OVERSIGHT OF THE IMPLEMENTATION OF THE CLINGER-COHEN ACT

HEARING

BEFORE THE

SUBCOMMITTEE ON GOVERNMENT MANAGEMENT, INFORMATION, AND TECHNOLOGY

OF THE

COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTH CONGRESS

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OVERSIGHT OF THE IMPLEMENTATION OF THE CLINGER-COHEN ACT

MONDAY, OCTOBER 27, 1997

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON GOVERNMENT MANAGEMENT,
INFORMATION, AND TECHNOLOGY,
COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 a.m., in room 2154, Rayburn House Office Building, Hon. Stephen Horn (chairman of the subcommittee) presiding.

Present: Representative Horn and Representative Davis of Virginia.

Staff present: J. Russell George, staff director and chief counsel; Robert Alloway and John Hynes, professional staff members; Andrea Miller, clerk; Matthew Ebert, staff assistant; Mark Stephenson, minority professional staff member; and Ellen Rayner, minority chief clerk.

Mr. HORN. The Subcommittee on Government Management, Information, and Technology will come to order, a quorum being present.

In the private sector, information technology frequently improves business products and services. Unfortunately, although the Federal Government spends over $27 billion each year on information technology, success stories from this massive investment are few and far between.

Today's hearing is the first in an upcoming series of oversight hearings on the Clinger-Cohen Act of 1996, which is also known as the Information Technology Management Reform Act. The purpose of the Clinger-Cohen Act is to ensure that the Federal investment and information technology is made and used wisely. The law was designed to increase competition, eliminate burdensome regulations, and help the Government benefit from the efficient private-sector techniques.

The Clinger-Cohen Act created the statutory position of chief information officer in major Federal Government agencies. It requires the Office of Management and Budget, the agencies, and the chief information officers to improve information technology practices. It requires mission and program driven strategic planning for information technology. It requires senior user management guidance to ensure information technology activities are aligned with agency plans and operations. It requires regular assessments of the information technology skills inventory, skills requirements, and skills development program. In short, the Clinger-Cohen Act requires the

development of an effective and an efficient, mission-oriented, user-oriented, results-oriented information technology practice in each and every Federal agency.

On the first anniversary of the Clinger-Cohen Act, we begin with two areas. This morning we will investigate the Chief Information Officer's Council. This council was created to facilitate the development of chief information officers' work and role, to share lessons learned, to provide a forum for common needs, and to influence the guidance provided by Congress, the General Accounting Office, and the Office of Management and Budget.

This afternoon we will investigate one particular crosscutting information technology project, the International Trade Data System. This project has replaced about 40 separate forms required by a range of Federal agencies, which are involved with international trade activities, with an electronic data system. Our goal is not only to help this project succeed but, more important, to help spawn hundreds of similar projects.

It seems all parties are promising crosscutting projects. The National Performance Review has identified a number of such projects that could materially improve government. Congress, the leadership in the House of Representatives, the Government Reform and Oversight Committee, and this subcommittee are constantly encouraging such crosscutting projects through the Results Act. We encourage the elimination of duplication, the improvements which result from consolidation, and increased effectiveness and efficiency. Unfortunately, there are all too few crosscutting projects actually being developed. The members of the subcommittee want to be of help and want to encourage similar projects to get started and succeed.

Let us turn now to the chief information officers and their council. We are interested in learning about the chief information officers themselves; their backgrounds, roles, authorities, and responsibilities within their agencies. It is our understanding that the chief information officers have made considerable progress in their first year, but still have a long way to go. We expect to be explicit about the strengths and weaknesses of the chief information officers in particular agencies.

We welcome suggestions from all witnesses today for improving the implementation of the Clinger-Cohen Act and the effectiveness of the chief information officer. We are also interested in the accomplishments of the Chief Information Officers Council. It is worth recalling the chief financial officers and their council and their first couple of years.

Some say the Chief Information Officers Council has already accomplished more in its first year than the Chief Financial Officers Council did in its first 2 years. We look forward to learning about their successes. We hope that the chief information officers who testify here today will educate us in the additional steps that are necessary to improve the effectiveness of the Chief Information Officers Council.

This morning we will hear from two panels. On the first panel are representatives of the General Accounting Office, Congress's programmatic and financial auditing arm. Gene Dodaro, the Assistant Comptroller General of the Accounting and Information Man-

agement Division will be the principal witness. He is accompanied by Jack L. Brock, the Director of the Accounting and Information Management Division, and Dr. David McClure, the Assistant Director of the Accounting and Information Management Division.

On the second panel there will be members of the Chief Information Officers Council. Alan P. Balutis, deputy chief information officer, Department of Congress; Liza McClenaghan, chief information officer, Department of State; and Anne Reed, chief information officer, Department of Agriculture.

I will now yield to my colleague from Virginia, Mr. Tom Davis, who has a particular interest in this and represents sort of "Silicon Valley East."

[The prepared statement of Hon. Stephen Horn follows:]

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"The First Year of the Clinger-Cohen Act"

October 27, 1997

OPENING STATEMENT
REPRESENTATIVE STEPHEN HORN (R-CA)

Chairman, Subcommittee on Government Management,
Information, and Technology

[morning session]

In the private sector, information technology frequently improves business products and services. Unfortunately, although the Federal Government spends over $27 billion each year on information technology, success stories from this massive investment are few and far between.

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The Clinger-Cohen Act created the statutory position of Chief Information Officer in major Federal Government agencies. It requires the Office of Management and Budget, the agencies, and the Chief Information Officers to improve information technology practices. It requires mission and program driven strategic planning for information technology. It requires senior user management guidance to ensure information technology activities align with agency plans and operations. It requires regular assessments of information technology skills inventory, skills requirements, and skills development programs. In short, the Clinger-Cohen Act requires the development of an effective and efficient, mission-oriented, user-oriented, results-oriented information technology practice in each and every Federal agency.

On the first anniversary of the Clinger-Cohen Act we begin with two areas. This morning we will investigate the Chief Information Officers Council. This Council was created to facilitate the development of Chief Information Officers; to share lessons learned; to provide a forum for common needs; and to influence the guidance provided by Congress, the General Accounting Office, and the Office of Management and Budget.

This afternoon we will investigate one particular cross-cutting information technology project - the International Trade Data System. This project has replaced about 40 separate forms required by a range of Federal agencies for international trade activities with an electronic data system. Our goal is not only to help this project succeed but, more importantly, to help spawn hundreds of similar projects. It seems all parties are promising cross-cutting projects. The National Performance Review has identified a number of such projects that could materially improve government. Congress, the leadership in the House of Representatives, the Government Reform and Oversight Committee, and this subcommittee are constantly encouraging such cross-cutting projects through the Results Act and general efforts at de-duplication, consolidation, and improvements to effectiveness and efficiency. Unfortunately, there are all too few cross-cutting projects actually being developed. The subcommittee can help this and similar projects get started and succeed.

Lets us turn now to the Chief Information Officers and their Council. We are interested in learning about the Chief Information Officers themselves -- their backgrounds, roles, authorities, and responsibilities within their agencies. It is our understanding that the Chief Information Officers have made considerable progress in their first year but have a long way to go. We expect to be explicit about the strengths and weaknesses of the Chief Information Officers. We welcome suggestions from all witnesses today for improving the implementation of the Clinger-Cohen Act and the effectiveness of the Chief Information Officers.

We are also interested in the accomplishments of the Chief Information Officers Council. It is worth recalling the Chief Financial Officers, their Council, and their first couple of years. Some say the Chief Information Officers Council has already accomplished more in its first year than the Chief Financial Officers Council did in its first two years. I look forward to learning about your successes. I also look forward to learning from the Chief Information Officers who will testify here today about what additional steps are necessary to improve the Chief Information Officers Council.

This morning we will hear from two panels. On the first panel are representatives of the General Accounting Office:

Gene Dodaro, Assistant Comptroller General, Accounting and Information Management Division
Jack L. Brock, Director, Accounting and Information Management Division
Dr. David McClure, Assistant Director, Accounting and Information Management Division

On the second panel will be members of the Chief Information Officers Council.

Alan P. Balutis, Deputy Chief Information Officer, Department of Commerce
Liza McClenaghan, Chief Information Officer, Department of State
Anne Reed, Chief Information Officer, Department of Agriculture

Mr. DAVIS of Virginia. Thank you, Mr. Chairman.

I think as many of you know, I was the general counsel to an IT company in Fairfax and have been in government contract law and procurement law for 15 years prior to coming here. It is interesting how it has evolved.

Clinger-Cohen was an effort to try to get the "one size fits all" rules and regulations off the books and allow the government buyers a little more discretion, a little more flexibility, in buying particularly these complex IT procurements that many times we didn't get what we wanted at the governmental level because we were bound within the trappings of what the procurement had asked for in the RFP.

I am interested in this hearing and the other hearings to see how what we intended to occur is actually occurring. Today, focusing on the chief information officers and their council, I am interested in learning what is happening on that. I am concerned, and I think if you will look at the testimony by Mr. Dodaro, I share his concern that agencies have vested the chief information officer and chief financial officer responsibilities in one person. That is a concern.

The challenges facing agencies in financial information management are monumental, and one of the problems with OMB is that they spend more time on budget than they do on the management side, and I think in this particular case you need a dedicated person concentrating on the information needs of these different agencies. But it will be interesting to hear your reactions to this.

We passed, in two different Congresses, major procurement laws with FAPR and then Clinger-Cohen. I don't know if any major legislation will come out of this Congress or not. But maybe we need to monitor and see that what was intended by the previous two Congresses is actually taking place. Clearly, buying in the marketplace is changing and evolving to more IDIQ's, more buying off the GSA's schedules, more discretion and, I think, competition. But I will be interested to hear your comments, and I appreciate everybody's willingness to be here today.

Thank you, Mr. Chairman.

Mr. HORN. I thank the gentleman.

We will now move to panel one chaired by Gene Dodaro, the Assistant Comptroller General, Accounting and Information Management Division, General Accounting Office.

Gentlemen, you know the routine here. Stand up and raise your right hands.

