been on both sides of this, is there enough accountability in the system currently on individuals, on CIOs?

Ms. EVANS. I would say that right now, based on the statutes that we have in place, the authorities that are out there and the responsibilities that we have, it is very clear what we are supposed to do. I would echo the same comments that Mr. Johnson has just made. And I was obviously in the Federal Government when Clinger-Cohen was first passed, and have seen how it continues to progress and evolve the roles, but the difference now is the accountability. We always knew what we were supposed to do; we have always had an A–130. We have always had A–11s. We have always had the guidance going forward of what we were supposed to do, but now OMB has stepped up and the President, himself, with the scorecard is really in a very public way publishing what are the expectations, what do we expect agencies to do, how do we expect them to perform, and holding them accountable, meeting with them quarterly and asking them about the progress of how

they are going, giving us results that we can see, tangible results, not just telling us that they are doing it, but us actually can see it, because then, as the taxpayer, you will be able to see it as well, has really made a difference.

And I have seen great, great changes that have occurred with the introduction of the scorecard, holding the agencies accountable, and it really has truly energized people within the agencies because they know at the highest ranks of the Federal Government their work is being looked at, and it is important and it is making a difference.

Mr. PUTNAM. So Clinger-Cohen, has it had its intended impact?

Ms. EVANS. I would say yes. And I would say that you are going to continue to see more things happen. I think that Congress, 8 years ago, had the foresight to realize what information technology was going to do, the impact that it was going to have on the Federal Government. But as we continue to evolve and as you see technology continues to just morph and morph and morph, that it has had the impact; it has heightened the awareness, it has made agencies' officials be held accountable, and we are introducing more and more tools so there is more clarity to what the intent of Clinger-Cohen really was meant to be.

Mr. PUTNAM. The A–130 was last revised in late 2000. Is it outdated, it is in need of revision, or is it OK the way that it is?

Ms. EVANS. You are right, it has not been updated since 2000; however, as each piece of legislation comes out, we have implemented policy guidance to deal with the implementation of that legislation. We are in a review process for it right now to see if we really do need to update it, but there are no policy gaps as far as guidance to the agencies are concerned, because we have issued those. We are reviewing it. If we were to update it, it wouldn't happen until the next fiscal year, going into the next fiscal year.

Mr. PUTNAM. Mr. Powner, you pointed out the turnover in the CIOs in your report.

Mr. Johnson, we have had hearings about this at all levels of the Federal Government, the human capital problems.

How big a deal is it? Is it typical of what we are seeing across the Federal Government, a little bit better, a little bit worse, is it a crisis, is it one of many problems? How would you characterize it?

Mr. JOHNSON. I know in the political appointees in general, their adage is—which is what I was involved in with the President when he first came to office—the average time supposedly that somebody stays in a political position is 2½ years or so, and the general reasons given for that is this is hard work, the volume of work, the public scrutiny, it is hard. You have been here long than I have. And it doesn't mean necessarily someone leaves, but they stay in one job on point 11, 12 hour days, and 2½ years plus or minus, then they tend to move to something else or the good ones are asked to do something else, whatever, but 2½ years. So the fact that the turnover for CIOs is 2 years doesn't strike me as being dramatically different.

I know of CIOs who, in general, can come in and have a huge impact on an organization within months, and I know other CIOs that can come into an organization and be there for 3 or 4 years

and have little impact. So I wish CIOs in general would be there 3 or 4 years, versus one or two, but I am not sure there is a direct correlation between time on the job and their effectiveness.

This is a very hot market, and I don't know what impact the IT and the Internet growth of the industry in the late 1990's had on turnover. I would think it would be hard for us to compete with people that are hiring our CIOs and paying them lots of money and lots of stock options and so forth. It would be easier when the market is not heated up like that.

I don't know that there is any immediate, direct problem with CIO turnover, because I think a good CIO can come in and have an impact in a very short period of time. I think the primary thing is being able to hire them initially and get them on board in a hurry, more so than once they are here, keeping them and letting them grow into the job. We spend so much money in almost every agency; we don't need to be hiring CIOs that can take 18 months to get up to speed. Invariably, when they walk in on the job, they have tens of millions of dollars of projects that need to be managed and huge issues bigger than anything they have ever faced, and they need to be effective pretty much within the first couple of weeks.

Mr. PUTNAM. Ms. Evans, you chair the CIO Council. How would you characterize the turnover issue?

Ms. EVANS. I think it is indicative of the marketplace of where we are competing. Is it a problem that their turnover is every 18 months? Again, I would re-echo the same comments that Mr. Johnson did. When you come into the job, you have to be able to hit the ground running. You could be there 3, 4, 5 years and not be a very effective person, and not just as CIO, but in any position. So do I see a change on the Council? They come in, we come in, we bring them up to speed, we make sure that the best practices are there so that they have everything that they need to hit the ground running. But for the most part, do I think that it impacts our overall performance on the Council? I would say no, because we have our processes and our procedures and our best practices; we continue to evolve those. We have those in place so that we can ensure that the turnover doesn't impact the functioning of the Council.

Mr. PUTNAM. Mr. Powner, do you agree with that?

Mr. POWNER. In terms of the tenure and the turnover with the CIOs, a couple things that we heard that actually could help to mitigate some of the transition periods is the deputy CIO position. Many CIOs mentioned to us the importance of that position. The other thing that is very important, and this is in line with what Ms. Evans is saying here, is when we have performance-oriented goals, such as the E-Gov section of the PMA, which really covers a number of those top seven areas there, that keeps the focus on several key IT management areas, whether we have turnover or not. That is very important. Your grades, that is another area. Folks are very focused on those grades, whether we have turnover at the CIO position or not, because the heads of those agencies are clearly focused on those grades and those scores.

Mr. PUTNAM. Thank you all very much. We have three panels today, so we are going to move right along. I really appreciate all of you coming down and spending some time with the subcommit-

tee. These are important issues and you have all been very supportive of this subcommittee's agenda in working together with you to improve our IT efficiency.

So the subcommittee will stand in recess and we will arrange for the second panel.

[Recess.]

Mr. PUTNAM. If the witnesses and anyone accompanying them will please rise and raise your right hands.

[Witnesses sworn.]

Mr. PUTNAM. Note for the record that all of the witnesses responded in the affirmative. We will move immediately into testimony.

I would like to welcome our witnesses for this panel and introduce Paul Brubaker. Mr. Brubaker served as executive vice president and chief marketing officer for IS International. He has responsibility over marketing and helps guide IS toward future opportunities. He joined IS with over 16 years of experience in government services and the public sector. As the former deputy CIO for the Department of Defense, Mr. Brubaker was the Department of Defense's second highest ranking technology official.

Welcome to the subcommittee. You are recognized for 5 minutes.

STATEMENTS OF PAUL BRUBAKER, EXECUTIVE VICE PRESIDENT AND CHIEF MARKETING OFFICER, IS INTERNATIONAL; JAMES FLYZIK, PARTNER, GUERRA, KIVIAT, FLYZIK & ASSOCIATES; AND DEBRA STOUFFER, VICE PRESIDENT OF STRATEGIC CONSULTING SERVICES, DIGITALNET

Mr. BRUBAKER. Thank you, Mr. Chairman, Mr. Clay, and members of the subcommittee. I am here today speaking as a citizen. These are my own views and do not reflect those of my firm, per my general counsel.

I was originally involved in developing the Clinger-Cohen provisions, including the CIOs and the deputy CIO provisions that were in the report language, as well as served at DOD, so I think I have a fairly unique perspective on both the formulation of the legislation and how it is applied at the largest Federal agency.

I would like to commend you, Mr. Chairman and Mr. Clay, as well as the General Accounting Office, for convening this hearing today and undertaking this review. I would like to point out that—you see these outlined over here in the chart that GAO put forward—work before programs run amok, not after they run amok. Management is another area responsibility in developing and enhancing architectures, including operational architectures, and standards is absolutely key, encouraging and ensuring process change throughout the organization, and the intent was for visionaries and strategic thinkers as it relates to applying information technology in the enterprise. What is the most useful reporting structure? Simply reporting to the agency head. GAO made reference to a chief operations officer in their report today, which I believe to be an excellent idea and merits further study. Now, should a COO be established, then I would highly recommend that both the CIO and the CFO report directly to that person.

The bottom here is that a seat at the management table is absolutely critical for a CIO to be effective; they should be tantamount

to the financial officer in terms of the organizational structure. Wherever that CFO reports, the CIO should report as well.

You asked about the specific duration of time in which a CIO must remain in their position to be most effective. Honestly, it has to be longer than 19 to 32 months, as was outlined in the report, especially given the fact that the general consensus out there in the management circles is that you need 3 to 5 years to be effective. I would highly recommend term appointments on the part of CIOs, certainly greater than 6 years, no more than 12; can be reappointed; perhaps some perks related to retirement that would attract some of the best and brightest of that position.

You asked about characteristics and qualifications that a CIO should possess. Simply put, knowledge of applied technology and a nose for transformation, a desire and a passion to reform, and business acumen. It is absolutely critical that if they are operating the capital planning and investment control process, that they understand concepts like risk management, risk mitigation, return on investment, and so forth.

Major challenges? In a word I can sum it up: culture. The culture of the organization, when we introduced the concept of CIO, was not all-embracing, and basically what you have is an information-aged position that we are putting into an industrial-aged bureaucracy, and, frankly, it has been difficult and a long road to get it to work.

And I would be pleased to answer any questions that you may have.

[The prepared statement of Mr. Brubaker follows:]

Statement of Paul Brubaker
before the

Committee on Government Reform
Subcommittee on Technology, Information Policy,
Intergovernmental Relations and the Census
Congressman Adam H. Putnam, Chairman

on

Evolving Role of federal Chief Information Officers

July 21, 2004

Mr. Chairman, Members of the Subcommittee, my name is Paul Brubaker, and I am Executive Vice President and Chief Marketing Officer for SI International, an information technology firm with headquarters in Reston, Virginia.

This afternoon, however, I am testifying on behalf of myself as a former Congressional Staff Member who participated extensively in formulating the Clinger-Cohen Act of 1996 which included information technology-related policies and the establishment of Chief Information Officers. I am also the former Deputy Assistant Secretary of Defense (Deputy Chief Information Officer). I believe that my unique blend of legislative and executive branch experience as it relates to the Clinger-Cohen Act could be helpful in examining the evolution of the Chief Information Officer (CIO) position within the federal government. The statements and views I express today are my own and do not represent the views or opinions of my current employer.

Mr. Chairman, your invitation requested that I address five topics related to the role of the CIO in the federal government. The five topics are:

1) What responsibilities of federal CIOs are the most critical to the success of their organization?
2) What is the most useful reporting structure for a CIO within a government agency to achieve these responsibilities?
3) Is there a specific duration of time in which a CIO must remain in their position to be most effective?
4) What characteristics and qualifications should a CIO possess?
5) What are the major challenges that CIOs face?

I will address these issues in order.

What responsibilities of federal CIOs are the most critical to the success of their organization?

As envisioned under the Clinger-Cohen Act, a federal CIO's most important responsibility is to conduct capital planning and investment control (also known as portfolio management) of their agency's information technology budget. Although there are clearly other responsibilities outlined in the legislation, we felt that the effective management of agency technology investments would enable government agencies to

realize the significant measurable improvements in their mission performance and customer and citizen satisfaction.

We believed that CIOs would act in concert with the Office of Management and Budget (OMB) and their respective agency heads to develop and drive investment guidance in functional areas within their departments. The Act's intent is for CIOs to develop integrated information technology architectures for their departments that would drive investment. Moreover, we envisioned that CIOs and CFOs would work together to fully integrate business and financial systems and to establish systems to track and report on measurable improvements in performance. The legislation encourages CIOs to develop agency-wide guidance that requires individual projects to have sound operational architectures. This would enable the efficient re-engineering of business processes before investing in technology. It also provides a structure for developing sound business cases, ensuring adequate security (i.e., having a security architecture for a project), and conducting risk assessments and risk mitigation plans.

We further intended that CIOs would act as an agency oversight mechanism to work with the functional owners of information technology (IT) systems to ensure that they knew the criteria required before approval of a system investment.

Furthermore, as part of their capital planning and investment control responsibilities, a CIO should be able to come before a Congressional Committee, such as this, outline their agency's top ten investments in information technology, and detail anticipated results of those IT investments in terms of specific measurable performance improvements, qualitative and quantitative.

CIOs' second most important responsibility is providing strategic leadership to the agency management table. CIOs are to work with functional owners within their agencies to help them determine where re-engineering processes and applying technologies can improve network performance and efficiencies.

Additionally, CIOs should spearhead the development and application of best practices from the private sector, other government agencies, and non-profit organizations. Clinger-Cohen encourages CIOs to become advocates for transforming government through the adoption of best practices. As an aside, when I took on an advocate role for best practices during my tenure at the Pentagon, a very senior political appointee within the Defense Department's Comptroller organization told me, "that stuff may work with the private sector, but that isn't how we do business in this building."

It is interesting to note that in the original version of the Information Technology Management Reform Act (ITMRA) of 1995, which served as the basis for the ITMRA version incorporated into Clinger-Cohen, had a requirement for a federal CIO. This original version of ITMRA proposed making the federal CIO position a Presidential Appointment that required Senate Confirmation and reported directly to the head of OMB. This person would have been responsible for assisting all of the departmental and agency CIOs in meeting the requirements of the law. Moreover, the federal CIO was to

ensure that agencies were applying best practices across common functional areas and would have been responsible for approving all high risk programs in excess of $100 million.

In its current form, the Clinger-Cohen Act clearly states that information resources management is the "primary" responsibility of a federal CIO. The law's intent is to prevent the CIO from "wearing two hats" – that is holding two positions at the same time. The CIO should be a stand-alone position. In fact, the earlier versions of Clinger-Cohen that we proposed to the Administration officials at the time stated that information resources management (IRM) would be the "exclusive" duty of the CIO, because we did not want CIOs focused on duties outside of their core responsibilities. In the end, we compromised on this point, because it was argued that this language would limit CIOs from being "free to lead the Combined Federal Campaign on behalf of their organization." Since it seemed reasonable at the time, we regretfully negotiated the exclusivity clause out of the final version of the Act and it became an accepted practice to "dual hat" CIOs.

What is the most useful reporting structure for a CIO within a government agency to achieve these responsibilities?

Clinger-Cohen clearly envisions that agency CIOs will report directly to the Agency head. If you carefully examine the law's structure, the performance accountability rests with the agency head, and the CIO is delegated the responsibility and, presumably, the authority to implement the provisions of the legislation on behalf of the agency head. The Act anticipates that CIOs would have an equal seat at the agency management table as the Chief Financial Officer. In retrospect, it may have been a little naïve to believe that any function within a federal agency would be on the same level as the financial professionals who, based on my experience, hold the power of the purse and consequently have better access to and influence with the agency head.

One major requirement of Clinger-Cohen, which is usually ignored, is for the integration of financial systems with the management systems of government. In particular, Section 5122 of the Act states that the process for conducting capital planning and investment control at an agency "be integrated with the processes for making budget financial and program management decisions within the executive agency." This is reiterated in the Conference Report language, which in its description of Section 5126, says "The conference agreement includes a provision that would require the head of each agency, in consultation with agency Chief Information Officers and Chief Financial Officers, to ensure the integration of financial and information systems."

Irrespective of practice, Congress' intent is clear. The CIOs were to report directly to the agency head, have a seat at the management table, and have visibility and ability to exert oversight and control over the agency's major technology investments.