[Witnesses sworn.]

Mr. HORN. The clerk will note that all four witnesses affirmed.

I would like you to identify the fourth witness. I mentioned Mr. Brock and Mr. McClure. Mr. Rhodes, if you would just give us your title for the record, I would appreciate it.

Mr. RHODES. I'm the technical director of the Office of the Chief Scientist in the General Accounting Office.

Mr. HORN. And the chief scientist is who?

Mr. RHODES. The chief scientist is Dr. Rona Stillman.

Mr. HORN. The chief scientist has testified here a number of times. We thank you for coming.

I might also say, the ground rules here for this panel and every other panel are, after you take the oath, the minute we introduce

you, all of your résumés and your testimony is put in the record at this point and printed.

What we would like you to do—and, Mr. Dodaro, this is probably your 500th appearance on Capitol Hill.

Do you ever keep track of them, Gene?

Mr. DODARO. I do.

Mr. HORN. Am I warm? And he knows the routine. And then we would like you to look us in the eye and summarize them. And that gives us more time for questions, since I did stay up last night and read all of the testimony, and I think my colleagues have done the same.

So go ahead, Mr. Dodaro.

STATEMENT OF GENE DODARO, ASSISTANT COMPTROLLER GENERAL, ACCOUNTING AND INFORMATION MANAGEMENT DIVISION, U.S. GENERAL ACCOUNTING OFFICE, ACCOMPANIED BY JACK L. BROCK, DIRECTOR, ACCOUNTING AND INFORMATION MANAGEMENT DIVISION; DAVID McCLURE, ASSISTANT DIRECTOR, ACCOUNTING AND INFORMATION MANAGEMENT DIVISION; AND KEITH RHODES, TECHNICAL DIRECTOR, OFFICE OF THE CHIEF SCIENTIST

Mr. DODARO. Mr. Chairman, Congressman Davis, we are pleased to be here this morning to talk about the need for strong leadership in reforming how the Federal Government manages information technology.

As noted in both your opening statements, dramatic improvements are necessary to reverse the trend of disappointing modernization efforts that have wasted billions of dollars and failed to deliver promised benefits.

Basically, we see the legislative framework that has been established under the Clinger-Cohen Act and the reforms under the Paperwork Reduction Act as providing the opportunity for needed improvements. Both of these legislative actions address the root causes of the Federal Government's past problems and usher in major management improvements that have worked successfully in leading organizations that have used technology to improve their performance.

With this legislative framework, the real challenge facing the Federal Government right now is to implement it successfully. As noted in your comments, we have seen some progress. But the Federal Government still has a long way to go to translate these legislative reforms into day-to-day management reality, and achieving greater progress in this regard is really greatly dependent on effective leadership.

The legislative framework in the Paperwork Reduction and Clinger-Cohen Acts note the importance of this leadership. Both of those acts made it clear that the agency head is responsible directly for setting goals, monitoring progress, and measuring performance against those goals. Chief information officers were established in order to assist the agency head and work with program managers to find the best way to use information technology to achieve performance goals.

As noted also in your testimony, the chief information officers have a wide range of duties and responsibilities. They are to im-

prove the investment process, bolster the institutional capacity of agencies to deliver services, help in streamlining work processes, and set up information architectures that are important to guide modernization efforts.

Because of the importance of the chief information officers, OMB evaluated their appointment shortly after the Clinger-Cohen Act became effective back in August 1996. OMB noted in several agencies that the CIO appointment process had worked well and that the appointments had been consistent with the intent of the legislation. However, in many other agencies OMB was concerned about the CIO designee, the placement of the CIO in the organization, and the existence of additional duties for the CIO beyond those focusing on information management.

OMB is currently in the process of reevaluating the CIO status within agencies. We think it is very important that they complete this assessment. These reforms simply will not work without effective, dedicated leadership.

One area that we are particularly concerned about is the existence of multiple responsibilities for the chief information officers. The Clinger-Cohen Act was clear that the information resource management issue should be the primary duty of the chief information officers, and, as we have testified before this subcommittee several times, the challenges facing the CIO's in the Federal Government today are legion.

As this committee well knows, we are behind in preparing for the year 2000 millennium conversion. It has been reported several times that the schedule is slipping. Information security also remains a pervasive and serious concern across the Government. We designated it as a high-risk area.

Also, there is a need to put information architectures in place. This has been a particular problem in terms of failed modernizations that we have testified before this committee, and recently we have recommended that architectures be developed in better fashion at IRS, FAA, and the Veterans Administration, and the Education Department. This is a very important task.

Federal agencies also have the need to make sure that investment processes are developed more soundly. We have testified several times about the lack of well-developed business cases and cost-benefit analysis, most recently before this committee on the Medicare transaction system.

We also have high-risk areas that GAO has identified across the Government. Most of these areas really are dependent upon having information technology as part of the solution to fixing these problems. Then agencies have got the all-important task of linking the performance results of information technology with the strategic goals being set under the Results Act.

So while Federal agencies have a set of challenges facing CIO's that are monumental, we still have in over half of the agencies' CIO's have duties in addition to IRM responsibilities. As Congressman Davis pointed out, we are particularly troubled by the occurrence of vesting both CIO and CFO responsibilities in one individual in the agency. Challenges facing us in reforming both financial management and information technology are very significant and

each requires dedicated full-time leadership along to handle this situation.

In addition to establishing CIO's at the Department level, it is also important for major bureaus that have multi-billion-dollar investment portfolios to have CIO's as well. While the legislation does not require this, the conference report encourages it, and we have seen agencies move to set CIO's in place in individual major bureaus. And we have recommended that where CIO's are in place in these major bureaus, they be given the same set of duties and responsibilities and have organizational responsibilities similar to those established in the Clinger-Cohen Act.

Recently, we issued reports on the IRS, the FAA, and HCFA for the Medicare transaction system. We said that CIO's be given expanded responsibilities to carry out their duties more effectively.

Now, while it is important to have CIO's working effectively within each major agency and bureau, it is also helpful to have the CIO's operating collectively as a council. We were very pleased to see OMB create the CIO Council even though it is not mandated by the legislation.

As noted in your opening comments, we have seen other councils, such as the Chief Financial Officers Council, provide a useful framework by giving advice to OMB on what type of policies and standards are needed, and working on common issues across the Government. So we think that this is a very good development.

In its first year, the CIO Council spent a lot of time and activity getting organized, establishing subcommittees to work on important topics, and operating as a forum for sharing views on a number of temporary issues. However, the CIO Council has yet to establish a strategic plan with a set of measurable goals and objectives that can be used to measure progress in implementing reforms Governmentwide.

The CFO Council eventually established that, and they have been reporting annually on their progress to the Congress. We think that that would be a good model for the CIO Council to emulate. The CIO Council knows that it needs to set strategic goals. Recently, this month, it met and selected five areas to focus on: The year 2000 conversion, computer security, capital planning and investment, establishing sound architectures, and also working to build the human resource capacity within the organizations in individual IT organizations. We think these are the right five issues for them to focus on. The task now is to really set out some measurable goals and objectives and to assess progress in that area.

In closing, Mr. Chairman, we are very pleased to see this hearing. As you know, congressional involvement is a major factor in ensuring successful implementation of major management reforms. I think it is a good place to start with the CIO's themselves and the CIO Council because of the importance of leadership responsibilities. We would encourage and be pleased to work with the committee as it looks at other aspects of Clinger-Cohen implementation in the coming months.

Thank you. We would be pleased to answer any questions.

[The prepared statement of Mr. Dodaro follows:]

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss the importance of having strong Chief Information Officers (CIOs) at major federal agencies[1] and ensuring an effective CIO Council to help bring about much-needed reforms in the government's management of information technology. During the last decade much attention has been focused on serious problems with federal information technology projects. The picture that unfolded year after year was bleak: multi-million dollar, and in some cases, billion dollar system development efforts routinely came in over cost, behind schedule, and lacking in promised capabilities. In addition to wasting resources, these disappointing efforts seriously weakened agencies' abilities to meet mission goals and improve operational efficiency.[2]

To help reverse this trend, GAO embarked on a concerted effort to learn how leading private and public sector organizations controlled system development projects and successfully applied technology to improve their performance. Our resulting study identified a specific set of strategic practices that these organizations use to improve performance through information management.[3] Based upon our work and that of others, the Congress, in conjunction with the Administration, crafted two recent landmark reforms in federal information management: the Paperwork Reduction Act (PRA) of 1995

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[1]In this testimony, we use the term "agencies" to refer to both cabinet-level departments and major agencies.

[2]For background on these problems see 1995 High Risk Series, An Overview (GAO/HR-95-1, February 1995); 1997 High Risk Series, An Overview (GAO/HR-97-1, February 1997); Paperwork Reduction Act: Opportunity to Strengthen Government's Management of Information and Technology (GAO/T-AIMD/GGD-94-126, May 19, 1994); and Government Reform: Legislation Would Strengthen Federal Management of Information and Technology (GAO/T-AIMD-95-205, July 25, 1995).

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

and the Clinger-Cohen Act of 1996. These reforms encompass many important elements identified in our best practices work, such as establishing more disciplined information technology investment control processes, developing an overall information architecture, and defining measures to show how information technology is contributing to improved program performance.

Central to implementing these reforms is the need to establish effective leadership at each agency. Under the law, agency heads are directly responsible for effective information management, but CIOs play a critical leadership role in driving reforms to help control systems development risks, better manage technology spending, and succeed in achieving real, measurable improvements in agency performance. Furthermore, the agency CIOs, working collectively as a Council, have a critical leadership role to play in addressing governmentwide technology issues and advising the Office of Management and Budget (OMB) on policies and standards needed to successfully implement legislative reforms.

The challenge facing the federal government today is to provide the type of leadership needed to implement information technology reforms as rapidly as possible. Although we are beginning to see some progress, agencies still have a long way to go to translate legislative mandates into day-to-day management reality. The following sections offer our observations on the status of efforts to promote effective CIO leadership and the challenges and opportunities faced by the CIO Council. Our views are based not only on our work in the technology area, but also on our experiences in evaluating the implementation of other major management reforms, such as the Chief Financial Officers (CFO) Act of 1990 and the Government Performance and Results Act (Results Act) of 1993.