Is there a specific duration of time in which a CIO must remain in their position to be most effective?

The draft GAO report highlighted the relatively short tenures of most CIOs. This is a critical issue that merits attention. However, I believe that it is an effect of multiple causes. First, political appointees rarely serve longer than the term of the Administration that appointed them. This was the main reason for my departure as Deputy Chief Information Officer of the Department of Defense. Secondly, those coming from outside the government get into office expecting to have a set of responsibilities and authority as outlined in the law and, instead, find that many people within the organization have similar responsibilities and authority, which can reduce their perception of the position's importance. By contrast, I believe that the career CIOs who are more familiar with these government structures manage their expectations accordingly and are much less frustrated by the process. They also understand the agency's political landscape. Consequently, career federal CIOs manage their expectations accordingly and are probably more effective in pursuing their agendas – which may or may not be consistent with Clinger-Cohen's true intent.

Finally, many CIOs find themselves burdened with the responsibility for matters over which they have neither the personnel nor financial resources to effectively manage. One such area is security. Often, when there is an IT-related issue, the CIO is normally tasked with fixing the problem. While it is appropriate for the CIO to issue security policy and create mechanisms to enforce the policy, in most cases they are and should be powerless to fix security IT problems. Again, the Act does not contemplate CIOs as being operators, but rather overseers and thought leaders who add strategic value to their IT operations. And again, it is appropriate for an operational unit or agency charged with the implementation and management of the enterprise infrastructure (and by association security) to report directly to the CIO.

I believe that the additional burdens placed upon CIOs combined with the fact that they are not in the influential positions envisioned by the Act has resulted in many federal CIOs leaving prematurely after relatively short tenures.

Based on my observations since the Act's passage, I now believe that Chief Information Officers' term lengths should be set by law. Specifically, I feel that CIOs should be Presidential appointments with fixed terms that are renewable. These terms should be more than six years, but no more than twelve years. Also, there should be special provisions for retirement prerequisites to entice highly qualified applicants, and these retirement benefits should be contingent upon the completion of their terms. I would further recommend that Section 5125's CIOs should also be subject to Senate confirmation.

What characteristics and qualifications should a CIO possess?

Chief Information Officers in the federal government should have a strong understanding of process improvement, and know how the application of technology can transform organizations' operational effectiveness. As a practical matter, they must be able to develop and enforce standards and criteria that improve the effectiveness of agency technology investments.

A background and familiarity with the concepts of portfolio management, risk management, architecture and process re-design are also critical. This person should be a manager first and a technologist second. This is an important point – CIOs should know about how the technology is applied rather than the mechanics of how the underlying technology works. This role is not about "bits and bytes" – it is about improving the business. CIOs must also balance the position's management requirements with diplomatic skills to develop an effective governance program that includes key functional program areas and their organizations' stakeholders. The CIO's failure to gain consensus and acceptance from the functional areas of the agencies will minimize the CIO's overall effectiveness.

The Clinger-Cohen Act outlined the requirements and background required for both the CIO and Deputy CIO. These two positions should lead any capital planning and investment control activity

The legislation included a specific "Duties and Qualifications" in Section 5125(c).

> (c) DUTIES AND QUALIFICATIONS – The Chief Information Officer of any agency that is listed in section 901(b) of title 31, United States Code, shall –
>
> (1) gave information resources management duties as that official's primary duty;
>
> (2) monitor the performance of information technology programs of the agency, evaluate the performance of those programs on the basis of the applicable performance measurements, and advise the head of the agency regarding whether to continue, modify, or terminate a program or project; and
>
> (3) annually, as part of the strategic planning and performance evaluation process required (subject to section 1117 of title 31, United States Code) under section 306 of title 5, United States Code, and sections 1105(a)(29), 1115, 1116, 1117, and 9703 of title 31, United States Code –
>
> (A) assess the requirements established for agency personnel regarding knowledge and skill in information resources management and the adequacy of such requirements for facilitating the achievement of the performance goals established for information resources management;

(B) assess the extent to which the positions and personnel at the executive level of the agency and the positions and personnel at management level of the agency below the executive level meet those requirements;
(C) in order to rectify any deficiency in meeting those requirements, develop strategies and specific plans for hiring, training, and professional development; and
(D) report to the head of the agency on the progress made in improving information resources management capability.

The Conference Report additionally states that, "CIOs will possess knowledge of, and practical experience in, information technology management practices of business or government entities."

Also interesting are the Deputy CIO qualifications as described in the Conference Report, which reflect the priorities where CIO organizations should devote the most attention. Specifically, the Conference Report says that "the conferees intend that the deputy chief information officers…have additional experience in business process analysis, software and information systems development, design and management of information technology architectures, data and telecommunications management at government or business entities."

I would also promote that one of the most important qualities for the CIO to posses is to be a visionary leader as it relates to the use of technologies within their organization. A well thought-out strategic vision from the CIO, which should be articulated in the agency's IT strategic plan as required under the Act, should provide the roadmap for all of those in the various functions that use IT to follow. This pronounced vision should ensure that everyone is working together toward the same goal and promotes a collaborative atmosphere.

What are the major challenges that CIOs face?

The CIOs in the federal government face a myriad of challenges. They can all be summed up in one phrase "cultural resistance to change." The government has some structural management challenges, the first of which is the fact that most departmental organizations reflect Industrial Age management structures and practices, rather than those of the Information Age. It, therefore, is no surprise that we cannot achieve "Information Age" results with an "Industrial Age" bureaucracy. Properly addressing these structural and reporting issues is likely to take a long time.

The GAO report before you, at least in its draft form, mentions the position of Chief Operating Officer, who, as in the private sector, would presumably have the Chief Financial Officer (CFO), CIO, Chief Human Resources Officer (CHRO) and Chief Procurement Officer (CPO) all reporting to this one individual. Based on my two decades of experience working in and with the federal government, I think this is an excellent idea and merits serious consideration. However, I would strongly recommend

that Agency Chief Operating Officers, as well as all CFOs, CIOs, CHROs, and CPOs, be Presidential Appointments that are confirmed by the Senate for periods of more than six, but no more than twelve years. These officers could also be re-appointed once their terms expire, and the terms should be staggered across the agency positions. The bottom line, from my perspective, is that the structure of most federal agencies would benefit enormously from such reforms.

Former Senator William S. Cohen (R-ME), my boss when Clinger-Cohen was passed, was very clear and realistic about his concerns regarding the government's cultural impediments to the Act's success. Just before the Act's enactment date, the Senator said, "(w)e must understand that the statutory changes made by the new law are only half the battle. The other half involves changing the management and organizational culture in agencies, OMB and within Congress. Overcoming cultural barriers will require the commitment of management at the highest levels of the federal government."

Senator Cohen was right, and this culture of resistance to change remains the other half of the battle that we have yet to fully win.

Mr. Chairman and Members of the Subcommittee, I look forward to answering any of your questions.

Mr. PUTNAM. Thank you very much.

Our second witness is James Flyzik. Mr. Flyzik is a partner in a consulting company he co-founded. Before this, he served as Senior Advisor to Governor Ridge in the Office of Homeland Security. He provided advice on the national strategy and information management. Prior to that, he was the Chief Information Officer for the Department of the Treasury.

Welcome to the subcommittee. You are recognized for 5 minutes.

Mr. FLYZIK. Mr. Chairman, Mr. Clay, distinguished members of the subcommittee, it is my pleasure to testify today on issues of critical importance to achieving world-class performance within Government agencies. I have been involved in information technology issues during my entire 27-year government career, and I now work in the private sector to find ways to help make government IT programs succeed. I applaud the subcommittee for making these issues a priority.

I had the honor and privilege to work for the public for over 27 years as a career civil servant. I held senior information technology positions at Secret Service, Department of Treasury, CIO, served as Vice Chair of the Federal CIO Council from 1998 until 2002. I also had the privilege to head up the IT team during the reinventing government program and served on the administration's team during the crafting of the Information Technology Reform Act, the Clinger-Cohen legislation. I finished my career as an IT advisor to then Governor Ridge, following the terrorist attacks of September 11. In all these roles, the empowerment of Federal CIOs was the key issue that impacted program success.

My message today is simple: If the Government is to take full advantage of the power of IT, it must make achieving world-class IT implementation a priority on the agenda of the heads of our Government agencies. I believe progress to date has been good, but far short in what is needed and far short of what Clinger-Cohen originally envisioned. Many CIOs today find themselves being held responsible and accountable for results, but lack the authority to impact the programs they are expected to implement.

I participated in the GAO study of these issues. With that, I will address the five questions posed by the subcommittee.

What are the responsibilities of a Federal CIO most critical to success? The CIO must be responsible to bring best-in-class IT practices to Government agencies. This implies responsibility for gaining detailed understanding of the key critical mission objectives and defining how IT can realize these objectives. If we are to hold CIOs accountable for program performance, then we need to empower them to make strategic decisions about resources. This means responsibilities for IT capital planning, investment decisions, budget execution, program and portfolio management. I would also suggest that an important responsibility for a CIO is to become credible in an agency and part of that senior team making strategic business decisions. This means becoming credible to senior political executives, career executives, middle management, and subordinates. Only when a CIO is seen as a key player can he or she be influential in getting results. A CIO will gain this credibility by understanding the business objectives of the agency and how IT can add value to meeting those objectives.

On the question of reporting structure, a CIO that reports to the agency head immediately gains the empowerment of being on the senior leadership team if that CIO has a seat at the table. A seat at the table means being part of the strategic decisionmaking, not merely a line on an organization chart. Can other organizational models work? Yes, but only when the CIO gains the empowerment to effectuate change and is seen as part of that senior leadership. For example, during my tenure as CIO at Treasury, I reported on a dotted line to the secretary for all IT matters, but administrative reporting was through an assistant secretary. Yet I believe this worked. Why? Because the assistant secretary made it clear to all subordinate bureaus that all IT budget and program decisions needed to be approved by the CIO. In this case, it wasn't structure that empowered, it was process. But I must also point out that empowerment doesn't guarantee results. Empowerment provides the opportunity for results. A competent CIO will get the results.

In reference to the question of time duration, I believe a CIO cannot achieve any meaningful results if they are in that role less than 2 years, based on budget and procurement cycles. On the other hand, I also believe it is in the best interest of Government agencies to bring in fresh ideas over time. I believe it a good practice to rotate CIOs and into key CIO Council executive committee positions to encourage the development of alternative viewpoints. I believe CIOs should be rewarded for innovative and creative enterprise approaches such as heading up governmentwide initiatives.

In addressing the question of characteristics and qualifications, I would like to point out that the Federal CIO Council invested a great deal of time identifying many of the technical and business skill sets required to be a successful CIO. Universities now teach these. But rather than reiterate these well documented qualifications, I would like to point out that a good CIO needs to understand technology, but, more importantly, how to apply that technology to solve business problems. A good CIO has technical skills, finds ways to stay current on technology, understand business practices and business skills such as financial management, and know how to build relationships, relationships with Congress, top managers in the agency, the private sector, and their peers.

Challenges they face are numerous and dynamic. The delicate balance of privacy versus national security, interoperability, information sharing. But in my opinion, the most challenging issue is the need to use technology to challenge and change agency cultures, traditional institutionalized processes. We have seen major programs continually plagued with cost overruns and time delays. We see now new powerful approaches such as performance-based acquisitions to address these. The concept is simple, yet implementing these concepts requires not just the CIO.

Mr. Chairman, to sum up, if UPS and the Federal Express can tell you where and when your package is located at any point in time during shipment with a click of a mouse, why can't Government tell you when your tax return will arrive, how to change your mailing address without going agency by agency, when your street will be cleared from snow? Citizens demand and expect fundamental government information in realtime.

I thank the subcommittee for giving me this opportunity to make my points, and I look forward to working with you in any way I can to help move these important issues forward. I would be happy to answer questions when appropriate.

[The prepared statement of Mr. Flyzik follows:]

STATEMENT OF JIM FLYZIK
PARTNER, GUERRA, KIVIAT, FLYZIK AND ASSOCIATES
BEFORE THE GOVERNMENT REFORM COMMITTEE'S SUBCOMMITTEE ON TECHNOLOGY, INFORMATION POLICY, INTERGOVERNMENTAL RELATIONS AND THE CENSUS
JULY 21, 2004

Mr. Chairman and distinguished members of the Subcommittee:

It is my pleasure to be here today to testify on issues of critical importance to acheiving world class performance within government agencies. I have been involved in Information Technology issues during my entire 27 year government career. I now work in the private sector to find ways to help make government IT programs succeed. I applaud this subcommittee for making these issues a priority.

I had the honor and privilege to work for the public for over 27 years as a career civil servant. I held senior Information Technology positions in the U.S. Secret Service, served as the Department of Treasury CIO from 1997 until 2002, and also served as the Vice Chair of the Federal CIO Council from 1998 until 2002. I also had the privilege to head up the IT team during the reinventing government program and served on the Administration's team during the crafting of the Information Technology Management Reform Act --- the Clinger-Cohen legislation. I finished my government career as the senior IT advisor to then Governor Ridge in the White House Office of Homeland Security following the terrorist attacks of 9/11. In all these roles, the empowerment of federal CIO's was a key issue that impacted program success.

My message today is simple: If the government is to take full advantage of the power of Information technology, it must make achieving world class Information Technology implementation a priority on the agenda of the Heads of our government agencies. I believe progress to date has been good, but far short of what is needed and far short of what the Clinger-Cohen legislation envisioned. Many CIO's today find themselves being held responsible and accountable for results, but lack the authority to impact the programs they are expected to implement.

I participated in the GAO study of these issues and tried to ascertain why the government continues to struggle with certain aspects of Clinger-Cohen implementation. Is it all culture and governance, or are there other underlying issues? With this in mind, I will address the 5 key questions posed by the Subcommittee.

First, what are the responsibilities of a federal CIO that are most critical to the success of their organization?

The CIO must be responsible to bring best in class IT practices into government agencies. This implies responsibility for gaining a detailed understanding of the key critical mission objectives of the agency and defining how IT can help realize these objectives. If we are to hold CIO's accountable for program performance, then we need to empower them to

make strategic decisions about resources. This means responsibilities for IT capital planning, IT investment decisions, IT budget execution and IT program and portfolio management. I would also suggest that an important responsibility for a CIO is to become "credible" in the agency and part of the senior team making strategic business decisions. This means becoming credible to the senior political executives, the senior career executives, middle management and subordinates. Only when a CIO is seen as a "key" player, can he or she be influential in getting results. A CIO will gain this credibility by understanding the business objectives of the agency and understanding how IT can add value in meeting these objectives.

On the question of reporting structure, the answer is easy. A CIO that reports to the Agency Head immediately gains the empowerment of being on the senior leadership team if the CIO has a "seat at the table". A "seat at the table" means being a part of the strategic decision-making, not merely a line on an organization chart. Can other organizational models work? Yes, but only when the CIO gains the "empowerment" to effectuate change and is seen as part of the senior leadership. For example, during my tenure as CIO at Treasury I reported on a dotted line to the Secretary for all IT matters but administrative reporting was through an Assistant Secretary. Yet this worked. Why? Because the Assistant Secretary made it clear to all subordinate bureaus that all IT budget and program decisions needed to be approved by the CIO. In this case it wasn't structure that empowered, it was process. But I must also point out that empowerment doesn't guarantee results. Empowerment provides the opportunity for results --- a competent CIO gets the results.

In reference to the question of time duration to be effective, I believe a CIO cannot achieve any meaningful results if they are in the role less than 2 years. Major IT programs in the government take at least 2 years to mature based on budget and procurement cycles. On the other hand, I also believe it is the best interests of government agencies to bring in fresh ideas over time. I believe it is a good practice to rotate CIO's into the key CIO Council Executive Committee positions to encourage the development of alternative viewpoints on policy and program initiatives. I believe CIO's should be rewarded for innovative and creative enterprise approaches such as heading up government wide initiatives. Unfortunately, I have seen cases where agency cultures create disincentives for individual agency CIO's to participate and support enterprise solutions such as the eGov programs. This needs to be addressed if we are to continue to make progress in streamlining government operations and tearing down the traditional organizational stovepipes.

In addressing the question of characteristics and qualifications of CIO's, I would like to point out that the Federal CIO Council invested a great deal of time identifying many of the technical and business skill sets required to be a successful federal CIO. Universities now teach these skill sets. But rather than reiterate these well-documented qualifications, I would like to point out that a good CIO needs to understand technology but more importantly, understand how to apply technology to solve business problems. A good CIO will have good technical skills, find ways to stay current on technology, understand business processes and business skills such as financial management, and know how to

build relationships. A good CIO builds relationships with the Congress, top managers in the agency, the private sector, their peers in their own organization and their subordinate staff. I would suggest to you that a very important trait is the ability to communicate both orally and in writing. CIO's will gain their credibility based on things they say and do, messages they write and presentations they give.

What challenges do CIO's face? They are numerous and dynamic from interoperability to information sharing to privacy act compliance. The delicate balance of privacy versus national security requires sound judgments in database sharing. Information security looms large in a world of increased threats from terrorist organizations. But in my opinion, the most challenging issue of a CIO is the need to use technology to challenge and change traditional agency cultures and the traditional institutionalized processes. The challenges of culture and governance far outweigh the challenge of making a technology decision. We have seen major programs continually plagued with cost overruns and time delays. We see new, powerful approaches such as Performance-Based Acquisition to address these systemic problems. The concept is simple, contracts that require contractors to share in the risk and reward and team as partners in helping agencies achieve its mission objectives. Yet, implementing these new concepts requires not just the CIO. It requires a new way of thinking by program officials, acquisition and procurement executives, and IT managers. In my opinion, this fundamental culture change has a long way to go and we continually see performance based approaches looking like traditional contracting approaches. It will take constant, consistent pressure to move the government into the world of best practice IT implementations. But it will happen. It has to. The customers of government, the citizens of the United States, will demand services from their elected officials equal to the best in class they experience in the private sector. If UPS or Federal Express can tell you where and when your package is located at any point in time during a shipment with the click of a mouse, why can't the government tell you when your tax return will arrive?, how to change your mailing address without going agency by agency? When your street will be cleared from the snowfall? Citizens now expect fundamental government information in real time.

Courage and the desire to embrace change ring as two important determinates for CIO success. We must do this. Our country's security, international competition, and our economy demand that we find ways to bring world-class IT implementations into government agencies.

I thank the Subcommittee for giving me this opportunity to make my points and I look forward to working with you in any way I can to help move these important issues forward. I will be happy to answer your questions.

Mr. PUTNAM. Thank you very much.

Our third witness on this panel is Debra Stouffer. In February 2003, Ms. Stouffer became vice president of strategic consulting services at DigitalNet Government Solutions, where she is responsible for developing and managing a comprehensive suite of analytical and technical services designed to enable government and commercial business leaders to achieve improved mission performance. She previously served in the Federal Government as the EPA Chief Technology Officer, as the Federal Enterprise Architecture Program Manager at OMB, and as the Department of Housing and Urban Development's Deputy Chief Information Office for Information Technology Reform.

Welcome to the subcommittee. You are recognized.

Ms. STOUFFER. Thank you. Good afternoon, Mr. Chairman and members of the subcommittee. Thank you for inviting me here to discuss the evolving role of the Federal CIO. My experience in the public sector has shaped my perspectives on the topics that I will share with you today.

In terms of the CIO's responsibilities and criticality, the role of the Federal CIO today is broader and more complex than it ever has been. Further, the statutory and regulatory framework is complex as well. CIO responsibilities are derived from numerous IT-related statutes and regulations. For example, there are over nine IT-related statutes that lay out the CIO's responsibilities, and just since 1994 at least 12 separate memoranda and circulars issued by OMB related to Federal IT policy and budget procedures.

New Federal CIOs often find it difficult to understand the Federal requirements to which they must comply and the competencies they must exhibit to perform effectively. Further, CIO duties vary across the Federal Government, depending upon the agency's size, complexity, and organizational structure. As size and complexity increase and structure is disaggregated, the influence the CIO has over business and budget decisions is likely to diminish.

Until the past few years, Federal CIOs have been responsible for the more traditional information resource management concerns. Recently, however, as a result of the administration's efforts to ensure Federal agencies are citizen-focused and results-oriented, the CIO is increasingly viewed as a change agent for business modernization and transformation. Further, they must ensure that IT investments are delivering intended results in terms of mission performance, not just finishing on time and within budget.

In terms of reporting structure, many Federal CIOs report to the executive heads of the agencies. I believe, however, similar to many comments you have heard today, that based on their evolving role, that CIO effectiveness would improve with organizational reporting to their agency's COO, that is, those executives responsible for the agency's day-to-day business operations This would provide the CIO with equal footing among agency business leaders in all key decisions regarding agency business operations. In addition, Federal CIOs informally report to the Administrator for Electronic Government at OMB; however, this reporting structure is not clearly defined in the E-Gov Act of 2002.

In regards to their optimal time duration, it should be longer. Available evidence suggests that the median tenure of a Federal

CIO is about 2 years. Often, 3 to 5 years is needed to lead business transformation. Equally important to tenure is the ability to participate in executive decisions, an activity often limited to politically appointed business leaders. Some CIOs are politically appointed; others are not. All need to have a seat at the table on their senior management teams. Perhaps term appointments are an option.

In regards to personal traits and qualifications needed, CIOs must certainly have the correct technical and business and management skills to meet their agency's needs. Further, to lead transformation, they must be strong leaders, strong communicators, and have a strong business acumen.

Challenges include the following: understanding the existing and complex Federal statutory and regulatory framework for information resources management; recruiting and retaining skilled IT professionals, to include project managers; fostering business and cultural change to achieve e-government transformation; maturing governance processes and integrating those governance processes; and ensuring adequate resources for cross-agency collaboration are identified and made available to the people that are charged with implementing e-gov initiatives.

In conclusion, Federal CIOs can and should play a significant role in improving the management and performance of the Federal Government, and ensuring that our Government is more responsive to the needs of citizens. IT has transformed the way that we all do business, and none of us can predict what the future may hold. As the CIO role broadens and expectations increase, so do the challenges. I am confident, however, that with the proper support from Congress and the administration, CIOs can be successful and effective in their role.

I thank the committee for the opportunity to speak this afternoon.

[The prepared statement of Ms. Stouffer follows:]

STATEMENT OF
MS. DEBRA STOUFFER
VICE PRESIDENT
OF STRATEGIC CONSULTING SERVICES
DIGITALNET GOVERNMENT SOLUTIONS
BEFORE THE
U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON GOVERNMENT REFORM
SUBCOMMITTEE ON TECHNOLOGY, INFORMATION POLICY, INTERGOVERNMENTAL RELATIONS AND THE CENSUS
JULY 21, 2004

Good afternoon, Mr. Chairman and members of the subcommittee. Thank you for inviting me to discuss the evolving role of federal Chief Information Officers (CIOs) and the challenges they face within their Departments and Agencies.

Prior to joining DigitalNet as Vice President of Strategic Consulting Services, I was privileged to serve as the Deputy CIO for Information Technology (IT) Reform at Housing and Urban Development, the Chief Technology Officer for the Environmental Protection Agency, and Chief Architect at the Office of Management and Budget (OMB). I also co-chaired three Federal CIO Council committees on architecture and infrastructure, best practices, and capital planning and IT investment; and served on the Executive Committee of the Council for three years.

My experience in the public sector has shaped my perspectives on the following topics that I will share with you today:

- CIO responsibilities and their criticality;
- Organizational reporting structure and the CIO;
- The optimal time duration for a CIO to serve an organization;
- The personal traits and qualifications a CIO should possess, and;
- Major challenges for the CIO.

Critical CIO Responsibilities

The role of the federal CIO today is broader and more complex than it has ever been. CIO responsibilities are derived from numerous IT-related statutes and regulations, including the –

- Federal Records Act of 1950,
- Freedom of Information Act of 1966,
- Privacy Act of 1974,
- Government Performance and Results Act of 1993,
- Paperwork Reduction Act of 1995,
- Federal Acquisition Streamlining Act of 1994,
- Clinger Cohen Act of 1996,
- Federal Information Security Management Act of 2002, and

- e-Government Act of 2002.

On the regulatory side, since 1994, the Office of Management and Budget has issued 12 separate memoranda and circulars related to federal IT policy and budget procedures. This statutory and regulatory framework is so complex, it is often the case that a new federal CIO will lack a basic understanding of the federal requirements with which they must comply, and the competencies they must exhibit to perform effectively.

CIO responsibilities vary across the federal government, depending upon the agencies' size, complexity and organizational structure. As size and complexity increase, and structure is disaggregated, the authority of the CIO is likely to diminish. CIOs must play a key role in the decisions to initiate, expedite, and cancel IT projects throughout their organizations. This is best accomplished through a formal, consensus-building IT governance process, and CIO leadership of an investment review board that also includes other senior agency business leaders, for example, the Chief Operating, Financial and Procurement Officers. A close partnership between the CIO and Chief Financial Officer will also help to ensure that accounting, financial, asset management and other information systems are developed and used effectively to provide financial and program performance data.

Until the past few years, federal CIOs have been responsible for the more traditional information resource management concerns, such as security and privacy; portfolio management; strategic planning; information architecture, collection, and dissemination; records management; and systems development and acquisition. Recently, however, as a result of the Administration's efforts to ensure federal agencies are citizen-focused and results-oriented, the CIO is increasingly viewed as a change agent for the business modernization of the agency. Such modernization is focused on information sharing and integrating business processes and systems across Federal, State, and local agencies to improve the level of services that citizens receive. As a result, it is no longer sufficient for an agency to develop and maintain an information architecture. Rather, an architecture for the entire enterprise is necessary – encompassing an agency's business lines, data, business and service components, and technologies – to identify opportunities for intergovernmental cooperation and collaboration. Modernization is a significant challenge, and one that requires empowered, decisive CIOs with vision and business acumen, capable of effecting tranformational change.

Finally, consistent with the Adminstration's efforts to improve government management and performance, federal CIOs must ensure that public funds are spent wisely. New agency IT investments must be delivered on time and within budget, and deliver intended results in terms of mission performance. The likelihood that these objectives will be achieved is improved through the CIO's close coordination with and management of business partners and suppliers.

Organizational Reporting Structure and the CIO

Many federal CIOs report to the executive heads of their agencies. I believe, however, based on their evolving role, that CIO effectiveness would improve with organizational reporting to their agencies' Chief Operating Officers (COO), that is, those executives responsible for the agencies' day-to-day business operations. To be successful, federal CIOs must coordinate closely and communicate effectively with agency business leaders, and participate on an equal footing in all key decisions concerning agency business operations. This will help ensure that an agency's IT strategy is tightly linked to its business strategy, that IT investments improve business performance and contribute to mission results, and that senior business leaders understand and actively support the CIO's efforts to drive business transformation.

In addition, federal CIOs informally report to the Administrator for Electronic Government within OMB, a position created by the e-Government Act of 2002 to promote intergovernmental collaboration and oversee implementation of e-Government in areas related to –

- capital planning and investment control;
- enterprise architecture;
- information security;
- privacy;
- access to, dissemination of, and preservation of Government information; and
- accessibility of information technology for persons with disabilities.

However, this reporting structure is not clearly defined within the Act, and should be clarified to ensure all CIOs are aware of their responsibilities.

CIO Tenure

Based on available evidence, it appears that the median tenure of a federal CIO is approximately two years. However, both current CIOs and former federal IT executives claim that three to five years is necessary to prove their effectiveness. I agree, and believe this is especially true for those CIOs initiating or leading business transformation within their agencies. Business process improvement and system development and implementation is complex, requires effective and consistent leadership, and extensive communication and coordination. This complexity increases with the number of participating agencies and partners. For example, the transition to the Administration's new lines of business for financial management, grants management, and human resources is expected to take a number of years as common solutions are identified, and agency migration plans developed and implemented. OMB estimates that it will be Fiscal Year 2007 before all of the major line of business goals are accomplished.

Equally important to the length of tenure is the ability of the CIO to participate in the agency's executive decisions, an activity often limited to politically-appointed business leaders. Some federal CIOs are politically-appointed, while others are career executives. It is critical that all federal CIOs have a seat on their agencies' senior management teams.

CIO Qualifications

Federal CIOs must have the correct technical and management skills to meet their agencies' business needs: understanding of federal IT policy and guidance, including acquisition policy; e-government, including IT portfolio management and enterprise architecture; program management; performance- and results-based management; security and information assurance; strategic planning; technology assessment; and process improvement.

More importantly, however, to reap the full benefits of transformation efforts, the federal CIO should possess –

- strong leadership and communications skills, to gain the support and trust of internal and external business partners, and ensure projects are carried out and completed in accordance with stated objectives, and
- business acumen, to easily recognize the business needs of their agencies and work effectively with senior business leaders.

Major Challenges for the CIO

I believe that the major challenges facing federal CIOs today include –

1. *Understanding the existing federal statutory and regulatory framework for information resources management.* CIOs need clarification of the federal IT-related requirements with which they must comply, and the accountable executives within their organizations. For example, Congress holds the head of each agency responsible for complying with the requirements of the e-Government Act and the related information resource management policies established by OMB. However, OMB clearly holds federal CIOs responsible for carrying out these policies. Similarly, the Federal Information Security Management Act holds both agency heads and CIOs accountable for meeting the information security requirements set forth by the Act.

2. *Recruiting and retaining skilled IT professionals, including project managers.* Rapid advancements in digital technologies and their widespread deployment throughout the economy have fueled explosive growth in the demand for professionals skilled in the development and use of IT. Unless a federal agency outsources its entire IT shop – which is neither feasible nor recommended – it must compete with the private sector for a limited supply of skilled professionals. Equally important is the availability of skilled IT project managers, to ensure that projects are delivered on time and within budget, and deliver intended results.

3. *Fostering business and cultural change to achieve e-Government transformation.* The risks associated with broad-based transformation are well documented, and there is no guarantee of success. CIOs must build and maintain effective relationships with business partners internal and external to their organizations to help minimize these risks and improve the probability of success. Development of mature governance

processes and the right tools are necessary both within and across Federal agencies to help CIOs identify and act on collaboration opportunities.

4. *Ensure adequate resources for cross-agency collaboration.* The e-Government Act established the e-government fund to enable the federal government to expand its ability, through the development and implementation of innovative uses of the Internet or other electronic methods, to conduct activities electronically. Budgetary pressures and the need for fiscal discipline, however, have endangered this central pool of funds. A strategy must be identified to pool agency resources and ensure agencies have sufficient funding for common solutions to improve services to citizens.