ENSURING THAT CIOs FULFILL A CRITICAL LEADERSHIP ROLE

Senior executives in the successful organizations we studied were personally committed to improving the management of technology. The PRA and the Clinger-Cohen Act make federal agency heads directly responsible for establishing goals and measuring progress in improving the use of information technology to enhance the productivity and efficiency of their agency's operations. To help them with their major information management responsibilities, the reform legislation directs the heads of the major agencies to appoint CIOs.[4] The legislation assigns a wide range of duties and responsibilities to CIOs, foremost of which are:

- working with the agency head and senior program managers to implement effective information management to achieve the agency's strategic goals;
- helping to establish a sound investment review process to select, evaluate, and control spending for information technology;
- promoting improvements to the work processes used by the agency to carry out its programs;
- increasing the value of the agency's information resources by implementing an integrated agencywide technology architecture;[5] and

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[4]Under the Clinger-Cohen Act, CIO positions were established at the same 24 agencies where the CFO Act (as amended) established Chief Financial Officer positions. In addition, CIOs were created at the Army, Navy, and Air Force. Together, these 27 agencies account for nearly all fiscal year 1997 executive branch outlays of about $1.6 trillion.

[5]A systems architecture is a blueprint, having both a technical and a logical component, to guide and constrain the development and evolution of a collection of related systems. At the logical level, the architecture provides a high-level description of the organizational mission being accomplished, the business functions being performed and the relationships among the functions, the information needed to perform the functions, and the flow of information among functions. At the technical level, the architecture provides the rules and standards needed to ensure that the interrelated systems are built to be interoperable,

- strengthening the agency's knowledge, skills, and capabilities to effectively manage information resources, deal with emerging technology issues, and develop needed systems.

While there are various approaches on how best to use the CIO position to accomplish these duties, the legislative requirements, OMB guidance,[6] and our best practices experience with leading organizations, define common tenets for the CIO position. An agency should place its CIO at a senior management level, working as a partner with other senior officials in decision-making on information management issues. Specifically, agencies should:

- appoint a CIO with expertise and practical experience in technology management;
- position the CIO as a senior partner reporting directly to the agency head;
- ensure that the CIO's primary responsibilities are for information management;
- have the CIO serve as a bridge between top management, line management, and information management support professionals, working with them to ensure the effective acquisition and management of the information resources needed to support agency programs and missions;
- task the CIO with developing strategies and specific plans for the hiring, training, and professional development of staff in order to build the agency's capability to develop and manage its information resources; and
- support the CIO position with an effective CIO organization and management framework for implementing agencywide information technology initiatives.

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portable, and maintainable. These include specifications of critical aspects of component systems' hardware, software, communication, data, security, and performance characteristics.

[6]Memorandum for the President's Management Council, "What Makes a Good CIO?" June 28, 1996.

Having effective CIOs will make a real difference in building the institutional capacity and structure needed to implement the management practices embodied in the broad set of reforms set out in the PRA and Clinger-Cohen Act. The CIO must combine a number of strengths, including leadership ability, technical skills, an understanding of business operations, and good communications and negotiation skills. For this reason, finding an effective CIO can be a difficult task. Agencies faced a similar difficulty in trying to find qualified Chief Financial Officers to implement the CFO Act financial management reforms. It took time and concerted effort by the Administration, the CFO Council, and the Congress to get strong, capable leaders into the CFO positions.

Shortly after the Clinger-Cohen Act went into effect, OMB evaluated the status of CIO appointments at the 27 agencies. OMB noted that at several agencies the CIO's duties, qualifications, and placement met the requirements of the Clinger-Cohen Act. According to OMB, these CIOs had experience, both operationally and technically, in leveraging the use of information technology, capital planning, setting and monitoring performance measures, and establishing service levels with technology users. These CIOs also had exposure to a broad range of technologies, as well as knowledge of government budgeting and procurement processes and information management laws, regulations, and policies.

In addition, OMB had concerns about a number of other agencies that had acting CIOs, CIOs whose qualifications did not appear to meet the requirements of the Clinger-Cohen Act, and/or CIOs who did not report directly to the head of the agency. OMB also raised concerns about agencies where the CIO had other major management responsibilities or where it was unclear whether the CIO's primary duty was the information resource management function. OMB stated that it would reevaluate the situations at these agencies at a later date, after agencies had time to put permanent CIOs in place or take corrective actions to have their CIO appointment and organizational alignment meet the necessary requirements.

OMB called for updated information on the status of governmentwide CIO appointments in its April 1997 data request on individual agency efforts to implement provisions of the Clinger-Cohen Act.[7] OMB has not yet issued a status report based on this information and subsequent follow-up. In a recent discussion, OMB officials stated that they will provide feedback on individual CIO appointments as part of the fiscal year 1999 budget review process. On the basis of preliminary observations, however, OMB officials stated that they still have some of the same concerns that they had a year ago about CIO positions that have not been filled, have not been properly positioned, or have multiple responsibilities.

It is very important for OMB to follow through on its efforts to assess CIO appointments and resolve outstanding issues. Information technology reforms simply will not work without effective CIO leadership in place. We will continue to monitor this situation to provide our suggestions on actions that need to be taken.

One area that we will focus on during the coming year is CIOs who have major responsibilities in addition to information management. The Clinger-Cohen Act clearly calls for CIOs to have information resources management as their primary duty. We have stressed the importance of this principle in testimonies and, most recently in our February 1997 High Risk report, where we emphasized that the CIO's duties should focus sharply on strategic information management issues and not include other major responsibilities.[8] In addition to the escalating demands of rapidly evolving technologies, CIOs are faced with many serious information management issues, any one of which

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[7]OMB Memorandum-97-12, "Evaluation of Agency Implementation of Capital Planning and Investment Control Processes," April 25, 1997.

[8]Government Reform: Legislation Would Strengthen Federal Management of Information and Technology (GAO/T-AIMD-95-205, July 25, 1995); Managing Technology: Best Practices Can Improve Performance and Produce Results (GAO/T-AIMD-97-38, Jan. 31, 1997);and High-Risk Series: Information Management and Technology (GAO/HR-97-9, February 1997).

would be a formidable task to address. Taken together, these issues create a daunting body of work for any full-time CIO, much less for one whose time and attention is divided by other responsibilities. As you know, Mr. Chairman, we have reported extensively on a number of these compelling challenges. These are just a few:

- Ensuring that federal operations will not be disrupted by the Year 2000 problem is one of the foremost and most pressing issues facing agencies–one that we have designated as a governmentwide high-risk area. Efforts by this Subcommittee have underscored repeatedly that many agencies are seriously behind schedule in resolving this problem during the next 2 years.[9]

- Poor security management is putting billions of dollars worth of assets at risk of loss and vast amounts of sensitive data at risk of unauthorized disclosure, making it another of our governmentwide high-risk areas. Agencies need to make much better progress in designing and implementing security programs and getting skilled staff in place to manage them.[10] This extreme vulnerability has been given added emphasis by the recent Presidential commission report on the growing exposure of U.S. computer networks to exploitation and terrorism.[11]

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[9]Year 2000 Computing Crisis: Success Depends Upon Strong Management and Structured Approach (GAO/T-AIMD-97-173, July 10, 1997). Among other Year 2000 reports are: Defense Computers: DFAS Faces Challenges in Solving the Year 2000 Problem (GAO/AIMD-97-117, Aug. 11, 1997); Veterans Benefits Computer Systems: Uninterrupted Delivery of Benefits Depends on Timely Correction of Year-2000 Problems (GAO/T-AIMD-97-114, June 26, 1997); and Year 2000 Computing Crisis: National Credit Union Administration's Efforts to Ensure Credit Union Systems Are Year 2000 Compliant (GAO/T-AIMD-98-20, Oct. 22, 1997)

[10]Information Security: Opportunities for Improved OMB Oversight of Agency Practices (GAO/AIMD-96-110, Sept. 24, 1996).

[11]The President's Commission on Critical Infrastructure Protection issued its final report to the President on Oct. 20, 1997. The report has not yet been released to the public.

- Agencies need to develop, maintain, and facilitate integrated systems architectures to guide their systems development efforts. We have seen major modernization efforts handicapped by incomplete architectures, such as at Federal Aviation Administration (FAA) and the Internal Revenue Service (IRS), as well as the departments of Veterans Affairs and Education.[12]

- Agencies need to establish sound information management investment review processes that provide top executives with a systematic, data-driven means to select and control how technology funds are spent. Our reviews of systems development and modernization projects, such as the Medicare Transaction System and the four high-risk efforts included in our 1997 High Risk Series, continue to show the crucial importance of structured investment oversight.[13]

- In our 1997 High Risk Series we identified 25 high-risk areas covering a wide array of key federal activities, ranging from Medicare fraud to financial management at the Department of Defense. Resolving the problems in these areas depends heavily on improved information management.

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[12]See Air Traffic Control: Complete and Enforced Architecture Needed for FAA Systems Modernization (GAO/AIMD-97-30, Feb. 3, 1997); Tax Systems Modernization: Actions Underway But IRS Has Not Yet Corrected Management and Technical Weaknesses (GAO/AIMD-96-106, June 7. 1996); Veterans Benefits Computer Systems: Risks of VBA's Year-2000 Efforts (GAO/AIMD-97-79, May 30, 1997); and Student Financial Aid Information: Systems Architecture Needed to Improve Programs' Efficiency (GAO/AIMD-97-122, July 29, 1997).

[13]Medicare Transaction System: Success Depends Upon Correcting Critical Managerial and Technical Weaknesses (GAO/AIMD-97-78, May 16, 1997). High Risk Series: Information Management and Technology (GAO/HR-97-9, February 1997). The four modernization projects on GAO's high risk list are: the FAA's Air Traffic Control modernization; the Defense Department's Corporate Information Management initiative; the National Weather Service modernization; and the IRS' Tax Systems Modernization.

- Agencies need to integrate strategic information planning with the overall strategic plan that they must prepare under the Results Act. Our review of recent attempts by agencies to develop sound strategic plans showed very weak linkages between the strategic goals and the information technology needed to support those goals.[14]

- Agencies must build their staff's skills and capabilities to react to the rapid developments in information technology, develop needed systems, and oversee the work of systems contractors. Weaknesses in agencies' technology skills base, especially in the area of software acquisition and development, have been a recurring theme in our reviews of federal information technology projects.[15]

Despite the urgent need to deal with these major challenges, we still see many instances of CIOs who have responsibilities beyond information management. At present, only 12 agencies have CIOs whose responsibilities are focused solely on information management. The other 15 agencies have CIOs with multiple responsibilities. Together, these 15 agencies account for about $19 billion of the nearly $27 billion dollars in annual federal planned obligations for information technology. While some of these CIO's additional responsibilities are minor, in many cases they include major duties such as financial operations, human resources, procurement, and grants management. At the Defense Department, for example, the CIO is also the Assistant Secretary for Command, Control,

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[14]Managing for Results: Critical Issues for Improving Federal Agencies' Strategic Plans (GAO/GGD-97-180, Sept. 16, 1997).

[15]Weather Forecasting: Recommendations to Address New Weather Processing System Development Risks (GAO/AIMD-96-74, May 13, 1996); Tax Systems Modernization: Actions Underway But IRS Has Not Yet Corrected Management and Technical Weaknesses (GAO/AIMD-96-106, June 7, 1996); Medicare Transaction System: Success Depends on Critical Managerial and Technical Weaknesses (GAO/AIMD-97-78, May 16, 1997); Air Traffic Control: Complete and Enforced Architecture Needed for FAA Systems Modernization (GAO/AIMD-97-30, Feb. 3, 1997); and Air Traffic Control: Immature Software Acquisition Processes Increase FAA System Acquisition Risks (GAO/AIMD-97-47, March 21, 1997).

Communications and Intelligence. By asking the CIO to also shoulder a heavy load of programmatic responsibility, it is extremely difficult, if not impossible, for the CIO to devote full attention to information resource management issues. Recognizing this problem, the Department's Task Force on Defense Reform is examining the current structure of the CIO position to ensure that the person can devote full attention to reforming information management within the Department.[16]

We are particularly troubled by agencies that have vested CIO and Chief Financial Officer responsibilities in one person.[17] The challenges facing agencies in both financial and information management are monumental. Each requires full-time leadership by separate individuals with appropriate talent, skills, and experience in these two areas. In financial management, for example, most agencies are still years away from their goal of having reliable, useful, relevant, and timely financial information–an urgently needed step in making our government fiscally responsible.

Because it may be difficult for the CIO of a large department to adequately oversee and manage the specific information needs of the department's major subcomponents, we have also supported the establishment of a CIO structure at the subcomponent and bureau levels.[18] Such a management structure is particularly important in situations where the departmental subcomponents have large information technology budgets or are engaged in major modernization efforts that require the substantial attention and oversight of a CIO. In the Conference Report on the Clinger-Cohen Act, the conferees recognized that agencies may wish to establish CIOs for major subcomponents and

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[16]Defense IRM: Poor Implementation of Management Controls Has Put Migration Strategy at Risk (GAO/AIMD-98-5, Oct. 20, 1997).

[17]Commerce, Education, Health and Human Services, Justice, and the Veterans Administration have combined CIOs/CFOs.

[18]Government Reform: Legislation Would Strengthen Federal Management of Information and Technology (GAO/T-AIMD-95-205, July 25, 1995).

bureaus.[19] These subcomponent level CIOs should have responsibilities, authority, and management structures that mirror those of the departmental CIO.

We have reported on instances where the subcomponent CIOs were not organizationally positioned and empowered to discharge key CIO functions. For example, in our reviews of FAA's air traffic control (ATC) modernization, which is expected to cost $34 billion through the year 2003, we found that FAA's CIO was not responsible for developing and enforcing an ATC systems architecture. Instead, FAA had diffused architectural responsibility across a number of organizations. As a result, FAA did not have a complete ATC architecture, which in turn has led to incompatible and unnecessarily expensive and complex ATC systems.[20] Additionally, we found that while FAA's CIO was responsible for ATC software acquisition process maturity and improvement, the CIO lacked the authority to implement and enforce process change. Consequently, we reported that FAA's processes were (1) ad hoc, and sometimes chaotic, and not repeatable across ATC projects and (2) its improvement efforts have not produced more disciplined processes. Among other actions, we recommended that FAA (1) establish an effective management structure for developing, maintaining, and enforcing a complete systems architecture and improving software acquisition process improvement and (2) that this management structure be similar to the department-level CIO structure prescribed by the Clinger-Cohen Act.

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[19]H. R. Conf. Rep. No. 104-450 (1996).

[20]Air Traffic Control: Complete and Enforced Architecture Needed for FAA Systems Modernization (GAO/AIMD-97-30, Feb. 3, 1997); Air Traffic Control: Improved Cost Information Needed to Make Billion Dollar Modernization Investment Decisions (GAO/AIMD-97-20, Jan. 22, 1997); and Air Traffic Control: Immature Software Acquisition Processes Increase FAA System Acquisition Risks (GAO/AIMD-97-47, March 21, 1997).

Similarly, in the last few years, we have reported and testified on management and technical weaknesses associated with IRS' Tax Systems Modernization.[21] Among other things, we have noted how important it is for IRS to have a single IRS entity with responsibility for and control over all information systems efforts. Since we first reported on these problems, IRS has taken a number of positive steps to address its problems and consolidate its management control over systems development. However, as we noted in recent briefings to the acting IRS Commissioner and congressional committee staffs, neither the CIO nor any other organizational entity has sufficient authority needed to implement IRS' Systems Life Cycle–its processes and products for managing information technology investments–or enforce architectural compliance agencywide. We will soon be making formal recommendations to IRS to address this issue.

Finally, as we reported to you earlier this year,[22] the problems encountered by the Health Care Financing Administration (HCFA) in its development of the Medicare Transaction System (MTS) provide another example of the need for strong management over the development and implementation of information systems. In recent testimony on Medicare automated systems,[23] we reemphasized the importance of establishing CIOs and involving them and other senior executives in information management decisions. While HCFA has recently established a CIO and an information technology Investment Review

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[21]Tax Administration: IRS' Fiscal Year 1997 Spending, 1997 Filing Season, and Fiscal Year 1998 Budget Request (GAO/T-GGD/AIMD-97-66, Mar. 18, 1997); Internal Revenue Service: Business Operations Need Continued Improvement (GAO/AIMD/GGD-96-152, Sept. 9, 1996); Tax Systems Modernization: Actions Underway But IRS Has Not Yet Corrected Management and Technical Weaknesses (GAO/AIMD-96-106, June 7, 1996); Tax Systems Modernization: Management and Technical Weaknesses Must Be Corrected if Modernization Is to Succeed (GAO/AIMD-95-156, July 26, 1995).

[22]Medicare Transaction System: Serious Managerial and Technical Weaknesses Threaten Modernization (GAO/T-AIMD-97-91, May 16, 1997) and Medicare Transaction System: Success Depends Upon Correcting Critical Managerial and Technical Weaknesses (GAO/AIMD-97-78, May 16, 1997).

[23]Medicare Automated Systems: Weaknesses in Managing Information Technology Hinder Fight Against Fraud and Abuse (GAO/T-AIMD-97-176, Sept. 29, 1997).

Board, the agency has not yet implemented an investment process–including senior management roles and responsibilities–that governs the selection, control, and evaluation of IT investments. Consequently, we have recommended that HCFA establish an investment management approach that explicitly links the roles and responsibilities of the CIO and Investment Review Board to relevant legislative mandates and requirments. Such actions are essential to ensure that HCFA's–or any agency's–information technology initiatives are cost-effective and serve its mission.

ESTABLISHING A STRATEGIC DIRECTION FOR THE CIO COUNCIL

Although the Clinger-Cohen Act did not call for the establishment of a federal CIO Council, the Administration is to be commended for taking the initiative to establish one through a July 1996 Executive Order.[24] Our experience with the CFO Act shows the importance of having a central advisory group to help promote the implementation of financial management reform. The CFO Council, which has a statutory underpinning, has played a lead role in creating goals for improving federal financial management practices, providing sound advice to OMB on revisions to executive branch guidance and policy, and building a professional community of governmentwide financial management expertise.

The CIO Council, chaired by OMB, can play a similarly useful role. As stated in its charter, the Council's vision is to be a resource for helping promote the efficient and effective use of agency information resources. The Council serves as the principle forum for agency CIOs to

- develop recommendations for governmentwide information technology management policies, procedures, and standards;

[24]Executive Order 13011 of July 16, 1996: "Federal Information Technology."

- share experiences, ideas, and promising practices for improving information technology management;
- promote cooperation in using information resources;
- address the federal government's hiring and professional development needs for information management; and
- make recommendations and provide advice to OMB and the agencies on the governmentwide strategic plan required under PRA.

The CIO Council is currently going through a formative period. Since its first meeting in September 1996, the Council has engaged in a wide variety of activities. It meets on a monthly basis, bringing together CIOs, deputy CIOs, and representatives from major departments and agencies, as well as representatives from other organizations such as the Small Agency Council, the CFO Council, and the Governmentwide Information Technology Services Board.

The Council's activities during its first year have largely revolved around four major areas:

(1) *Council organization*: The Council decided how to organize and created operational procedures.

(2) *Committee specialization*: The Council created five committees to focus on selected topics of concern emerging from initial sessions--Year 2000, capital planning and investment, interoperability, information resource management training and education, and outreach/strategic planning. Each committee has pursued agendas that include regular working group sessions to exchange ideas and identify promising management practices.

(3) *Topical forums:* The Council has provided a regular forum for presentations and discussions of specific topics of shared concern, such as improving Internet security, enhancing the usefulness of budgetary reporting on federal information technology, understanding the use of governmentwide acquisition contracting

mechanisms, developing effective system architectures, and consolidating data center operations.