Conclusion

Federal CIOs can and should play a significant role in improving the management and performance of the federal government, and in ensuring that the government is more responsive to the needs of its citizens. Information technology has transformed the way we all do business, and none of us can predict what the future may hold. As the CIO role broadens and expectations increase, so do the challenges. I am confident, however, that with the proper support from Congress and the Administration, they can be successful.

I thank the committee for the opportunity to speak with you this afternoon and will be happy to answer any questions you may have.

Mr. PUTNAM. Thank you very much. And I have been notified that we are expecting a series of votes around 4, so I would ask for your indulgence. We are going to cut the questions short for this panel in hopes of being able to get through the third panel before the voting bells go off.

This is a unique opportunity, I would assume, for former CIOs to be able to come back and do essentially an exit interview with Congress and have the opportunity to reflect on what you wish someone would have told you or prepared you for as you went into the job, so that is my first question: What would you advise someone who is considering taking this job, in its current role and its current form, with its current responsibilities? What is it that you would share with them that you wished someone had shared with you?

And we will begin with Mr. Brubaker.

Mr. BRUBAKER. Well, I came at this with a little different background; I wasn't in the Federal Government, I had actually come off the Hill and gone into industry for a few years. So having been involved in what I thought I knew what the requirements were, having been involved in drafting legislation and the position description, if you will. My advice would be don't expect the agency to have an understanding of the roles and responsibility of the CIO when you walk in. Part of the job is actually to educate your management and the people that you work with and your colleagues in the agency as to what your role is. The first time you start snooping around IT investments—at least this was true when I was at the Defense Department—people tend to get pretty excited; they feel somewhat threatened. So you have to concentrate on your governance processes, and the culture and how you are going to overcome cultural obstacles, and have a proactive plan for addressing those issues.

Mr. PUTNAM. Mr. Flyzik.

Mr. FLYZIK. Yes, Mr. Chairman, and you are right, it is kind of unique to have an opportunity to testify today, for the first time, where I didn't need to go through a clearance process with the legislative affairs, the legal counsel, OMB, and all the other various chains, but be able to write and say what I have been thinking. But with that in mind, I would suggest to you, sir, that building relationships and partnerships has to be a first step. As I mentioned in my testimony, I believe a CIO can only be effective if they are credible, and credible means building relationships within their own agency, the career officials, the political officials, members of the Hill like yourself and your staff, and OMB and those others, and the private sector. I think there is a very fine, delicate balance, too. A CIO needs to reach out, get out in the community and build these partnerships, but at the same time remember their responsibilities within their own agency. And I think it is a very delicate challenge that CIOs face to do that, but I think it is critical to gain that credibility, because once one gains credibility, then one has the power to effectuate change.

Mr. PUTNAM. Ms. Stouffer.

Ms. STOUFFER. Several things are critical, in my opinion. One is to know the business. The CIO has to understand the business of the organization, understand where the performance gaps are, and

be able to apply technology to close those performance gaps or enable business performance. Second, obviously, know information technology. You can't offer up a solution of enabling technology if you don't understand it and know how to apply it. Third, in building relationships, you need to communicate, communicate, communicate value, and you have to do that differently with different stakeholders. So it is important not to have one story, but to be able to communicate the value of enabling technology to different people in different ways so they understand it from their own unique perspectives.

Mr. PUTNAM. I would ask all of you also if is it critical that the CIO report directly to the head of the agency? And I would ask you to be brief. Something more than yes or no.

Mr. BRUBAKER. At this moment, yes. I think I covered it in my statement.

Mr. FLYZIK. As mentioned in my statement, I think it certainly helps gain that credibility I am talking about. I also suggested that the key issue is can the CIO be in the strategic management team and be empowered. If we are going to hold the CIO accountable for results, then they need the responsibility and the authority to control resources, both financial and human resources, to get the job done.

Ms. STOUFFER. In my opinion, it could be more effective for them to report to the COO, and that is a different person in different organizations. I say that because the head of an organization or the secretary or administrator is typically outward facing, they do a lot of externally-oriented work. The deputy or whoever is effectively the COO of the organization really runs the day-to-day business of that organization. Informally, if not formally, the assistant secretaries and administrators report to them anyway.

Mr. PUTNAM. Is turnover a big deal? And if so, how do we fix it? Ms. Stouffer.

Ms. STOUFFER. I think that it is. And, I believe that term appointments, and perhaps politically appointed term appointments, might be one action to consider. It might help to have term appointments that extend more than 18 months or 2 years. Often a CIO has even a shorter period than that to be effective when they are politically appointed, because the time it takes to bring them into the agency. Yet, because political appointees start out with a great deal of credibility, they have an easier time coming to the table with the other senior business leaders. For this reason, perhaps a politically appointed term would make the most sense.

Mr. PUTNAM. Mr. Flyzik.

Mr. FLYZIK. Mr. Chairman, I believe the answer to that question is it depends how effective the deputy and the staff below the CIO are, and how well that succession planning has been built. If you build a very strong team and effective staff, then a program should be able to sustain its momentum through a turnover process. If you can sell your program to the ultimate customer of government, that is, the citizen of government, then the program will live beyond an individual. And the question is developing key players that can run those programs coming up right behind that CIO.

Mr. BRUBAKER. Mr. Chairman, I strongly advocate term appointments. In my written statement I gave a little more detail on it,

but I think a term appointment of at least 6 years for a CIO would be smart, with a Senate confirmation for those who are statutorily required. You know, from personal experience, people can't wait you out. I actually, during my lame duck period, if you will, while the administration changed and people knew I was going out, I actually had somebody tell me that they were going to wait for the next guy, because I was challenging a program and something that they wanted to do. So I am a strong advocate of term appointments, political, with Senate confirmation for the statutorily appointed ones.

Mr. PUTNAM. Why is it so important that a CIO have Senate confirmation?

Mr. BRUBAKER. Why is it important?

Mr. PUTNAM. I know you would never get that question in the Senate.

Mr. BRUBAKER. It is important for oversight purposes, to make sure that you take a look at—it provides an opportunity to talk about what that agenda is going to be. It provides an opportunity for the appointee and the agency to commit to certain types of oversight and to ensure that appointee is going to be given the support on the part of the agency. It gives you an opportunity to have a hearing, it gives you an opportunity to talk to some of the agency officials to make sure that they understand what the roles and responsibilities are, and I think it is good to vet those people through that process.

Mr. PUTNAM. How do we hold CIOs accountable?

Mr. BRUBAKER. Mr. Chairman, can I add something to that as well?

Mr. PUTNAM. Sure.

Mr. BRUBAKER. If you are conducting oversight over other PASes, Presidential appointment, Senate confirmed, there is a hierarchy that is important as well, and I don't want to underestimate that. If you are giving advice on technology programs in an oversight capacity to somebody who is a Presidential appointment that has been Senate confirmed, you rank up there with them, and, frankly, that is another real reason to have a Senate confirmation; it is a hierarchical, it is a pecking order issue.

Mr. PUTNAM. It is an ego issue for the Senate.

But the accountability issue I think is important. How do we really get down to holding CIOs responsible for $100 million projects that go south, that fall 3 years behind, that are abandoned midstream? What is the appropriate level of accountability, what form does it take, and is it adequate?

Mr. BRUBAKER. There is an accountability issue, but there is also a responsibility issue, and the issue that Clinger-Cohen was a three-legged stool: you have responsibility that is delineated on the part of OMB, you have responsibility that is delineated to the agency head, and you have responsibility that is delineated to the CIO; and they all have to work in concert. And there is a lot of authority there, but there isn't the commensurate responsibility because the law, frankly, hasn't been implemented as it was originally envisioned. You know, can you take somebody to the woodshed, if you will, on a program that went south? Yes, you can do it, you can beat them up, but if they didn't have absolute responsibility, au-

thority, and budget control over that program, then it is pretty difficult to make a fair case that they were responsible for the program going south. There is too much diffused responsibility and not enough—you know, we used to refer to it as who is the single belly button. Who is the single person that I can point to who has absolute accountability, authority, responsibility for a program? And, frankly, it is almost by design in the bureaucracy that responsibility is diffused among a lot of different people, because a lot of different people want to play in that role.

And what Clinger-Cohen tried to do was delineate those responsibilities and be clear about who was responsible for what, and, frankly, we are not to that point yet; you have too many people with their hands in that cookie jar, and then when the cookie is gone, you can't figure out who took it.

Mr. PUTNAM. Mr. Flyzik.

Mr. FLYZIK. Yes, sir. The accountability issue, as I mentioned before, I am a big advocate of performance-based approaches, and I think one can define performance metrics, as well as with contractors. However, if we are going to hold the CIOs responsible and accountable, they need to have the authority to control those resources. I would suggest that when a project is approved, particularly in a performance-based environment, that CIO be given the authority and the budget to put that program in place, and be held accountable, and have the authority to control the resources necessary to get that job done. And if more resources are needed, the authority to work with the CFO and agency head to come back up to the appropriations process and be completely in charge of the program. I feel in a lot of cases were are holding CIOs accountable because you have to hang someone when things don't work. But, yet, if you look behind the scenes, did that CIO really have the ability to control the financial resources and the human resources in that agency?

I will give you an example. We talked today about the Ds received in information system security. I believe a lot of CIOs in Government know what it takes to address those deficiencies in information system security, yet they lack the dollars and the resources and the staff to do it, and the authority to get that resources and staff. So I think we need a model that, as when projects are approved, dollars are set aside, but those dollars are controlled by the CIO, and then we can hold them accountable.

Mr. PUTNAM. Ms. Stouffer.

Ms. STOUFFER. I think there would be value in reworking the entire statutory framework and providing more clarity regarding roles and responsibilities and accountability. Clearly, the CIO needs to have influence on the budget process, particularly as it relates to information technology investments. So clearly understanding that they have a place at the table in that process is important. It would be helpful if OMB worked to develop strategy that is consistent across the board on how we pull funds when we do cross-agency initiatives. This strategy would address consistent criteria for how agencies are assessed for their share of an initiative making it easier for the CIOs when they are actually trying to implement e-gov initiatives and scramble for dollars at the same time.

So I think, again, one value would be to rework the entire statutory framework and the guidance that is coming out of OMB, provide some clarity, perhaps consolidate some of it in such a way that it is easier to understand and point to; and I think that would be useful.

Mr. PUTNAM. You have also served as a CTO.

Ms. STOUFFER. Yes.

Mr. PUTNAM. Some agencies have them, some agencies do not. Please, if you will, share our impressions of the value of having a CTO as well as a CIO, and whether that is something that should be adopted by every agency.

Ms. STOUFFER. I believe that having a position entitled CTO is valuable. I think that even where you have organizations that don't have a position entitled CTO, you often have people fulfilling that role entitled something else. Typically they are more focused on the technology issues and less focused on the information issues and the business issues associated with performance gaps and leveraging technology to fill those gaps. So they are very focused on technology. I think CTOs are everywhere, they just have different titles at different agencies.

Mr. PUTNAM. And finally, because we are going to need to seat the third panel—I hate to cut this short, but we will be submitting questions and answers for the record—as we have all of these hearings, typically agency culture, personnel and training are greater issues than technology itself in terms of being an impediment to progress and to change. Has the role of the CIO been fully accepted and worked into the management structure of the agencies as you have seen it? Ms. Stouffer.

Ms. STOUFFER. I believe that CIOs are becoming more and more effective. Obviously, as technology advances and as CIOs mature and their role in the organization is better understood, they are having more and more of an impact. Technology has now actually become disruptive in some cases because it is driving certain business decisions in areas where it can actually accomplish business needs. Having the knowledge of emerging technologies, and how they can further desired business outcomes is important. The CIO's contribution in making major business and technology decisions is increasingly recognized. So they are making progress.

Mr. PUTNAM. Mr. Flyzik.

Mr. FLYZIK. Mr. Chairman, I believe the results are mixed all over the Government. I believe in some Government agencies you see CIOs making strategic decisions in part of every strategic process that takes place; I think in others we have a long way to go. I think in some agencies under secretaries, assistant secretaries view the CIO as someone that gets in the way and I need to find my way around that particular individual in order to get my programs done. All in all, though, I think we are moving in the right direction and I think hearings like these are a good way to keep the momentum on the move in that direction. I think culture change, sir, takes a long time. I know my life at Treasury, I believe it took, in my opinion, probably 10 years before we actually got into a true enterprise environment from the days it was first talked about to where everybody actually bought into a concept of an enterprise approach to very large programs. I think culture is going

to take time, but I think we are moving in the right direction and I think we have to keep the pressure on and keep momentum moving in the right direction, and I applaud this subcommittee for being a catalyst in doing that.

Mr. PUTNAM. Mr. Brubaker.

Mr. BRUBAKER. Yes, I think the prior two speakers are right. It depends on the agency. Yes, in some cases; no in many others. But from my view, my experience in government, things seem to just be moving too slowly, and that is why I was particularly pleased to see the advocacy of the chief operating officer position in the GAO report. Maybe advocacy is too strong of a word, but they mentioned it, and I have seen it in the press and in some pronouncements out of GAO, where they seem to be advocating for a chief operating officer position that would be a term appointment with a contract that would lead that management team of the CIO and the CFO to really transform agencies. I think that is critical. I think you are still dealing with that industrial age bureaucracy, if you will, and we are expecting information age results out of it, and it just doesn't work.

Mr. PUTNAM. Thank you all very much. I again apologize for cutting this short, but we are interested in hearing from all three panels before the meeting is broken up by votes.

So at this time the subcommittee will recess to set up the third panel. Thank you all very much.

[Recess.]

Mr. PUTNAM. The third panel, I appreciate your patience and your willingness to come before the subcommittee. Please rise and raise your right hands for the administration of the oath.

[Witnesses sworn.]

Mr. PUTNAM. Note for the record that all the witnesses responded in the affirmative.

Our first witness for this panel is Kim Nelson. Ms. Nelson is the Assistant Administrator for Environmental Information and Chief Information Officer at the EPA. Before joining EPA, Ms. Nelson served the Commonwealth of Pennsylvania for 22 years. Notably, she was the first executive to hold the position of chief information officer in Pennsylvania's Department of Environmental Protection.

Thank you for joining the subcommittee again. Your testimony is always very helpful. You are recognized for 5 minutes.

STATEMENTS OF KIMBERLY NELSON, ASSISTANT ADMINISTRATOR OF ENVIRONMENTAL INFORMATION AND CHIEF INFORMATION OFFICER, ENVIRONMENTAL PROTECTION AGENCY; STEVEN COOPER, CHIEF INFORMATION OFFICER, DEPARTMENT OF HOMELAND SECURITY; VANCE HITCH, DEPUTY ASSISTANT ATTORNEY GENERAL, INFORMATION RESOURCES MANAGEMENT AND CHIEF INFORMATION OFFICER, U.S. DEPARTMENT OF JUSTICE; AND IRA HOBBS, DEPUTY ASSISTANT SECRETARY FOR INFORMATION SYSTEMS AND CHIEF INFORMATION OFFICER, DEPARTMENT OF THE TREASURY

Ms. NELSON. Thank you, Mr. Chairman. I appreciate the opportunity to return today and talk about some of the issues that are on your agenda today, particularly the role of the CIO. You have

asked some important questions, and while I have answered those in my written testimony, I will just briefly touch on some of those as part of the oral testimony here today.

First and foremost, I want to emphasize the fact that the chief information officer title has the word information in it, and that is important. What is also important is that the word technology is not there. And what I want to emphasize is the fact that it is the information component which I think is most important to the role that we play in our organizations. And while technology is important and we tend to talk a lot about IT and technology, the fact is that technology is only an enabler, and what you are looking for in a CIO is somebody who can really work with people and organizations to achieve results; and that takes a lot of work to work in concert with people and processes to make a difference in your organization.

You have asked some questions about the responsibilities that are most critical for a Federal CIO. I was looking at this chart before the hearing began, and looked at all the responsibilities that were listed there. In my own testimony, I focused on those that are listed at the top as some of the most important ones, and I think that is supported by the chart. I would say, however, that the position I hold at EPA in fact includes all of those responsibilities in whole or in part, including the one at the bottom, statistical work. For instance, this last year my office, in conjunction with our Office of Research and Development, issued the first ever Report on the Environment. And again that is significant because it is the first time we were ever able to report to the American public what we know about the condition of the environment, and that is a way to use information to be able to demonstrate real results. Again, the focus being on how we use information.

Reporting structure has been a topic today. I do think it is an important topic. I believe I am fortunate to have, frankly, one of the best positions in the entire Federal Government when it comes to the roles and responsibilities of a CIO. At EPA I report to the administrator through the deputy administrator. I have a position that is equal to the peers in my organization that manage the business units, the air office, the water office, the emergency response and waste office. So I sit at the table at the same level and with the same political appointment and confirmation by the Senate as the other people who are setting policy within the organization. I think that is important because if you look, frankly, at some of the most recent Gartner research, what it shows is that it is important to have that ability to sit at the table and have access to an understanding of the business of the organization. And, frankly, if I weren't at that same level, I would not be able to interact with those that are making business and policy decisions within the organization.

When we talk about the duration, I, of course, am new to the Federal Government. I guess when you had your previous panel here, I am the first one speaking who actually came in as someone new to the Federal Government to have taken the CIO position. I had 22 years in State government; I actually held a very similar position in my agency shortly before I left there. I came into this position fully expecting to stay at least 3 years, and in September

will mark 3 years from the date I arrived and November will be 3 years from the date I was confirmed. And I expect it will take at least that amount of time to achieve some of the things I wanted to do when I came on board; and I cited a number of reasons why I think 3 years is important in my testimony that I submitted.

Finally, some of the characteristics that are important to the CIO; you have already heard about vision, leadership, communication. They are all important. The bottom line is you have to be able to deliver results.

And, last, the one point I want to make about the biggest challenge. The single biggest challenge, in my mind today, is the CIO's responsibility to manage enterprise-wide projects. We talked about some of those at a hearing earlier. The governance issues surrounding managing projects across agency are considerable, and we are treading new water here. We are breaking new ground, and it is critical we establish those processes for managing these governmentwide projects.

So I will stop there and I will take questions later when you are ready. Thank you.

[The prepared statement of Ms. Nelson follows:]

Testimony of Kimberly T. Nelson

Assistant Administrator for Environmental Information and
Chief Information Officer
U.S. Environmental Protection Agency

before the
Subcommittee on Technology, Information Policy, Intergovernmental Relations and the Census
U.S. House of Representative

July 21, 2004

Good afternoon. Thank you for the opportunity to testify on the evolving role of the federal Chief Information Officer. This testimony reflects my role as the Chief Information Officer (CIO) at the U.S. Environmental Protection Agency (EPA). I appreciate having this opportunity to appear before this subcommittee today to discuss this important issue.

The role of the federal CIO has evolved significantly over the last several years. Today, information management and technology continue to be increasingly important where the need for timely information is critical. The main goal of the federal CIO is to improve services to citizens to operate the federal government in a more efficient manner and to help the federal government achieve results. Thoughtful investment in information technology (IT) infrastructure and information technology has the potential to significantly improve government's effectiveness and efficiency. Technology alone, however, cannot achieve a better government and to achieve the goals the President's Management Agenda. Technology serves as a critical enabler, but it must work in concert with people, processes, and information to achieve real results.

Responsibilities most Critical to the Federal CIO:

As the federal CIO at EPA, my work to improve the quality and availability of information is critical to the functions of the Agency. Accurate, timely, and usable information is the foundation for decisions and actions taken by Agency officials, states, tribes, and others responsible for protecting human health and the environment. Effective information management and technology support plays a key role in the ability of the Agency to achieve its mission and attain its strategic goals.

I believe the responsibilities most critical to the success of EPA include enterprise architecture planning, capital planning and investment control (CPIC), and information security. The responsibilities of the CIO is to move the enterprise toward enterprise thinking by developing: an enterprise architecture, a portfolio approach to managing and securing IT investments, and a capacity to direct resources to implement and operate enterprise solutions. Without this foundation, an agency is not able to efficiently interoperate with other federal, state, local, and tribal entities in a coordinated approach to provide service to the public.

An enterprise architecture serves as a tool for the agency leader to readily visualize how and where to best apply resources-people, technology, and money-to attain the organization's strategic goals. Once the agency's business is captured in the enterprise architecture, an appropriate IT Portfolio can be established that truly supports the Agency's mission. Once the appropriate portfolio is determined, the capital planning and investment control (CPIC) practice ensures that IT projects are properly managed.

An enterprise architecture allows the agency to secure its valuable and critical assets, and assists the agency to establish priorities for the protection of national assets. A CIO must be able to direct limited security resources to protect the most critical assets.

Most Useful Reporting Structure to Achieve Responsibilities

At EPA, the CIO reports directly to the Administrator, through the Deputy Administrator, ensuring high visibility and support for information management issues. In addition, the CIO is a peer to EPA national program managers and the Chief Financial Officer. This reporting structure is critical in providing the CIO with the appropriate authority to fulfill information and information technology management needs.

As the EPA CIO, I lead an organization responsible for a full range of information technology, information management, and information policy duties. In addition to serving as the CIO, I also serve as the Assistant Administrator for Environmental Information, the Chair of the EPA Quality and Information Council, and the EPA Agency Senior Management Official for Quality. In my role as CIO, my primary responsibilities includes supporting all aspects of the Agency's national information systems including the infrastructure, architecture, applications development, hardware, capital investment and security measures. In addition, program offices across the Agency have IT and information management (IM) officials who work with EPA's Office of Environmental Information to ensure policies are implemented on an Agency-wide basis.

Minimum Duration of Federal CIO Tenure

The minimum tenure for a federal CIO is driven by many variables including the individual's knowledge base, the placement of the individual within the organization, and the degree to which the organization must respond to changing internal and external requirements. Clearly, the length of time a person chooses to stay in a position is a deeply personal decision. In my case, I have made the decision that three years is the minimum needed to effectuate the changes I envisioned for EPA. Three years is needed to experience a full budget cycle - from request to execution. Three years is often needed to see a project from concept to reality. And three years is about the time needed to not only introduce transformational thinking, but also to institutionalize the changes within the organization.

Characteristics and Qualifications of Successful Federal CIO

A successful CIO should possess certain skills and attributes. Most important among these, the federal CIO must be both a visionary and a leader. The capacity to lead people and effectuate change is paramount in the evolving federal IT environment. Now, more than ever, the federal CIO must possess the ability to manage collaborative processes that lead to consensus. This consensus is best realized through open, balanced, and inclusive approaches where stakeholders work together to develop solutions. This ability to build consensus both inside the organization and the broader government community will continue to be one of the most important skills the federal CIO must possess in order to be effective.

The federal CIO must also have a strategic perspective of information and information technology, perceive information as a vital resource, and have the ability to

align solutions to meet the agency's mission. The federal CIO must have the business acumen to run a disciplined operation to meet increasingly more difficult performance goals and accountability objectives required by this position, again in a way to ensure the agency's mission is achieved.

Major Challenges Facing the Federal CIO

Although the federal CIO encounters a vast number of challenges, the two most significant challenges include maintaining a high quality IT workforce and managing enterprise-wide projects.

In my opinion, enterprise architecture, capital planning and investment control, and information security are the federal CIO's three most important responsibilities in striving to achieve the President's Management Agenda. As the federal government migrates toward interoperable enterprise architecture through collaboration with state, local, tribal partners, and other stakeholders, the success of the E-Government initiative will be dependent on each Agency's ability to contribute. The federal CIO must possess sufficient resources to invest in the workforce in order to embed these skills within her/his organization. According to a recent report from the National Academy of Public Administration (NAPA), the marketplace for IT talent will remain competitive for the next 20 years making this task more difficult. The NAPA study also reported that the retirement of a significant number of IT leaders and staff will occur over the next five to ten years and it will be necessary to add up to 45,000 new IT employees to the federal workforce over this time period.

Another major challenge to the federal CIO is the IT governance relating to enterprise-wide solutions. As an example, EPA currently serves as the lead Agency for the E-Rulemaking initiative. Through collaboration and a commitment to the benefits inherent in E-Government, the E-Rulemaking initiative has made significant strides toward creating a more efficient, integrated, publicly accessible approach to the regulatory process. The goal of the initiative is to help overcome barriers to public participation in the federal regulatory process by improving the public's ability to find, view, and comment on regulatory actions, as they are developed.

Despite our progress, we continue to face a number of critical challenges to the implementation of this enterprise solution. These challenges do not stem only from technology, but also relate to organizational change, communication and coordination, and funding.

EPA and its partner agencies have developed and continue to develop information technology solutions for E-Rulemaking that could impact and ultimately benefit over 150 federal departments and agencies, many of which have well established regulatory processes in place. Approximately 25 departments and agencies have existing technology systems in place (ranging from accepting public comments via email and posting materials on simple HTML Web sites to sophisticated document management systems). Resistance to change within an agency can be significant. Implementing new technology within the agency and across government is challenging and often requires institutional and organizational changes.

Addressing and adjusting to organizational change requires constant coordination and communication among agencies at many levels (from CIOs, General Counsels, and

Deputy Secretaries, to technical staff, attorneys, budget personnel, and rulewriters). We have established a permanent organization in my office to facilitate this process as well as to develop and deploy the centralized Federal Docket Management System required under the E-Government Act. In addition, I established a number of inter-agency groups to guide and govern this process-starting with an E-Rulemaking Executive Committee, which I co-chair, an Advisory Board comprised of senior Agency managers that meets monthly, and various workgroups (e.g., legal/policy, budget, Regulations.gov, FDMS development). This constant need to coordinate takes a significant amount of time and effort on my part and that of my staff.

The other challenge we face is funding from a two-fold perspective. The success of the E-Rulemaking initiative, like other E-Government initiatives, is dependent on contributions from participating federal departments and agencies. Participating agencies developed a cost allocation approach that covers start-up and development work, and we will move toward a user-fee approach for on-going operations and maintenance. Currently, this requires separate agreements and memorandums with each of the approximately 40 paying agencies. The process can take several months before the final agreements are signed and the money transferred. We are working cooperatively to overcome this funding challenge.

The two most significant challenges the federal CIO faces include maintaining a high quality IT workforce and managing enterprise-wide projects. These challenges will only be accomplished through strong leadership by the federal CIOs.

Conclusion

In closing, it is apparent that the role of the federal CIO has evolved significantly in the past several years. Advances in information management and information technology can help federal departments and agencies improve the delivery of service. Creating the federal CIO in federal departments and agencies was a critical first step.

To be truly effective, the federal CIO must have a seat at the agency's leadership table. They must work toward enterprise solutions within their agency and across the federal government through the federal CIO Council. The federal CIO requires the ability to hire and retrain the needed skilled workforce, particularly in information security and enterprise architecture and solutions. The challenge of meeting higher performance standards and managing more complex projects, which often extend beyond traditional agency boundaries, reinforces the Clinger-Cohen requirement for high level CIOs.

Thank you for the opportunity to testify on the evolving role of the federal Chief Information Officer. I would be happy to answer any questions you may have.

Mr. PUTNAM. Thank you.

Our next witness is Steven Cooper. Mr. Cooper was appointed by President Bush to be the first CIO of the Department of Homeland Security. He and his team have responsibility for the information technology assets supporting 190 Federal employees of the 22 agencies now comprising the new department. Before joining Federal Government service, Mr. Cooper spent more than 20 years in the private sector as an information technology professional.

Welcome to the subcommittee. You are recognized, sir, for 5 minutes.

Mr. COOPER. Thank you, Mr. Chairman. It is indeed my pleasure to appear before you today and share a few views based upon nearly 30 years as an information technology professional, including the past 2½ in the Federal sector. I have served as the CIO of the Department of Homeland Security since its inception, and it has been a fairly significant learning curve for me coming into the Federal environment. There is, as you have heard from previous panelists, a significant amount of legislation and statutory requirements which, in a very short period of time, is fairly substantial to absorb. Therefore, I would argue that one of the primary responsibilities of any CIO is to ensure the optimal and appropriate use of information and to understand the legislative and statutory requirements that enable an agency to succeed and a CIO to be successful.

A CIO must also act as an agent of change by guiding organizational and transformational and business process re-engineering to most effectively meet the strategic and operational objectives of the agency. I would argue that the CIO is one of the very few individuals whose view of the agency is always horizontal. Every day we see not a vertical view of any particular business unit or organizational segment, but we are the people who are held accountable for understanding how all those moving parts and pieces that use information technology fit together. It is in that context that I do think that the placement of the CIO in the organization does become important.

What is most important has been stated by my colleagues here on this panel and the previous panelists, and that is the seat at the business table is what is critical. The placement in the organization, simply put, the higher the level, the more that the placement kind of ensures the seat at the table. It doesn't automatically imply that a CIO cannot succeed if they do not report directly to the secretary. It makes it significantly more difficult the more levels that the individual is kind of down from the head of the agency, and you have to offset that by the time it takes to then build the credibility and gain the seat at the business table.

With regard to roles and responsibilities, primarily the CIO is responsible for leading the use and application of all IT assets deployed across the department, and that includes both the human resources and the financial resources. That is what actually ensures the ability to use information effectively within the department. This is achieved, in my opinion, by guiding the department's development and use of enterprise architecture best practices, and they include obtaining senior management employee buy-in and involvement, demonstrating how IT can enable mission effectiveness and efficiency; guiding the proper choice of technology to meet mis-

sion goals; documenting and using portfolio management techniques that allow rapid decisionmaking regarding IT investment choices in very difficult times and also in a resource-constrained environment.

As far as characteristics and qualifications that CIOs should possess, good business skills, business mission operation sense of what is going on in the agency, that is the credibility; good management skills, ability to lead change, working knowledge of IT gained from hands-on or practical experience, great communication skills, and most importantly, in my opinion, a sense of humor and a pretty tough skin. Guts are in there somewhere. We have to be able to place mission first and career second. We are held accountable for basically everything in the IT environment. And I will leave to my colleagues and previous panelists, and perhaps the question and answer period, how best to actually accomplish accountability, responsibility, and the blend thereof. I happen to think that a whole lot of it has to do with metrics and performance measures.

In closing, I would simply like to say that the opportunity is unique at the moment inside the Department of Homeland Security simply because we are still in a startup mode, and a lot of what I face as a CIO in the Department of Homeland Security, I am envious of other CIOs who have a bit more stability and maturity to their organizations. So some of what my experience has been may not be reflective or may not be typical of what some of the other more mature departments and other Federal CIOs may face.

I look forward to your questions.