(4) *Governmentwide policy advice and recommendations*: The Council has responded to OMB's solicitation for comments on proposed federal IRM policy revisions (the Federal Acquisition Regulations, Freedom of Information Act, the Privacy Act, the Paperwork Reduction Act), updates on critical issues such as Year 2000 progress, and guidance and feedback on agency reporting to meet OMB's federal oversight requirements (such as preparing budget submissions for information assets under OMB Circular A-11).

While these activities have proven useful, the Council does not yet have a strategic plan to help guide its work and serve as a benchmark for measuring progress. As we saw in the case of the CFO Council, achieving accomplishments that have strategic impact requires well-defined goals and measures. The CFO Council adopted a vision, goals, and strategies for financial management that has made it a much more productive body. The CFO Council now regularly reviews activities and, if necessary, revises Council priorities. In addition, the Council annually reports on its progress in implementing financial management reforms.

Recognizing the need to focus its efforts, the CIO Council began to reassess and redefine its strategic direction this past summer. This October, the Council members met at a day-long planning conference to discuss and finalize their long-range strategy. They agreed to focus their work on five strategic goals:

- establish sound capital planning and investment processes at the agencies;
- ensure the implementation of security practices that gain public confidence and protect government services, privacy, and sensitive and national security information;
- lead federal efforts to successfully implement the Year 2000 conversions;

- assist agencies in obtaining access to human resources with the requisite skills and competencies to develop, maintain, manage, and utilize information technology programs, projects, and systems; and
- define, communicate, and establish the major elements of a federal information architecture, in support of government missions, that is open and interoperable.

We believe that the CIO Council has selected the right set of issues to pursue. Several of these coincide those issues we have raised in our 1997 High Risk Series and recommendations we have formulated in conjunction with specific audit work. In addition, they parallel several concerns that the Congress–and this Subcommittee in particular–have raised about federal IT management. For example, the regular hearings and concerted effort by the Subcommittee on the Year 2000 computing crises have highlighted the urgency of the problem and helped to increase the attention and actions of federal executives. GAO has raised concerns about the pace at which federal agencies are moving to effectively address the Year 2000 problem.[25] In consonance with industry best practices, we have also developed and disseminated an assessment guide to help agencies plan, manage, and evaluate their Year 2000 programs and are using this as a basis for selected agency audits.[26]

In addition, we have strongly recommended that agencies adopt a capital planning and investment-oriented approach to information technology decision-making.[27] It has been a key foundation for recommending improvements to the management of IRS' Tax Systems

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[25]Year 2000 Computing Crises: Time Is Running Out for Federal Agencies to Prepare for the New Millennium (GAO/T-AIMD-97-129, July 10, 1997).

[26]Year 2000 Computing Crisis: An Assessment Guide (GAO/AIMD-10.1.14, September 1997).

[27]Information Technology: Best Practices Can Improve Performance and Produce Results (GAO/T-AIMD-96-46, Feb. 26, 1996); Information Management Reform: Effective Implementation Is Essential for Improving Federal Performance (GAO/T-AIMD-96-132, July 17, 1996).

Modernization, HCFA's development of the Medicare Transaction System, and FAA's efforts at air traffic control modernization. We worked with OMB in 1995 to issue governmentwide guidance on information technology investment management[28] and we have also issued detailed guidance on how agencies can effectively implement an investment-oriented decision-making approach to their information technology spending decisions as expected under the Clinger-Cohen Act.[29]

Information security is also an issue of paramount importance to the information maintained and managed by the federal government. We have highlighted the reality of the government's vulnerability and the urgent need to effectively identify and address systemic information security weaknesses.[30] Moreover, in our September 1996 report on information security, we specifically recommended that the Council adopt information security as one of its top priorities.[31]

Also, building federal agencies' capability to manage information resources has been a critical problem for years. Several of our recent reports, for instance, have focused on serious weaknesses in an agency's capability to manage major technology initiatives, such as in area of software acquisition or development.[32] Similarly, our best practices work

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[28]Evaluating Information Technology Investments. A Practical Guide (Version 1.0), Office of Information and Regulatory Affairs, Office of Management and Budget, November 1995.

[29]Assessing Risks and Returns: A Guide for Evaluating Federal Agencies IT Investment Decision-making, Version 1 (GAO/AIMD-10.1.13, February 1997).

[30]Information Security: Computer Attacks at Department of Defense Pose Increasing Risks (GAO/AIMD-96-84, May 22, 1996); Information Security: Computer Hacker Information Available on the Internet (GAO/T-AIMD-96-108, June 5, 1996).

[31]Information Security: Opportunities for Improved OMB Oversight of Agency Practices (GAO/AIMD-96-110, Sept. 24, 1996).

[32]See, for example, Software Capability Evaluation: VA's Software Development Process is Immature (GAO/AIMD-96-90, June 19, 1996); Air Traffic Control: Immature Software Acquisition Processes Increase FAA System Acquisition Risks (GAO/AIMD-97-47, March

has shown the importance of pursuing improvement efforts within the context of an information architecture in order to maximize the potential of information technology to support reengineered business processes.

We are encouraged by the Council's intention to establish a strong strategic focus for its work and further refine and prioritize the areas where it can best make a difference. One of the noteworthy aspects of the Council's goal-setting process was the members' desire to move away from earlier draft language that defined the goals in terms of "promoting" and "supporting." Instead, the Council is working to frame specific, outcome-oriented goals. At the conclusion of the conference, the Council set up committees for each of the goals and charged them to decide on specific objectives and performance measures. The Council's aim is to complete this work quickly and publish its strategic plan in January 1998.

There is great urgency to deal with these major information technology problems. It is important that the Council demonstrate how CIOs are helping to make a difference by showing progress this coming year. GAO and OMB have given the CIO Council a head start by publishing guidance on information technology capital investments, information security, and best practices in information technology management.[33] By leveraging off this work, the Council should be able to build momentum quickly. Also, the CIO Council should follow the example set by the CFO Council, which publishes a joint report with OMB each year on its progress in meeting financial management goals. Having a visible

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21, 1997; and Defense Financial Management: Immature Software Development Processes at Indianapolis Increase Risk (GAO/AIMD-97-41, June 6, 1997).

[33]Evaluating Information Technology Investments: A Practical Guide, Version 1.0 (OMB, November 1995); Capital Programming Guide, Version 1.0 (OMB, July 1997); Information Security: Opportunities for Improved OMB Oversight of Agency Practices (GAO/AIMD-96-110); Business Process Reengineering Assessment Guide ,Version 2 (GAO/AIMD-10.1.15, April 1997); and Executive Guide: Improving Mission Performance Through Strategic Information Management and Technology (GAO/AIMD-94-115, May 1994).

yardstick will provide a strong incentive for both the Council and the agencies to make progress in meeting their information management goals and demonstrate positive impact on the agencies' bottom line performance.

Because it is essentially an advisory body, the CIO Council must rely on OMB's support to see that its recommendations are implemented through federal information management policies, procedures, and standards. In the coming months, the Congress should expect to see the CIO Council becoming very active in providing input to OMB on the goals it has chosen. OMB, in turn, should be expected to take the Council's recommendations and formulate appropriate information management polices and guidance to the agencies. There should be clear evidence that the CIO Council, OMB, and the individual CIOs are driving the implementation of information technology reforms at the agencies.

Ultimately, the successful implementation of information management reforms depends heavily upon the skills and performance of the entire CIO organization within departments and agencies–not just the CIO as a single individual. We have emphasized this point in our recent guidance on information technology performance measurement.[34] With this in mind, we are working to produce an evaluation guide that offers a useful framework for assessing the effectiveness of CIO organizations. As with our other guidance, we intend to ground this approach in common management characteristics and techniques prevalent in leading private and public sector organizations. Using this methodology that focuses on both management processes and information technology spending results, we can provide the Congress and the agencies with in-depth evaluations of CIO organizational effectiveness.

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[34]Executive Guide: Measuring Performance and Demonstrating Results of Information Technology Investments, Exposure Draft (GAO/AIMD-97-163, Sept. 1997).

Mr. Chairman, this concludes my statement. I would be happy to answer any questions that you and members of the Subcommittee may have.

Mr. HORN. We thank you and your colleagues for that very fine presentation.

I now will yield 10 minutes to the gentleman from Virginia, Mr. Davis, to begin the questioning.

Mr. DAVIS of Virginia. Thank you for that testimony.

As you know, the agency heads are legally responsible for developing IT goals and progress measures, and we expect that the CIO's will do the actual work and you can get their boss's approval. Have any agencies actually developed and measured IT goals and progress?

Mr. DODARO. Most of the agencies have developed goals at what I would call the working level for IT organizations. There are the standard type of goals in terms of measuring timeliness in delivering products and services, software defects, for example, in essence traditional industry standards.

The real challenge that agencies face in the future is establishing performance measures that link to the business goals of the agency and what kind of contribution information technology is really making toward accomplishing the business goals.

For example, in the Medicare transaction system, one of the primary goals is to reduce fraud and abuse in the Medicare system, and the new services and IT that need to be brought about during the Medicare transaction system or any other modernization efforts, we should be able to measure what goal or measure what contribution IT has made to reducing fraud and abuse. For example, we recommended the use of commercial off-shelf technology, et cetera.

The same thing is true at IRS in terms of electronic filing and moving more toward that goal.

One of the things we've done, and I will ask Dave McClure to elaborate on, is we've developed a guide describing how leading organizations have used performance measures to really tie IT development to achieving business outcomes in the agencies. That is really the big issue.

Mr. DAVIS of Virginia. OK, Mr. McClure.

Mr. MCCLURE. Let me add to that for a moment. Gene is referring to an executive guide which we've put out, and I think we've made available to the subcommittee. It lays out an approach for trying to measure the contribution of IT to the business. That is not an easy task but one which most organizations that are good at IT spend a lot of energy on.

What we've recommended is approaching the performance of IT from many dimensions; looking at the return on investment and looking at how it is contributing to the overall mission improvement. And there are specific things that you can measure to determine whether IT is adding value: timeliness, cost, quality, customer satisfaction.