[The prepared statement of Mr. Cooper follows:]

Statement by
Steven I. Cooper
Chief Information Officer
U.S. Department of Homeland Security

Before the Subcommittee on Technology, Information Policy, Intergovernmental Relations and the Census
U.S. House of Representatives
July 21, 2004

Mr. Chairman and Members of the Subcommittee:

Good afternoon. I am Steve Cooper, Chief Information Officer of the Department of Homeland Security. It is my pleasure to appear before you today to provide my opinion and insights into the role and responsibilities of a Federal Chief Information Officer and the various challenges associated with this position. My views are based upon nearly thirty years as an Information Technology professional, including the past 2 ½ in the federal environment. My experience includes CIO roles in the private sector with Fortune 200 corporations, and senior technical and management roles in information technology consulting to federal, state, local and commercial organizations.

I have served as the CIO of the Department of Homeland Security since its inception. It has been both my pleasure and my privilege to join the ranks of the Federal CIO community. The passage of the Clinger-Cohen Act in 1996 was a bold statement signifying that Information Technology, and the management of this resource, was to be a top priority across the federal government. The creation of the Chief Information Officer position within each department clearly established a leader for the Information Technology function and provided a single focal point for leadership within a federal agency. This measure has been integral in driving an enterprise view of IT investment and capital planning and in promoting more efficient and effective management of IT.

I'd like to offer my thoughts in areas of interest posed by the committee.

We are titled Chief *Information* Officers, not Chief Information *Technology* Officers. I believe strongly that **the primary responsibility of any CIO is to ensure the optimal and appropriate use of information** by a department. Understanding business processes and information requirements is a critical success factor that allows the CIO to serve as the key *information* advisor to senior executives. This understanding, coupled with knowledge of how information technologies may be applied to achieve desired business objectives, place the CIO at the table when policy decisions where IT can make or break a desired objective are being made.

The CIO must also **act as a change agent** by guiding organizational transformation and business process reengineering to most effectively meet the strategic and operational objectives of the

agency. The CIO is one of the few individuals whose view of their agency is always horizontal – the ability to see opportunities for integration, consolidation, and rationalization is imperative for achieving more with less in our resource constrained environment. Of course, continually pushing for change that crosses organizational boundaries usually makes the CIO a target of those who resist change and prefer to protect the status quo, so thick skin helps considerably!

Leading the use and application of IT assets deployed across the department, including human and financial resources, is what ensures the ability to use information effectively. This is achieved by effectively **guiding the department's development and use of Enterprise Architecture** best practices: obtaining senior management and employee buy-in and involvement; demonstrating how IT can enable mission effectiveness and efficiency; guiding the proper choice of technology to meet mission goals; and documenting and using portfolio management techniques to allow rapid decision making regarding IT investment choices in turbulent (i.e., terrorist threatening) times.

I don't believe there is one answer to the question "how long must a CIO serve to be effective?" The learning curve of a CIO is dependent upon a number of factors, such as the maturity of the organization and the current business environment. In organizations that are more mature and operating in a relatively stable environment, the CIO can likely come up to speed in a year. However, for organizations that are still in the formidable stages of development, the CIO may need to be in place for a longer period of time, in order to understand the business strategy, establish the vision for the IT function, provide direction for IT investments, lead change, and deliver results.

There are several characteristics and qualifications that CIOs should possess. First, a CIO should have **good business skills, a business/mission operations sense**. Effective CIOs must serve the leadership of a Department; we must understand and be able to communicate in business, not technical, language. We have to be able to translate technospeak into business driven communication. Second, we should have **good management skills** to lead an IT organization, to hire, motivate and develop staff, and to operate within a budget. Third, we must be able to **lead change**. We have to understand what motivates people and what matters to them on an organizational and personal level. Fourth, we have a **working knowledge of IT gained from experience**, but do not need to be expert in all IT areas. We need to be able to evaluate the technical competency of key staff and understand recommendations from internal and external technical advisors. Fifth, we must have **great communication skills**, both listening and speaking. They must be marketers and evangelists to promote their products and services. Sixth, they need **a sense of humor**. This job is filled with ups and downs. We've got to be able to laugh at ourselves and at the inefficiencies and sources of high frustration that come with the role. Finally, we need Guts. We must be able to place mission first and career second.

A Departmental CIO is held accountable for the entire scope of IT – from IT strategic and capital planning, IT human capital, enterprise architecture, e-government, to information security, including specific statutory responsibility for leading the internal cyber security efforts of the department. These functions touch all areas of the enterprise. The CIO strategically plans for enterprise-wide IT resources and is a critical leader on the organization's management team. It

is therefore crucial that the CIO be invested with the authority to manage these various aspects of IT.

Organizational placement of the CIO has a direct impact upon that individual's ability to effect the changes necessary to drive the IT function toward success. The CIO must be able to strategically plan for enterprise-wide IT resources and be a critical leader on the organization's management team. This reduces the likelihood that each element within the department will view their IT needs separately, as unique entities, leading to stove-piped IT solutions.

There are additional challenges that all CIOs across the federal government face: lack of direct control of IT spending; balancing the speed for technology refresh with the federal budget cycle; lack of resources – people, funding, time; lack of representation at the business/decision-making tables; communicating IT visions and investment decisions in a manner that is understood by senior management; and maintaining an effective security posture in the face of a constantly changing environment.

While the Clinger-Cohen Act clearly places responsibility for coordination of IT investment decisions with the CIO, there are difficulties in executing this objective if the CIO does not have direct control over IT spending and the IT budgets within a department. Although departmental CIOs have been working for several years to truly align investments strategically and with a view toward what is best for the enterprise, there are still numerous IT projects, and the associated budget dollars, that are hidden inside "programs." The challenge is to bring together the CIO and Chief Financial Officer communities to work together to eliminate the "burying" of funding, and instead recognize the importance of focusing on IT as a global resource for a department. Hence the structure of DHS forces this interaction on a daily basis.

As mentioned earlier in my statement, it is key that a CIO have good business skills and a business/mission operations sense. These skills are crucial in meeting the challenges associated with communicating with senior management and business leaders. The CIO must communicate, and where necessary educate, the business community on the IT vision and investment decisions.

As technology is changing rapidly, more effective planning for "refreshing" hardware and software must occur. Payoff will come through increased mission performance and lower operating costs. Special incentives to retain, and in some instances to retrain, talented IT professionals; recruiting tools such as bonuses and moving expenses; would allow the CIO to reshape his/her organization rapidly to meet the changing government challenges.

The Federal Information Security Management Act (FISMA) was enacted to further hold leadership accountable for all aspects of information security, and I strongly believe this is the right approach. We should acknowledge that IT security is a huge challenge with a doubling of cyber attacks each year, this has been a fact of life for the past 5 or so years. There are significant difficulties associated with maintaining an effective security posture in large organizations, and FISMA correctly places responsibility for information security squarely on the shoulders of each agency head. This fact, coupled with the additional authorities placed on the CIO, further

strengthens the effectiveness of an enterprise program by ensuring that each organization approaches security from a top-down, corporate perspective.

I thank you again for the opportunity to appear before the committee this afternoon, and I look forward to answering your questions.

Mr. PUTNAM. Thank you very much.

Our next witness is Mr. Vance Hitch. Mr. Hitch serves as the Chief Information Office of the Department of Justice. He manages the Department's $1.7 billion IT program, overseeing management acquisition and integration of the Department's information resources. His oversight includes strategic planning, policy, capital planning, systems development, telecommunications, information security, data management, enterprise architecture, e-government, and user computing. Before coming to the Department of Justice, Mr. Hitch was a senior partner with Accensure. He has 28 years of experience in leading government organizations successfully through major change initiatives.

Welcome to the subcommittee, sir. You are recognized.

Mr. HITCH. Thank you, Mr. Chairman. I am pleased to be here to talk about my job and how it fits at the Department of Justice and the Federal community.

As you have stated, I come from the outside, 27 years of outside experience managing large IT projects and major change programs, both in a variety of industries as well as government. I have been the CIO of the Department of Justice for 2 years this past April, so I already am senior to the average CIO, which is hard to believe.

You asked a number of questions, responsibilities critical to my success. I believe my principal responsibility as a CIO is to create and lead an organization that will enable our mission accomplishment through technology. That is first and foremost my responsibility. And there is a lot of management responsibilities that go along with, but I view my job as mission accomplishment.

At the Department of Justice I came upon a very decentralized organization, and, therefore, my job in accomplishing that mission was to more strongly coordinate from a central perspective the IT organization, and that has required major change. That was particularly important in the Department of Justice, since I came on board after September 11 and a new mission had been created at the Department of Justice, and that was counterterrorism. So we really had to do things differently than we had done before, which was a burning platform for me; and I used that in terms of creating the organization that I needed to carry out what I view as my mission.

Some of the key responsibilities that I have are those that are listed there on the chart by the GAO: obviously, enterprise architecture, IT investment management, security, IT human capital planning, and program oversight. And I think all of those are important, but I do think having a major impact on the IT budget is absolutely critical. Having the ability to start and stop projects, if necessary, is important. So I think those things are echoing what I have heard some of the other panelists say.

One of the things that I did that is unique at the Department of Justice that I used as a platform to help create some of the change in carrying out my responsibilities was a program that we are now pursuing called the Law Enforcement Information Sharing Program. And initiated this program about a year ago as a way of bringing together our various law enforcement components who, as I said, grew up with strong cultures of their own and as a decentralized organization, to get them to better share information effec-

tively. And that is particularly important in our counterterrorism as well as our law enforcement missions.

The way I did that was by creating subgroups to deal with any policy changes we needed, any changes in our concept of operations, as well as technology; and out of that technology subgroup came what I call our strategic IT architecture for information sharing at the Department of Justice. We now have that as kind of the bible of what we are trying to do to achieve information sharing, and what I am doing is mapping all of the forty-some odd programs that we have and IT initiatives that we have that many of them came before I became CIO at the Department of Justice; they had their origins as stovepipe systems. I am sure you have heard that term. So it was my job to somehow fit them together.

This IT information sharing architecture is what lets me do that, and I map into that architecture and then it basically allows me to identify the changes necessary in each IT program to achieve our overall information sharing goals. So that is one of the ways I have used enterprise architecture as a tool to help me achieve my mission.

You wanted some comments, and you got lots of them from everybody, about the most important aspect of the reporting structure, and what is the most effective way that we can report. I will comment on what we have at the Department of Justice, which I think works very well. I will say that it was new with me coming on board, it did not exist prior to my coming on board as the CIO in April of 2 years ago.

The reporting relationships that I have are I do report directly to the Attorney General on matters of IT policy and IT strategy, and I report to the Assistant Attorney General for administration on operational matters. I think reporting to the top of the organization is extremely important because I must be viewed at the same table and I must be viewed as a peer of the component heads, and those are the heads of the FBI, the heads of the Drug Enforcement Agency, the U.S. Marshals, all those major agencies within the Department of Justice. I must be viewed as somebody who can be their helper in making things happen at their agency and across the department in IT. And that is the only way that I will be able to achieve my mission of making IT a strategic enabler of our mission accomplishment, which is law enforcement and counterterrorism across the whole department.

As part of my reporting responsibilities, I sit on the Strategic Advisory Council, which is chaired by the deputy attorney general, and that includes all the members of the largest components of the organization and deal with all strategic matters. Obviously, I sit on it as a representative of the IT interest of the whole department. I also sit on a council called the National Security Coordinating Council within the Department of Justice. It is composed of the component heads, once again, of the law enforcement agencies, and that enables me to get close to their business to make sure that I have my finger on the pulse of what is our mission and what we are trying to achieve from a law enforcement standpoint. So I think those are critical reporting relationships.

Commenting on the duration, the term that is necessary. Basically, I believe 3 to 4 years is what is necessary to have a lasting

impact. Actually, I do believe that I was effective almost immediately, and that is through having an impact on individual programs that were already underway. But given the fact that it takes at least 2 years to have an impact on the budget itself, because of the budgeting cycle in the Federal Government, to get those programs initiated and to make them real, it is going to take at least 3 to 4 years to have them implemented.

Concerning the characteristics, I think you have heard a lot.

Mr. PUTNAM. We will get to this in questions, but I do want to get to the testimony before we have votes, and your time has expired. So if you could just summarize for us, please, and then I will go to Mr. Hobbs.

Mr. HITCH. OK.

I don't think I have anything new to add in terms of characteristics of a CIO, except I do want to add one, which is persistence. You know, basically working in the Federal Government is a big bureaucracy; it takes a long time to accomplish things. I think you have to keep at it, go the extra mile, do whatever it takes to earn respect and confidence of the colleagues.

Major challenges, I think my biggest one is culture change, because I said initially that we are going from a decentralized organization to one which is much more strongly centrally coordinated. The concept of a CIO was not there when I arrived, so making that culture change to become an effective CIO in that kind of organization is the biggest challenge that I face.

[The prepared statement of Mr. Hitch follows:]

Department of Justice

STATEMENT

OF

VANCE E. HITCH
CHIEF INFORMATION OFFICER
JUSTICE MANAGEMENT DIVISION

BEFORE THE

SUBCOMMITTEE ON TECHNOLOGY, INFORMATION POLICY,
INTERGOVERNMENTAL RELATIONS AND THE CENSUS

COMMITTEE ON GOVERNMENT REFORM

UNITED STATES HOUSE OF REPRESENTATIVES

CONCERNING

FEDERAL GOVERNMENT MANAGEMENT OF INFORMATION TECHNOLOGY

PRESENTED ON

JULY 21, 2004

Testimony of Vance E. Hitch
Chief Information Officer
Department of Justice
Before the
House Committee on Government Reform
Subcommittee on Technology, Information Policy,
Intergovernmental Relations, and the Census
July 21, 2004

Chairman Putnam, Ranking Member Clay, and distinguished Members of the Subcommittee, it is a pleasure to appear before you today to discuss the responsibilities and challenges that I face as Chief Information Officer (CIO) at the Department of Justice.

The mission of the Department is broad and formidable ranging from preventing terrorism and promoting the nation's security to ensuring the fair and efficient operation of the federal justice system. As CIO, I lead the Department in the use of technology and expanded information sharing toward these goals.

This afternoon I would like to provide you my perspective on the role of the CIO in leading a large federal agency, managing the delivery of IT services, and facilitating changes that may be needed for more effective and efficient service delivery. Specifically, I will address the following important questions.

What responsibilities of a federal CIO are most critical to the success of their organization?

At the most basic level, a CIO must create a well-functioning information technology (IT) organization that is effective in delivering centralized IT products and services and in providing departmental guidance to component IT programs. But perhaps even more important, especially in a decentralized organization, is a CIO's responsibility to lead their organization toward a common vision of how IT can and will support mission accomplishment.

Strategic planning is an important responsibility that enables a CIO to develop the IT vision and communicate the strategic initiatives that will be put in place to realize that vision. It informs budget decisions. Most importantly, it provides a framework for communicating the key projects for realizing the CIO's vision and programs.

At the Department of Justice, my job has been to unite a previously decentralized IT management approach and create a CIO organization

designed to support the post 9/11 counterterrorism mission of the Department without any loss of IT support to other departmental programs. Law enforcement information sharing has proven an effective catalyst to pull together related programs across the Department.

I view CIO responsibilities for implementing enterprise architecture, investment management, information management, and human capital planning processes as core IT program tools to accomplish a needed transformation in IT culture and capabilities. Applying these processes to law enforcement information sharing has crystallized broadly applicable issues of how we work together across the department – and where we must make changes and improve.

What is the most useful reporting structure for a CIO within the agency to achieve these responsibilities?

I report directly to the Attorney General on strategic IT issues and to the Assistant Attorney General for Administration on operational management issues. This arrangement works well at the Department of Justice.