We certainly would like to see the Federal agencies and the CIO organizations themselves devoting attention to those kinds of measures, showing how IT is improving the overall operations of the organization and how the products and services that IT is providing the business side is indeed enhancing their performance.

Mr. DAVIS of Virginia. Let's talk about the CIO effectiveness. You say that less than half—I think it is 13 versus 14—were full time

on the information technology; the rest are basically part-time chief information officers. A couple questions.

Has this gotten better over the last year? And, second, what about the 100 smaller agencies? Is that 50 percent also?

Mr. DODARO. Basically, there has been some movement in the CIO appointment process, but it has been roughly about the same during the last year. OMB emphasized the fact that it was going to do a reevaluation after the 1-year anniversary of the act, which they are in the process of doing. So we have seen some change in the last year but not much, particularly as it relates to CIO's that were also designated chief financial officers.

We recognize that it is difficult to get CIO's in place fulltime in the agencies. It took a while when the Chief Financial Officers Act was passed back in 1990 to accomplish that. But we think that really has to be focused on. Now, as it relates to the 100 other agencies, we really do not have a good perspective on exactly where those agencies are in the process. We have been focusing in on the largest 24 agencies and departments, but I think it would be a fair question to ask OMB to provide the subcommittee with this assessment of those smaller agencies.

Mr. DAVIS of Virginia. OK. Chief information officers, it seems to me, should report to the agency head. I think that is the only way they are going to be effective. How many report directly to their agency head; do you know?

Mr. DODARO. All but 5 of the 27 CIO's right now report to the agency head. But it is really a little bit more complicated than that, because where you have CIO's that are also CFO's who are already reporting to the agency head, they meet that test but do not meet the other test of multiple responsibilities. And you have at least four major departments and agencies where that is occurring at this point in time.

In evaluating CIO organizations, one needs to look at not only the reporting responsibilities or reporting to the agency head, but also what's their breadth of reporting responsibility, as well as whether or not they have control over the IT functions in the organizations and enough authority to implement policies and standards.

We are in the process of developing an evaluation tool whereby we can look at the effectiveness of CIO organizations and link not only these management responsibilities, but are we getting a better outcome in terms of return on investment for IT spending.

Mr. DAVIS of Virginia. How many of the 27 CIO's that you've tracked have backgrounds or strong backgrounds in information technology?

Mr. DODARO. Basically, I would like to provide the specific number for the record. Most of the people in the CIO positions have strong backgrounds in management issues and public policy. Quite a few have strong backgrounds in IT. Those are particularly the ones that OMB has felt comfortable with the information. Also, there is the issue of looking at the combination of the CIO qualifications along with the deputy CIO qualifications.

One of the things that we have seen in studying organizations in the private sector, you can have a blend of talent as long as you have the right combination of managerial and technical experience.

And the implementation guidance for the Clinger-Cohen Act really sets a tall order for all the range and responsibilities that CIOs should have. Basically, one of the ways to look at that is on an individual basis, but also on a collective basis of whether there is the right team in place in the agency to implement this. But you need to have technical expertise to complement the management experience at various levels.

[The information referred to follows:]

Nearly all of the 12 CIOs who have information management as their primary responsibility have strong education and/or experience in this area. This includes graduate degrees related to information technology and experience in systems development, data processing, network management, telecommunications, and/or leadership of information management operations. By contrast, the education and experience of most of the 15 CIOs who have responsibilities in addition to information management are in areas such as accounting, finance, budgeting, trade, public policy, and general management.

Mr. DAVIS of Virginia. You really do. For a job like this, I just don't think you're going to be successful without a pretty good background in IT.

But continuing on that line, how many CIO's have direct-line authority over the IT staff?

Mr. DODARO. That is another area where we are just beginning to take a look at. In most cases, though, what we have seen is the CIO's have responsibility for setting policies and standards, and it is less clear whether or not they have the ability to influence the operations at, say, a regional level or other functional areas within the department.

As I mention in my statement, for example, one of the areas we have made recommendations along that line has been at the FAA and at the IRS. I will ask Keith Rhodes to explain a little bit about what we have seen as to the problems at IRS and FAA, which are two of our heavy spenders in modernization, of not having that type of control that you speak of.

Mr. RHODES. To use FAA as a primary example here, Theron Gray is the chief information officer at FAA. He is actually organizationally in the IT organization, which is a subsection of the R&D organization, which is headed by Dr. George Donohue.

The problem is that facilities, if we're taking the year 2000 for example—since we've testified before this committee multiple times on the year 2000—year 2000 is a facilities problem. Year 2000 is a research and development problem, an operational system problem, and a security problem, as well. Well, at FAA what Theron Gray has control over is, basically, his subset of the development staff. He has the IT staff as a subset of the research and development side, not the operational system, not the facilities system, and not the security people.

On IRS, for example, Art Gross has control over his IT staff, but he doesn't own the field staff and he doesn't own the field systems. So if he solves inside his diagram of the Y2K problem, he is only solving a national system problem, he is not solving the remote facilities area, which in reality, he doesn't own the R&D people because the R&D is done in the field. Therefore, you can't have uniform development, uniform testing, uniform change-out, and a uniform operational test. Because year 2000, like security, like other things, is a ubiquitous problem, as you well know.

Mr. DAVIS of Virginia. That is not a very efficient way of doing things, is it?

Mr. RHODES. No, sir.

Mr. DODARO. Basically, Mr. Congressman, what is happening now, and we have seen this happen with putting CFO's in place, as you put CIOs in place, you need to change the culture and the power structure within the agencies to make them effective. And a lot of people are reluctant to give up that authority and to be able to make those proper changes.

Mr. DAVIS of Virginia. But where the CIO's don't have line authority over IT, are they acting in an oversight role similar to the IG's oversight of the CFO's? Do the CIOs oversee the head of IT? Is that actually how it works?

Mr. DODARO. Some of them are attempting to do that. And we need to go in and look at whether or not that is an effective way to go about it. Different organizational structures will work if we get the right result. We are skeptical that we're going to get the right result unless the CIO's have proper authorities.

Mr. DAVIS of Virginia. It seems to me these are pretty basic, easy questions. And you keep referring to the difficulties of getting this kind of information out of OMB. Should I simply send OMB a letter and should the chairman send them a letter requesting this data? Would that be helpful?

Mr. DODARO. I think that would be a good idea. OMB, under the Clinger-Cohen Act, was given greatly expanded responsibilities for information technology. And in the early stages of the appointment process, we really sort of deferred to them to monitor implementation and to give the agencies time. We are stepping up our efforts in the next year to look at the results that have been achieved at the agencies, but it would be very appropriate to ask OMB for that type of information.

Mr. DAVIS of Virginia. I think one of the difficulties at OMB is, the OB, they kind of left the M out of it. And in fairness, we have been working toward a balanced budget and I know a lot of resources have gone into that, and maybe too many resources, looking at some of the line items they've come back on. But they've got to get back into management or we're going to have to give it to somebody else, I think. We've had some disappointments over there in the year 2000 and in terms of everything else elevating the appropriate priority for these issues.

Mr. DODARO. I think to their credit and at our urging, they learned some lessons from the problems in the early appointment process of the CFOs back in 1990. OMB did focus on this right after the act was passed, but there needs to be follow through and that's where we have not seen enough aggressive action to follow through.

Mr. DAVIS of Virginia. Thank you very much. I see my time is up, Mr. Chairman.

Mr. HORN. I thank the gentleman. We'll have another round, but I wanted to carry on where you left off. And I note to staff, we need to write a letter to Secretary Slater, Secretary of Transportation, on this span-of-control situation with the chief information officer of the Department of Transportation.

As I recall, Transportation had one of the greatest failures in IT in this executive branch, and it is only matched by IRS in having an equally great failure. Both of them blew $4 billion, I believe, and got nothing for it. So we also need to write the Director of OMB.

I am delighted my colleague recognizes what I think a lot of us are recognizing, that we need a management arm to advise the President. And I will be putting in legislation shortly on Office of Management. I will ask my colleague from Virginia to be first to sign on board.

Speaking of that situation, one question arises in relation to the CFO parallel; and that is, should there be a Chief Information Officer in the Executive Office of the President, whether it be in a proposed Office of Management, whether it be in OMB, whatever? What is the feeling of the GAO on that?

Mr. DODARO. I think in the early discussions of the Clinger-Cohen Act, there actually was a proposal to create a national CIO in OMB, and that proposal was dropped along the way.

Mr. HORN. Do we know why it was dropped?

Mr. DODARO. Well, I think the discussion revolved around focusing more of the responsibilities at the agencies at that time, and that it was important to get the agency CIO's in place and operating effectively. There also was an urgent need to pass legislation. But I think the emphasis at that time was to make sure that we didn't send mixed messages to the agencies, that they are primarily responsible for fixing this problem.

But as the issues have unfolded and as information technology becomes more and more important and integral in carrying out the Government's activities, reexamining that issue has a lot of merit at this time. I know, from the close involvement that we have had, having a Comptroller in the Office of Federal Financial Management over at OMB focused on CFO activities has made the difference in moving that legislation along. And I think it would be quite appropriate to revisit the national CIO issue, looking toward the future particularly.

Mr. HORN. Given the background you noted in your report, and your exchange with Mr. Davis on the CIO's as they are now existing in some of these agencies, I guess I wonder how they could develop the acquired information technology architecture. What is your feeling?

Mr. DODARO. That is a really problematic area. We have noted a lot of problems with architectures both at IRS, FAA, and a number of other agencies, as well. I think that I'm going to ask Jack Brock to talk about that as it relates to the Defense Department. But this is an area where well—well, I'll make a couple points first. One, that was one of the activities that the CIO Council and OMB worked on to get out some recent guidance on how to develop good architecture. So it is a positive development from a council and OMB standpoint. The negative aspect of it is that it has taken a long time to be able to do that, and it is going to be difficult for the agencies to be able to guide these efforts. Second, I was pleased to see the CIO Council make this one of their top priorities.

Jack.

Mr. BROCK. Thank you. One of the aspects of an architecture, there are two parts of it, a logical and a technical. So it is a shared ownership within an agency. The logical architecture really defines your business processes and that, of course, has to be defined by the chief operating officer of the agency. And if the logical architecture is not well-developed, and it is almost impossible to develop a technical architecture that supports it, so a key problem we found in many agencies is they don't really have a good understanding of how their business works and about how various business processes fit together.

The nice thing about knowing how your business processes fit together is it gives you an opportunity right away to reengineer or to make other efforts to make your business operations more efficient. Then below that, or in conjunction with that, is the technical architecture, which really defines the standards that need to be in place. In other words, how are you going to communicate, share information and make the systems work to in fact support the logical architecture to support the business processes?

I think what we found in DOD over the years is they have a good technical architecture. What we're finding, though, as we look at individual systems that are coming in for approval, is that many of them are not scrubbed to see if the architecture, the technical architecture is in fact in compliance with the overall agency architecture, if it is supporting the business processes or not. So, in part, they have a good paper process but it is not followed very well in practice. And the result of that is you have systems that don't communicate well, you have duplicative systems, you have a lot of overlap, and ultimately, I think you're wasting a lot of money.

Mr. DODARO. One of the parallel issues, Mr. Chairman, in addition to developing the architectures, is the CIO's having the authority to enforce them once they are developed. We are about ready to release a report at IRS, for example, where we give them credit for developing, making good strides in developing an architecture. They are still not complete. They know it and, they think they are working on it, but the CIO really doesn't have the authority to enforce the architecture once it is developed. And that issue is at the root of our recommendations to FAA, as well.

Mr. HORN. Let's take FAA, Transportation, as an example. As I recall, Gene, a couple of years ago, I think it might have been the NPR, they discovered there were 33 or 35 layers between the controller in the Los Angeles tower and the Secretary of Transportation, if you had to go through all those layers.

Now, I gather here you've got a CIO that, in essence, doesn't really have control over the systems that are in that agency. And he or she can have all the great ideas they want, but they are being held very responsible for something where they do not have the authority. How would you explain that, and what should we do about it?

Mr. DODARO. We have issued several reports on FAA recently. One report we looked at their software acquisition capability and we reviewed some of their major projects. Keith led that work, and I'll let him elaborate on it.

But what we found, using the criteria established by the Software Engineering Institute, is that those processes had a lot of

weaknesses that were leading to chaotic development; and that there were duplicate, multiple programming languages that were wasting money, et cetera. So we found problems with software development. We also looked at the architecture. It was missing pieces, as well. We have reports coming out soon on computer security at FAA and also their readiness for the year 2000 problem, which, as you know, is lacking.

So when you look at it all across the board and you look at the panorama of problems that exist over there, and we've recommended in the architecture report that the CIO be given these responsibilities. FAA has not responded to that.

We are in the process of arranging a meeting with the new administrator, Jane Garvey, to talk to her about these issues and see if we can get some movement within the department to rectify the CIO responsibility issue. That is an area where additional encouragement from the Congress to implement our recommendations would be very helpful.

Keith, do you want to add anything to that?

Mr. RHODES. You're getting right to the heart of the problem, and that is the span of control. If you look at the five projects that we looked at in the software acquisition review, they were all moving according to their own rules. Yes, there is a very high level guiding acquisition policy, but it is so open to interpretation that each of the teams was able to implement it how they wished.

If the CIO, who was supposed to be issuing this policy, is deeper inside the organization, then span of control is obviously weakened and there can't be a uniform stabilization of the process for acquisition or development or anything else.

Mr. HORN. I noted a few months ago, and I might well have gotten the example from you gentlemen, back in 1989 a very able professional career woman noticed the year 2000 problem in the Federal Highway Administration.

Now, that was under the Bush administration. That, apparently, never went up the management communications hierarchy so the Secretary could say, the next time he sat around the table with his administrators, or the Deputy Secretary could say, does anybody else have a problem like that? Namely, FAA has a problem like that.

And, as I remember, she knew what she was doing and they just sort of brushed it aside. And, thus, Social Security gets the A's for having the initiative to do something about it way back in 1989. But Transportation could have been there if they had an effective management communication system. And I must say, any poor Secretary that is nominated to go over and try to run that agency, that ought to be the first thing he or she looks at. How the heck do you get to know what's going on in this particular cabinet Department, when nothing comes up the hierarchy so you can share it and look across the view in the horizon and do something about it. I would think that is like taking a job with a stick of dynamite in your hand wondering if it's lit, and you're wondering if it will go off.

So we will try to educate Secretary Slater that he better watch out. They are playing games again, or at least it is getting up where he can't play the game by which he is being held responsible by the President and Congress.

Mr. DODARO. That is exactly, Mr. Chairman, why we think the legislation encourages the CIO's to be a senior management partner, to really be at the table surfacing those issues and making the case for funding. Not only year 2000. Actually, we found that particular example in other agencies as we have gone now in looking at what they are doing to handle the year 2000 issue. Computer security is another issue because it doesn't receive a lot of support at the highest levels, and that one I think is particularly problematic, too.

Mr. HORN. Well, my time is up. Mr. Davis can complete the round. I know you've got a great concern about the capital budget.

Mr. DAVIS of Virginia. And you mentioned the capital budget and investment planning for the IT projects. Is it the case today that the CIO's are involved in some IT projects but that many projects throughout decentralized bureaus' offices are not covered?

Mr. DODARO. That has been a problem, and I am going to ask Dave to elaborate on this. One of the key reforms in the Clinger-Cohen Act was to establish an investment review process, requiring agencies to have more discipline both at the department level as well as the major bureaus and agencies. And we have issued some guidance to help agencies establish that, to ensure that there is some consistency throughout the process.

One example that we have recently raised to the Congress was the whole development of the Medicare transaction system and the fact that the department, in this case HHS, really didn't get involved until there were problems. The same thing was true of the Treasury Department with IRS. Dave can give you a little snapshot on how the reforms in the legislation are unfolding.

Mr. MCCLURE. Mr. Davis, I think most of the agencies and departments are in the process of trying to design their IT investment processes. I think it would be an accurate statement to say that most of them are not in place in terms of a comprehensive selection control and evaluation process.

So I suspect that if we went into each agency and looked at that part of their IT budget that was going through an investment control review, it would be based upon whatever rules they put in place for this last budget cycle. That's largely been based on dollar size, infrastructure concerns, or crosscutting type of applications.

One of the things that I'm trying to emphasize in my discussions with these departments is that those kinds of rules for what is put in the investment process and who decides where in the organization IT can be spent, for what purposes, is probably one of the most fundamental ground rules for making an investment process work. I think we have a mixed implementation so far.

Mr. DODARO. One of the best developments I have seen, though, at least for some of the major modernization efforts, is that the hemorrhaging has been curtailed in a number of cases. IRS was cut back dramatically, with the Congress' assistance. And the Medicare transaction system is cutting back on spending. So I think that the key issue of stopping huge, bad investments is beginning to get a little bit better.

The question is, as we proceed with bringing a lot of these modernizations back on track—for example, Agriculture has had a moratorium on IT for a while—the real question here is, are we going

to see better business cases and better rationale for these investments? An area of particular concern in this regard has been the lack of good cost information, which is another issue that needs to be looked at more carefully.

Mr. DAVIS of Virginia. Let's talk about the CIO Council. It sounds like they've accomplished more in their first year than, for example, the CFO Council did in their first year.

Do you think that is a fair assessment?

Mr. DODARO. It is a little hard to make comparisons. I think the CIO Council is off to a good start. They have a couple of advantages that the CFO's did not have. For example, the Deputy for Management at OMB was in place, John Koskinen, at the time that they were in place. They also had a good model with the CFO Council to emulate. But there is no detracting from the fact that the CIO Council is off to a good start. But the real issue is, can it move forward and really start driving some of the reforms?

It is also important to recognize that the CIO Council really has no authority. It doesn't have a legislative underpinning like the CFO Council, and it is really dependent upon OMB to enforce and institute requirements. So it needs to give OMB good advice on what needs to be done, what kind of measures need to be held where the Government can be held accountable, and then provide progress reports on those goals. But it can be a very influential body.

Mr. DAVIS of Virginia. You had mentioned earlier an OMB data request, their request to the agencies, and the committee staff informs us of the OMB's Memorandum 97–12. Do you think that the 97–12's cover all the necessary issues, cover too much, or what is missing?

Mr. DODARO. It, like the original inquiry, was at a high level and there were some issues missing. Let me ask Dave to elaborate on a couple of those.

Mr. MCCLURE. The 97–12's, Mr. Davis, focus on the investment control processes that are in place in the agencies, which is an important component for us to get information on. And it also dealt with the backgrounds, qualifications, and the organization of the CIO's in the agencies, and those are a critical piece of Clinger-Cohen.

There are other elements in the implementation of the law that 97–12 doesn't address, the performance measurement, for example, and also the integration of the strategic planning process with the issues of architecture and investment planning for IT. So it is focusing on two important provisions but not the complete provisions of Clinger-Cohen.

Mr. DAVIS of Virginia. Just a couple other questions. As you know, this subcommittee is responsible for the Results Act. I would like to know if the CIO has participated in development of the Results Act strategic plans that we received this past September 30, and can we expect that they will be participating in the performance plan and performance reporting requirements of the Results Act?

Mr. DODARO. One of the things that we have done for various Members of the Congress is to look at the draft strategic plans and final strategic plans under the Results Act. And we did not really

see a lot of good linkages between the IT and strategic goals of the agencies.

Some of the CIO's, particularly some that are also CFO's, obviously have some role to play in the development of the strategic plans. But I think we need to see the CIO's more involved in the strategic plans as they unfold. The agencies should be able to more clearly address the role of information technology in achieving the mission goals set by the agency. I think that is a fundamental expectation that Congress ought to look for going forward. CIO's need to be more engaged in that process.

Mr. DAVIS of Virginia. Thank you. Mr. Chairman, that's all my questions.

Mr. HORN. I thank the gentleman. Let me now get into a few questions that relate to the testimony, and I'm just going to page through this.

My first question comes on page 6. You brought this out in your oral summary. But in the first full paragraph at the top, going down about 6 lines, you say, "On the basis of preliminary observations, however, OMB officials stated that they still have some of the same concerns that they had a year ago about CIO positions that have not been filled, have not been properly positioned, or have multiple responsibilities."