This reporting relationship affords me the authority to make certain departmental IT decisions on behalf of the Attorney General. In addition, this organizational positioning allows me to be most effective in providing departmental oversight to component programs. At the same time, I have an organizational relationship with the DOJ Controller through my reporting relationship to the Assistant Attorney General for Administration.

I believe that the CIO must have a reporting relationship to the head of the agency to be effective in carrying out the broad range of legislative responsibilities. Technology is a mission "enabler". Without senior-level organizational placement, there can be no guarantee that an open and active IT perspective is brought to important departmental program and budget decisions.

Is there a specific duration of time that a CIO must remain in their position to be effective?

I came to the role of CIO at the Department of Justice approximately two years ago from outside the federal service. Based on my experience, I believe that it takes three to four years for a CIO to implement IT initiatives that have a lasting impact on agency programs.

First, an effective CIO must establish and maintain a network of relationships internally, with external organizations, and with governmental

oversight bodies to carry out the broad scope of CIO legislative responsibilities effectively. For a new CIO, it can take a year, or more, to establish such a network of resources.

It then takes an additional year for a new CIO to complete a full planning and budget cycle and reflect their strategic vision in the IT capital plan that goes forward for funding. In other words, a new CIO must be in the position at least two years to have an impact on the allocation of budget resources to IT plans and requirements.

It is not until year three or four that the CIO begins to see the benefits of the strategic IT initiatives that have been developed, funded, and implemented across the organization. At this point, the culture changes and new IT capabilities in the CIO organization and across the Department should be in place to sustain the IT initiatives for lasting impact.

What characteristics and qualifications should a CIO possess?

Many diverse skills are necessary to do the job of CIO. There is, however, no single educational background, experience, or training that uniquely prepares someone to do this difficult job well. The size and complexity of a particular agency's IT program will usually determine the specific characteristics and qualifications that are likely to lead to a successful tenure as CIO.

However, there are certain core attributes that all successful CIO's share. The first is an understanding of the missions and business processes of the agency. Without this insight, it will be difficult to plan and build systems that are responsive to program needs. And, of course, the CIO must have a solid understanding of projects, systems, and technologies. Agency leadership and staff look to the CIO to provide IT oversight and guidance while the Office of Management and Budget, the General Accountability Office, and Congress hold the CIO accountable for results.

Another core attribute of successful CIOs is strong planning and management skills to assure that the IT program is implemented as planned with appropriate human capital resources. Leadership and team building are important for CIOs who often depend on limited resources in a large IT organization. Additionally, the CIO must have strong communication skills to reach out to people of various backgrounds across an agency and persuade them to support the IT vision with participation in specific projects. Finally, the CIO must be persistent – changing culture and organizations is a multi-year process.

What are the major challenges that CIOs face?

CIOs face many difficult challenges. I believe that culture change, changing the way people operate, is the hardest challenge facing CIOs in the federal government today. Closing the ongoing gap between agency culture and the rapid rate of technological change requires CIO commitment and endurance. Yet, no agency can afford to delay such changes as programs increasingly depend on IT for mission accomplishment.

Technology has an important role providing a technical infrastructure that supplies desktops, networks, databases, application systems, wireless devices, and more. The challenge that faces CIO's today is to shift the orientation away from IT as solely a "back office" function to IT as an mission critical organization.

CIOs must create a strong, capable organization with the right leadership and management team in place to effectively carry out the diverse range of responsibilities given to the CIO. From a recruiting perspective, such people are sought after, and they are a scarce resource. One of the hardest challenges is recruiting and developing IT project managers. No CIO can succeed without trained and experienced project managers to carry out the IT vision.

The last, but not least important, challenge that I will address is the CIO's difficult and ongoing job of assuring the security of the Department's information. IT security has always been important at the Department of Justice. But today, as we continue to open our systems in support of information sharing and e-government initiatives, CIO's must collaboratively address cybersecurity issues, as well as ensure that security keeps pace with the needs and expectations of the programs we support.

Mr. Chairman, that completes my prepared remarks. I would be happy to attempt to answer any questions that you may have at this time.

Mr. PUTNAM. Thank you very much.

Our next witness is Mr. Hobbs. Mr. Ira Hobbs is the Treasury Department's Chief Information Officer. Mr. Hobbs came to Treasury from the U.S. Department of Agriculture, where he has served as the Deputy Chief Information Officer for the past 7 years. He has an extensive background in Federal policy development and information technology and program management, including a 22-year career at USDA.

Welcome to the subcommittee, sir. You are recognized for 5 minutes.

Mr. HOBBS. Thank you. Mr. Chairman and members of the subcommittee, thank you for inviting me here today to discuss the roles and responsibilities of Federal chief information officers. With the current Clinger-Cohen Act as our guide, I have been one of many Federal executives working to improve our Government's management of our information and IT resources. While we still have many miles to go, I am proud of what, as a community, we have achieved, and I hope my perspective will add some value to our discussion this afternoon. Having already heard from so many experienced executives, I will keep my opening comments brief.

I am honored to be here today representing the U.S. Department of the Treasury as its chief information officer. Prior to joining Treasury, I did serve as the Deputy Chief Information Officer of the Department of Agriculture, where I worked for 7 years under three different political CIOs.

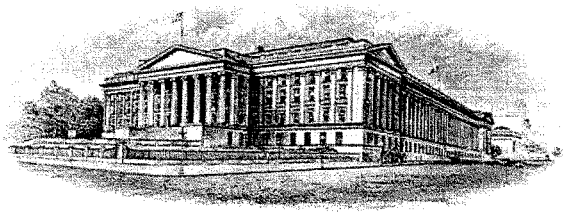
To be a successful Federal chief information officer, one must practice executive leadership, and have strong management and communication skills. Fundamentally, I believe these qualities are more important than having a strong technical background. The major challenges we face are not technical challenges; addressing and overcoming them requires seasoned and skilled leadership. Meeting these challenges also require support from the secretary's office, time to learn organizational business and culture, and to establish the relationships necessary to effectively implement change; prioritizing amongst the many competing responsibilities of a CIO; and, most importantly, directing and motivating employees and contractors who are the people every CIO relies on to get the job done and results achieved.

In my experiences, some of the issues raised, such as the time required for CIOs to achieve transformation, are mitigated by having a strong deputy CIO. In addition to providing for continuity and complimenting the skills of a CIO, a good deputy CIO can shorten the learning curve of a new CIO and free the CIO to focus on high-priority outward-facing initiatives while the deputy CIO serves as the chief operating official internally, making sure that all of the trains are kept running and that they are kept running on time. This was the model during my tenure as deputy CIO at the Department of Agriculture, and I like to believe that it was a successful one.

A large part of the progress we have made in recent years is due to the statutory framework laid out by Congress in the Clinger-Cohen Act and related legislation, the aggressive implementation of these laws by the Office of Management and Budget, and the continuing, maturing role of the Federal CIO.

Thank you for the opportunity to be present today to present my thoughts, and I look forward to any questions that I might be able to answer.

[The prepared statement of Mr. Hobbs follows:]



DEPARTMENT OF THE TREASURY
OFFICE OF PUBLIC AFFAIRS

Embargoed for Delivery
July 21, 2004

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STATEMENT OF
IRA L. HOBBS
CHIEF INFORMATION OFFICER
U.S. DEPARTMENT OF THE TREASURY
BEFORE THE
SUBCOMMITTEE ON TECHNOLOGY, INFORMATION POLICY, INTERGOVERNMENTAL RELATIONS AND THE CENSUS
COMMITTEE ON GOVERNMENT REFORM
U.S. HOUSE OF REPRESENTATIVES

July 21, 2004

Mr. Chairman and Members of the Subcommittee, thank you for inviting me here today to discuss the role and responsibilities of Federal Chief Information Officers. With the Clinger-Cohen Act (P.L. 104-106) for our guide, I have been one of many Federal executives working to improve our government's management of our information and IT resources. While we have many more miles to go, I am proud of what we as a community have achieved and I hope my perspective will add value to our discussion this afternoon. With your permission, I will submit my written testimony for the record.

My Personal Background

As background to my comments today, I would like to share with you a brief history of my IT and general management experiences. Today, I appear before you honored to serve as the Chief Information Officer (CIO) of the U.S. Department of the Treasury. I began working in this position on June 7 of this year. Prior to joining the Treasury Department, I served as the first Deputy CIO of the U.S. Department of Agriculture (USDA), starting in June of 1997. In my seven years in this position at USDA, I worked for and with three politically appointed CIOs. In between these appointments, I also served as the Acting CIO for a total duration of

approximately one and half years. At the bureau or agency level, my IT management experience includes five years as Director of the Information Systems and Communications Division of USDA's Animal and Plant Health Inspection Service. In addition to these IT experiences, I served as the Director of the USDA Office of Operations with overall responsibility for management of the four building headquarters complex and the departmental procurement program, and worked in human resources management early on in my career.

In addition to these day jobs, for the past four years, I have been a member of the Federal CIO Council Executive Committee and Co-chair of the Council's Human Capital and IT Committee, which continues working to improve the recruitment, retention, and skills of the Federal government's IT workforce.

Executive Leadership

The Government Accountability Office (GAO) report that is being released today very clearly lays out the basic questions on the responsibilities, reporting relationship, tenure and challenges of Federal CIOs. It also documents the commonly held beliefs of most current and former Federal CIOs on these issues. In short, managing information and IT in government is not rocket science but it is challenging and complex.

To be a successful Federal CIO, one must practice executive leadership, which by definition includes strong management and communication skills. Fundamentally, I believe these qualities are more important than whether a CIO should be a political appointee or career civil servant, or whether an effective CIO must have a strong technical background. In general, I value common sense over technical expertise. The major challenges identified by GAO (i.e. implementing effective IT management, obtaining sufficient and relevant resources, communication and collaboration, and managing change) are not technical challenges; addressing and overcoming them requires seasoned and skilled leadership.

Responsibilities

I concur with almost all of the responsibilities the Clinger-Cohen Act (CCA) assigns to Federal CIOs. Given the significant investment dollars and program impact of Federal IT systems, information and IT management must be the single main responsibility of Federal CIOs. Unfortunately, in my experience, there is never enough time or capacity to simultaneously focus on all the CCA responsibilities equally. Meeting the challenge of implementing effective information and IT management means a CIO – like all executives – must prioritize amongst competing responsibilities. Adding non-IT related demands to a CIO's position description further dilutes the time and effort they can spend on the many pressing IT initiatives.

Reporting Relationship

In order to achieve the worthy goals of the CCA, it is critical that a Federal CIO report directly to their Secretary or his/her proxy. First, successful business process modernization efforts require considerable institutional changes. Complete support from the top is needed to drive major change initiatives. Second, in my experience, effective information and IT management requires

working on an equal footing with the business process owners. CIOs must hold their business leaders – as the owners of the systems that support their programs – accountable for success throughout a system's lifecycle. I can think of no examples of a successful IT program where the CIO does not have a strong reporting relationship to the department or agency/bureau head.

Tenure

The GAO reports that current and former CIOs commonly cited three to five years as the time needed to be effective. In my view, three years is the absolute minimum term required to be a very effective CIO.

One Model for Managing the Challenges Faced by Federal CIOs

Like all Federal executives, CIOs face a host of competing challenges from managing an aging workforce, to meeting unfunded program mandates, to managing change. In their interviews, GAO identified one mechanism to ensure continued attention to ongoing objectives when there is a hiatus between one CIO and the next, a strong Deputy CIO. In addition to providing for continuity and complementing the skills of a CIO, a good Deputy CIO can shorten the learning curve for a new CIO. A skilled Deputy CIO can also free the CIO to focus on high priority outward facing initiatives while the Deputy CIO serves as the chief operating officer, making sure all the trains are running. This was the model during my term as Deputy CIO at the Department of Agriculture; I believe it was a successful one.

Conclusion

Today, we continue to improve the management of the Federal Government's information and information technology. We have more visibility into where our IT dollars are being spent than in the past due to established IT Capital Planning and Investment Control processes and a renewed focus on project management. While we are facing an increasing number of cyber security threats, we are also devoting significantly more resources to protecting our information and IT assets. A large part of our progress is due to the statutory framework laid out by Congress in the CCA and related legislation, the aggressive implementation of these laws by the Office of Management and Budget, and the maturing role of the Federal CIO.

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Mr. PUTNAM. Thank you very much. We appreciate all of your testimony and I am particularly pleased that we are were able to get through it without the votes interrupting us.

For all of you, how do your offices interact with the other high-ranking officers in the agency, like the CFO, when making capital planning decisions? And we will begin with Ms. Nelson.

Ms. NELSON. The partnership we have with the CFO is probably the most important partnership in the agency. We have set up a process since I have been at EPA as part of our investment and planning process where the deputy CIO and the deputy CFO oversee a committee made up of others throughout the agency that review our portfolio, and it is through that committee that is chaired by the two offices that the portfolio is approved and then ultimately comes to me for final approval. I work with the CFO to ensure that everything that is in that portfolio is accounted for in our budget. So no longer are we doing what we used to do, which is put business cases forward when funding didn't exist in the budget for those business cases.

Mr. COOPER. In the Department of Homeland Security, under the under secretary for management, all of the CXOs, the chief administrative officer, the chief human capital officer, the chief procurement officer, the chief financial officer, chief information, we meet twice a week and basically are in lockstep on almost everything related to management, particularly the financial budget process, capital planning and investment. I would argue that within the department we have a very strong and every effective relationship with the other chiefs, and we will continue to mature those processes. It is also reflected in our investment review process, which we have introduced into the department.

Mr. PUTNAM. Mr. Hitch.

Mr. HITCH. At the Department of Justice , I report from an operational standpoint to the assistant attorney general for administration, to whom the controller reports. So I interact on a regular basis with the controller and the CFO. From a more form standpoint, I chair the IT investment management process and I invite as members both the controller and the assistant attorney general for administration to review all our IT projects in some level of detail as they are coming along. Also, in the budget process, which we go through, it seems like, all the time, but we are going through right now for the 2006 budget year, I am involved in all of the budget deliberations about all of the IT budget items, both in the initial cuts as well as the final cut.

Mr. PUTNAM. Mr. Hobbs.

Mr. HOBBS. Being new to the Department of the Treasury, our relationship is evolving; however, to start out, we have both a chief financial officer and a budget officer. I have been involved in all of the 2006 budget preparations in terms of hearings by the deputy secretary with all of the major bureaus and asked to comment and provide feedback on proposals in that regard. The CFO and I have a relationship that we are starting to evolve as we look at our capital investments and our ongoing investments, and so I believe that we are on a firm footing to establish a very strategic and tactical relationship in terms of our reviewing the information technology budgets and performance of IT investments for the department.

Mr. PUTNAM. Mr. Hobbs, you are relatively new to the Treasury, you said your relationship is still evolving, but tell us, if you would, were there major differences in process, procedures, and approach, the fusion of the CIO into management between the two Federal departments that you have now worked for?

Mr. HOBBS. I think it is fair to say that they are different. At the Department of Agriculture the process was a lot more mature. The Department of Treasury has gone through a fairly large reorganization that has pulled a lot of that maturity out of its organizations. It is now being reformulated, but I think they are on a very positive path. We have some growing to do, we have some maturing to do, but the deputy secretary has established a process where we all have an equal seat at the table from a management perspective, and he expects us to work together for a common good in terms of how we deliver goods and services back to the citizens. That involves a very active engagement and role by the CIO in the budget and funding process of IT investments across the department.

Mr. PUTNAM. Mr. Cooper, Mr. Hitch, let me ask you a twist on the same question. Both of you have extensive private sector experience, senior partner at Accensure. How dramatic a difference did you find between your work at the private sector for years and your career in the Federal world? Mr. Hitch first.

Mr. HITCH. Well, it was pretty dramatic. I did have a taste of what it might be like because during my career I worked with the Federal Government on many major projects, as well as State and local governments, so I knew kind of what I was getting into, but you never really know for sure until you are there. And then going through the budget process is where you really learn how to operate in the Federal Government, I think, effectively. So it was a very big change, but I do think my background prepared me very well for the challenges that I face, because we are dealing with very large projects, we are dealing with culture change and major change programs, and as I said in my statement, having a business perspective is extremely important, because we are really managing a portfolio. And then I think also the process orientation that I bring, understanding the business processes, where you start. You don't start with the technology. I think really having that as a strong background really helps me be effective in my organization, because that is why I said my main job, I believe, is enabling the mission of the organization through technology.

Mr. PUTNAM. Mr. Cooper.

Mr. COOPER. Yes. Having served as a CIO in the private sector, it is, in my opinion, dramatically different. In the private sector the CIO was a member of the executive committee; there were basically about five or six people across the company, and those people effectively sat at the same table, heard all the same business decisions, participated in strategy vision development for the corporation. That is a little different than what I have experienced thus far in the Department of Homeland Security. Not a value judgment, just different.

One of the things that was able to be done in the private sector, if business drivers or external events drove a change in the business plan of the corporation, the ability of basically the CIO to im-

mediately reprioritize or reprogram or change the investment of assets or the direction of programs or something was in fact instantaneous. That is, again, a little bit different in the Federal sector; there are more people involved, it is a little bit lengthier process, honestly a little bit more convoluted for me in the learning curve type of situation.

The other thing that plays out is that there was a more effective process to prioritize in the private sector across different business units. The way I would exemplify that, in the Department of Homeland Security I can tell you the top 10 of each of our under secretaries and/or their major programs. Where I have a little bit more difficulty is determining which of all of those top 10 are in fact the department's top 10. Now, part of that is maturity, so this is not criticism. We are learning, we are shaping, we are putting processes and we are becoming more effective with each month that goes by. But that is a significant difference. Those three examples that I give you are significantly different than what I had experienced in the private sector.

Mr. PUTNAM. Ms. Nelson, difference between State and Federal?

Ms. NELSON. You know, I had the good fortune of having an almost identical position in an environmental agency in State government, so the transition here probably wasn't nearly as startling as it was for somebody simply coming in from the private sector. The roles, responsibilities, and reporting relationship were almost identical. What is different, and I tell everybody, are things like this. We didn't have anybody in the general assembly who really cared and held hearings. We didn't have anybody in our legislative and budget and finance committee, which is comparable to GAO, who cared and audited or wrote reports. We didn't have an inspector general who provided the kind of oversight that we often get here. And, in fact, we didn't have anything like a Clinger-Cohen Act. What we did, while it is almost identical to the roles and responsibilities I have now, we simply did because it was good government, and, consequently, we often did it without a lot of oversight like this.

Mr. PUTNAM. You have heard the second panel of former CIOs, and like all good former Federal employees, they have an awful lot of bolder statements to make than perhaps they would have made had they still been on the payroll. What do you glean from what they have shared with this subcommittee, what lessons learned can you apply, particularly with respect to the questions that we have asked both panels, the turnover, the reporting to the top administrator? Most of you have touched on this, but if you would address it more fully, just if you would reflect on what they have said with regard to those and other matters that they raised.

Mr. Hobbs, we will begin with you.

Mr. HOBBS. And here I was waiting for you to come the other way.

Mr. PUTNAM. Well, I like to keep people off guard.

Mr. HOBBS. First with respect to the issue on turnover. I think that succession planning is an integral part of any manager's responsibility, for one never knows the moment, the hour, the day when a person will leave. I believe very strongly in the dual role of the CIO and the deputy CIO. My own experiences have dem-

onstrated over 7 years I served under three different CIOs, yet our organization continued, I thought, to move forward and to function.

I am not sure that going to term appointments means any more than going to politically appointed positions means any more than going to career appointed positions. I think it is inherently the responsibility of each manager to prepare for the organization in terms of when you are not there, not so much for while you are there. So I think succession planning is the key and I think that it is one of the missing elements that we have in the Federal Government in terms of how we prepared our organizations for transitions and transformations.

I believe it is also very critical, when we talk about transformation, I hear people talking 3, 4, and 5 years. I believe the transformations come in succession. And what I mean by that is, as one of my colleagues here said today, it takes 2½ years to effect a budget process. That is one form if transformation. It takes 2 or 3 years to impact people and culture. That is another form of transformation. The important thing is to establish an approach and a plan about how you are going to do it and then build in the succession planning models that allow your organization to function in your absence. I believe that is key and critical for us who are in government leading large organizations.

Mr. PUTNAM. Mr. Hitch.

Mr. HITCH. I do think turnover is an issue. I do think that turnover is an issue for CIOs everywhere, not just in the Federal Government. But I do think it is even more of an issue in the Federal Government. I think that it does take a while to have a lasting impact. I think you need to be effective early on and you can be effective on a lot of issues early on, but to have a lasting impact, to really change the culture, to really change the programs, to really bring in the people that are needed, at least in an organization that needs a lot of help when you first get there, is going to take a while to do. So I think turnover is an issue. I think the 3 to 4 year timeframe is realistic and perhaps even optimistic and aggressive, in terms of really getting something done, but I feel that is a good benchmark. It somewhat depends on the maturity and the depth of the organization you came in to run, if you are taking over. I came into an organization that didn't have a real CIO and didn't perform many of the Clinger-Cohen functions, so I had to create an organization, fill those positions. So I think that turnover is an issue depending on the stability and maturity of the CIO organization within the agency you are talking about.

Mr. PUTNAM. Mr. Cooper.

Mr. COOPER. I too would agree that I think turnover is an issue and it is important to be addressed. I would actually concur with what Mr. Hobbs said. I think the key points that he raised, deputy succession planning, are fundamental and critical success factors in addressing that.

But I would offer one additional observation that I actually haven't heard mentioned in any of our three panels today. One of the things that I have observed in a relatively short period of time, so I have no data beyond about 2, 2½ years, the lure of the private sector for skilled and seasoned chief information officers out of the Federal Government is very, very significant. One of the things

that obviously plays a role in that is kind of the overall ability of the Federal environment to compensate and incent and reward not just chief information officers, but key career individuals across the Federal Government. I would suggest that perhaps over time that might be something that could be explored through surveys or appropriate bodies to explore how much does compensation and incentives play a role in decisions to leave the Federal Government from a CIO position.

Ms. NELSON. In preparation for today's hearing, I actually brushed up on some long overdue reading and research, and while most of it confirmed my own suspicions, there was one thing that I found very surprising, and it was a Gartner survey of CEOs across the country. In response to a question about transformation, they cited two things that most often get in the way of transformation. The first was culture, and we have talked about that on several occasions. The second, interestingly enough, was IT, both technology and their technology organizations, their IT organizations. They cited them as often being slow, cumbersome, risk adverse, and getting in the way of the changes they want to make.

That being the case, and in combination with another survey that was done of what are the characteristics most exhibited by successful government CIOs, one of those characteristics was the fact that the CEO of the organization selected the CIO. And I think those two go hand in hand to paint the picture that I agree with. I believe a CIO can best serve the organization if they are political, because that means they are sitting with the most senior leadership in the organization. In most agencies, the senior leadership is political; the cabinet head, the deputy secretary. So in order to be able to sit at the table to truly understand the business, the strategy, and the policies of the organization, I do think you need a political CIO.

I agree with Ira that you are going to have turnover. I don't think the turnover of political CIOs is all that much different than the turnover of political appointees in general. So we just need to accept the fact that you are going to have turnover, just like the Army accepts the fact that you can bring people in for a couple of years and train them and put them back out when there is a draft. Accept the fact and have a strong deputy CIO, have a strong transition planning process, and I think those two things combined can oftentimes achieve the greatest results, because the CIO is close to the CEO, or in government case, a deputy secretary or agency head, understands the demands, understands they have a short time period, and they will push for change.

Mr. PUTNAM. Mr. Cooper, you raised the issue of compensation, which is a fair one to raise. I had been raising the issue of accountability on the negative side. Compensation is certainly an appropriate thing to bring up on the positive side, on the encouragement, incentivizing side. It does raise a number of interesting questions. For example, in Department of Homeland Security, your department's budget is what?

Mr. COOPER. For IT or overall? Overall it is about $40 billion.

Mr. PUTNAM. And for IT?

Mr. COOPER. About 10 percent, about 4.2 of that.

Mr. PUTNAM. So slightly larger than most of the private sector companies——

Mr. COOPER. That is correct.

Mr. PUTNAM [continuing]. That are attracting a lot of our talent and paying them substantially more. I hate to ask you to solve the question that you raised, but recognizing that it is a legitimate issue, how do we arrange a schedule that is commensurate with running the Department of Defense, running the Department of Homeland Security or running the Department of Justice or Treasury? Of course, I think Mr. Hobbs just goes out to the printer in the back room and pulls a few sheets of or something like that to take care of the Christmas bonus. But if you don't work in that department, how do we compensate people and compete with the private sector, knowing what people would be worth in the private sector for far less responsibility than what you carry?

Mr. COOPER. Mr. Chairman, would you allow me to think on this for a week and get back to you?

Mr. PUTNAM. I would.

Mr. COOPER. I don't have a good answer. I am not trying to duck the question at all; it is one that we really have talked about a fair amount in the department. We simply just don't have a real effective answer yet. There is perhaps a model that might serve. I know, for example, that in the Department of Veterans Affairs physicians actually are on slightly different pay scales; they are able to pay higher than just what I think of as the GS pay scale. I also know that in our own department there are some incentives around our scientists for, specifically, the reason that we have to compete with the universities and the research institutes across the United States. Those might serve as models for key technical personnel in the Federal Government. But if you allow me to give it a little bit more thought, I would like to comment.

Mr. PUTNAM. Sure. And there is an entire commission working on it. I think this is what somebody gave Paul Volcker the job of going and solving this problem. It is a legitimate issue, but there are no easy answers considering the system of government that we have.

Mr. Hitch, what brought you into public service? What brought you into the public sector, coming from where you were?

Mr. HITCH. Yes, I kind of went in the reverse direction from what we find in many of the CIOs who spend a long time career in the Government and then went outside. Frankly, I came to the Department of Justice to make something happen that I would hope would help the national security of the country. And I think that goal is something that is real, the desire to do public service, just like people in Congress or anything else; you are here to do public service. It is especially hard on CIOs because there is such a huge disparate pay scale, and the draw of the counterparts in the private sector funds that work for us who make multiples. So I think a different pay schedule, something like Steve was talking about, may be helpful.

I do think we do need to solve better, I think, the problem of just accountability and responsibilities, because I hear it in a lot of private discussions among CIOs, and I also have experience in some of the components within Justice who brought people in from the

outside, very, very accomplished CIOs who were on the outside, who came in basically because of changes in culture and not able to adapt quickly enough to the culture, an inability to make something happen in a realtime basis, which is different in the Federal Government from the private sector. You can make things happen faster in the private sector, that is why I made the comment about persistence.

So I think the reporting relationships are important, because that is what enables you to make something happen in more of a reasonable time. It is going to take longer in the government than it does in the private sector, but if you aren't positioned properly in the organization and don't have enough credibility and are viewed as a peer by the people that you need to influence strongly in order to be effective, it is a disincentive, so that is a reason a lot of people leave.

Mr. PUTNAM. I would like to give our panelists an opportunity for closing comments as we wind this down. Give us the answer to the question you wish you had been asked or final thoughts, whatever you choose, beginning with Ms. Nelson. And, Mr. Hobbs, you are going to get the last word for us. So, Ms. Nelson, you are recognized.

Ms. NELSON. The day is late, everybody is tired, I am sure, so I have said everything I needed to say or someone else has said it. So thank you for the opportunity.

Mr. PUTNAM. Beautifully spoken.

Mr. Cooper.

Mr. COOPER. That is tough to follow, but I would echo the same thing. Thank you.

Mr. PUTNAM. Mr. Hitch.

Mr. HITCH. I am not going to delay this any more.

Mr. PUTNAM. You all act like it is excruciating.

Mr. HOBBS. I guess, Congressman, the last word does come to me. I think it important, from my perspective, that the role of the Federal CIO continues to be examined, and certainly applaud you for the work that you have done within our community in the last couple of years and continue to ask us to raise the bar in terms of performance and in terms of accountability and in terms of results. But I also point out sometimes that when we are called, it seems as if we are islands unto ourselves, that we somehow are responsible for everything. And so I simply point out what an old friend has always said to me: it is more about the team than it is about the individual. And that team is both the management group across the department, as well as the organization that CIOs build. So sometimes I think it important to examine team performance just as closely as we look at the CIO's role. We hope sometimes to have more authority and more responsibility than we actually have. So I applaud you for your effort, but I also point out the team is smarter than any one individual is ever going to be in terms of improving the economy and the efficiency of government, and that is where I believe the proof of the pudding truly lies, with the team.

Mr. PUTNAM. Thank you very much. I appreciate the testimony of all of our witnesses, and in the event that there may be addi-

tional questions we did not have time for today, the record will remain open for 2 weeks for submitted questions and answers.

This meeting is adjourned.

[Whereupon, at 5 p.m., the subcommittee was adjourned, to reconvene at the call of the Chair.]

[Additional information submitted for the hearing record follows:]

Committee on Government Reform
Subcommittee on Technology, Information Policy, Intergovernmental Relations, and the Census
"Where's the CIO? The Role, Responsibility and Challenge For Federal Chief Information Officers in IT Investment Oversight and Information Management"
July 21, 2004
Questions for the Record for Mr. Paul Brubaker

Chairman Putnam asked a question regarding how to improve accountability. I would like to provide the additional clarification for my response for the record.

The Clinger-Cohen Act was established to improve accountability for information technology investments among agencies by requiring agencies to clearly establish anticipated measurable improvements in mission performance before systems could be acquired. It was also expected that business and operational processes subject to automation would be re-engineered before applying technology. Moreover, risk assessment and consistency with architecture and standards were also envisioned to drive the investment decision-process that is a large part of the overall capital planning and investment control process managed by agency Chief information Officers.

The anticipated measurable benefits for each system would provide the basis for determining whether a system was on the path toward delivering results during its development. It was further envisioned that once deployed, systems would actually achieve the anticipated benefits and that the agency head and CIO would be held accountable for ensuring that the system met or exceeded expectations. Under Clinger-Cohen, agency heads and chief information officers were expected to terminate those systems which are not on track to achieve results.

Clinger-Cohen also envisioned a move away from large dollar, high-risk projects of grand design which were too large to properly oversee and where promised payoffs often failed to materialize. Instead, agencies were to use incremental acquisition in order to reduce risk and to reward those contractors who delivered results in smaller, scaleable increments by awarding follow-on work to those who achieved results. This was the original vision of modular procurement although through the regulatory process and actual practice that vision has not been fully realized.

All of these features, envisioned under Clinger-Cohen were to provide a sound and logical basis for accountability and for achieving desired results.

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