Can you tell us, for the record, specifically what agencies you're talking about here?

Mr. DODARO. Basically, that is based upon a recent discussion we had with OMB as of last week. The first set of agencies are those where there are combined CFO's and CIO's. And that is at the Commerce Department, Veterans Administration, HHS, and the Justice Department, as well as the Education Department. So you have those five agencies right there where there are some concerns.

Also, and Jack can elaborate on this if you wish, there is the issue raised that the Defense Department CIO has multiple responsibilities. Defense has a task force right now looking at the role of the CIO and whether or not it needs to be clarified or separated from the dual responsibility it has now with command and control.

Mr. HORN. Has the President submitted a replacement for General Paige yet?

Mr. DODARO. No. Jack can give you a quick update of what is happening at Defense.

Mr. BROCK. The CIO at the Department of Defense is also the Assistant Secretary for C3I. So, in addition to the role of CIO, which basically entails oversight of $10 billion worth of business systems, that individual, currently Tony Valetta, who is the Acting Secretary, also has responsibility for the intelligence systems over at DOD, for the command and control systems. He has major programmatic responsibilities in addition to the CIO. And right now those responsibilities include trying to get a handle on the year 2000, and in some places we believe they are running late; trying to get control over computer security, which is a massive problem in the agency; trying to establish an investment process for IT expenditures, which is not off the ground yet. So a massive set of responsibilities, over $10 billion in expenditures, plus another massive set of responsibilities on the other aspects of his assignments.

As we said, or as Gene said, they are now looking at where the placement of an office should be.

Mr. HORN. Well, they've got an expert sitting there, the Secretary of Defense. He does know a lot about the Clinger-Cohen Act. When you're on the Senate side, I'm sure you say the Cohen-Clinger Act. On this side, we appreciate reality therapy and it is the Clinger-Cohen Act.

Based on GAO's experience over the years in similar situations, we talk about the CFO's, we talk about the inspector general, so forth. What would your advice be to Secretary Cohen as to where that CIO should be positioned in the hierarchy over there, given the fact that it was sort of the three C's that General Paige had to be responsible for? I mean, what would you see, based on your management analysis and experience?

Mr. DODARO. In terms of the CIO?

Mr. HORN. Yes, where should that be placed in relation to the current position, which they might well chop up various ways, the Assistant Secretary for communications, intelligence, so forth?

Mr. DODARO. Basically, one issue we've seen, Defense doesn't lend itself the ready, quick answers because of its size and its complicated nature. But one of the biggest problems in both the CIO area and CFO area is that the responsibility has been placed among people where they are at the peer level with other functional areas. And there really needs to be, either at the Deputy or Secretary level, a way to integrate and provide the support for the CFO and the CIO.

We have had these discussions when John Hamre was the controller for example, as well, about his ability to influence the functional areas. So there needs to be at a higher level, I think, a management team approach that also recognizes the very important line responsibilities of the agencies. It needs to be done in a way where it is clear you are not usurping the line managers' responsibilities to carry out important missions in defense, but we need more of a management integrated approach at a higher level.

So it is a delicate balance there, and I think the primary advice I have been giving to all the heads of the agencies is to make sure we focus on the results. And if you're not getting the results that you want, and clearly we are not getting the results that we want in Defense and many other major agencies, there is a need to make some changes. And part of those changes is organizational placement, but they are also putting in place better measures to track how well things are being done and carried out through the department. So it is really all about achieving your right results. And, so far, agencies are not there.

Mr. HORN. I agree with your point of reference here with the Deputy Secretary. It seems to me that when David Packard was over there, Deputy Secretary, he was the first one that really knew how to run an organization and the Secretary pretty much let him do it. And it would seem to me that CFO has to be reporting directly to the Deputy Secretary and have a CIO across the whole wasteland of the Pentagon and its three services, who also will have CIO's.

Have they already picked them, by the way, in the three services?

Mr. BROCK. The three services have CIO's. They are organized somewhat differently, and I'm not really prepared to go into how they are organized in each service. But there are some differences.

One of the problems that the Department of Defense has is, they have a massive cultural hurdle to get over over there where each of the three services wants to maintain absolute control over their individual systems and processes. As a result, it has been exceedingly difficult to integrate across common functions such as depot maintenance or transportation, functions like that. As a result, it has been critical that the CIO be placed in a position where that individual does have the direct attention of the Secretary or the Deputy Secretary so that action can be taken. It's virtually impossible for the CIO, acting by himself or herself, to have that sort of influence.

Mr. HORN. Any other comments on this? I think we're going to write a letter. I will be the first to say we're humble to write the author of this act a letter. I think it might help to focus things over there.

Mr. DODARO. I think the timing would be right, Mr. Chairman. They are looking at how to effectively implement the Clinger-Cohen Act in a wide variety of issues. It would be helpful to do that at this time.

Mr. HORN. Now you know that further down on page 6, one area that we focused on during the year is CIO's who have major responsibilities in addition to information management, and the Clinger-Cohen Act clearly calls for CIO's to have information resources management as their primary duty.

Now as I read that, and I marked the marginal lists, I expected a nice little appendix back here, 1, 2, 3, and 4, A, B, C, D, and E, which would tell you who the culprits are based on the summary here.

Now do you have that information?

Mr. DODARO. Here is a listing of what we have. The situation right now is that we have been focusing a lot on evaluating the year 2000 issues and major modernization efforts at key departments and bureaus, and we have not really done systematic evaluations across departments and agencies.

We know enough, based upon our institutional knowledge, that we have got a problem here, but we haven't yet gone in and evaluated the results of each CIO organization. We have been waiting a little bit until the first year unfolds and people get a chance to get in place and get their efforts under way.

One thing I've learned over the years is, it's really much more beneficial to persuade people to make changes in their management structure and organization if you can show that the problems are not being solved and they are not really getting the proper outcome. So we've had this concern.

I have enumerated the five already that have had the full responsibilities of the CFO and CIO. We can provide some other examples, but we don't have a comprehensive list——

[The information referred to follows:]

The first list indicates CIOs that have information management as their primary responsibility. The second list indicates CIOs that have responsibilities in addition to information management. This information is current as of October 27, 1997, although we understand that some changes are forthcoming.[1]

A. CIOs with Information Resources Management as Primary Responsibility (12 total)

Agency	Name	Official Title
Agriculture	Anne Reed	CIO
Energy	Woody Hall	Deputy Assistant Secretary for Information Management and CIO
HUD	Steve Yohai	CIO and Director, Office of Information Technology
Interior	Don Lasher	CIO and Director, Office of Information Resources Management
State	Eliza McClenaghan	CIO
Treasury	James Flyzik	Deputy Assistant Secretary (Information Systems) and CIO
FEMA	G. Clay Hollister	Executive Associate Director, Information Technology Services Directorate
GSA	Joe Thompson	CIO
NASA	Lee Holcomb	CIO

[1]As of November 19, 1997, changes were made or announced at 4 of the 27 CIO agencies. Specifically, the individuals listed for State, Housing and Urban Development, and Defense are no longer in the CIO positions, and the CIO at the General Services Administration announced that he will leave his position at the end of 1997.

NRC	Anthony Galante	CIO
OPM	Janet Barnes	Chief Information Technology Officer
SBA	Lawrence Barrett	CIO

B. CIOs with Responsibilities in Addition to Information Management (15 total)

Agency	Name	Official Title
AID	Richard Nygard	Acting Assistant Administrator for Management and Acting CIO
Air Force	Arthur Money	Assistant Secretary for Acquisition
Army	Lt. Gen. William Campbell	Director of Information Systems for Command, Control, Communications and Computers (DISC4)
Commerce*	W. Scott Gould	Chief Financial Officer and Assistant Secretary for Administration
Defense	Anthony Valletta	Acting Assistant Secretary of Defense (Command, Control, Communications and Intelligence)
EPA	Al Pesachowitz	Acting Assistant Administrator for Administration and Resources and CIO
Education*	Donald Rappaport	Chief Financial Officer and CIO
HHS*	John Callahan	Assistant Secretary for Management and Budget
Justice*	Stephen Colgate	Assistant Attorney General for Administration
Labor	Patricia Lattimore	Acting Assistant Secretary for Administration and Management/CIO
Navy	John Douglass	Assistant Secretary of the Navy (Research, Development, and Acquisition)
NSF	Linda Massaro	Director of Information and Resource Management

Transportation	Michael Huerta	Associate Deputy Secretary; Director, Office of Intermodalism
VA*	D. Mark Catlett	Assistant Secretary for Management
SSA	John Dyer	Acting Principal Deputy Commissioner

*Denotes those individuals who have dual CIO/Chief Financial Officer responsibilities

Mr. HORN. Well, I note on page 9, agencies of CIO's whose responsibilities are focused solely on information management. And then you say the other 15 agencies—CIO's with multiple responsibilities—these 15 agencies account for about $19 billion of nearly $27 billion in annual Federal planned obligation information technology.

Right now we need to nail that one. That has been my gripe with—3 or 4—portfolio of the Assistant Secretary for Management, the CFO function, and I don't know what they have done with the CIO. They have done the same thing.

Mr. DODARO. Actually, the CIO at Treasury reports to the CFO, the Assistant Secretary for Administration. We can provide the list of 15 agencies with dual reporting or responsibilities and the ones with sole responsibilities.

Mr. HORN. Well, you note on page 10, we are particularly troubled by agencies that have vested CIO and CFO responsibilities in one person, and then, Commerce, Education, Health and Human Services, Justice, and the Veterans Administration remind CIO—that is just stupid.

Now you look at Medicare, the messes they have got over there. Has Medicare got a CIO yet?

Mr. DODARO. They have just hired somebody from Los Alamos about 2 weeks ago, but we've made recommendations there——

Mr. HORN. Wish them well. It is about 5 years too late, but let's see what he can sell.

Now, on the President's Commission on Critical Infrastructure Protection, you say it issued its final report October 20, and it hasn't been released. What is your understanding of when that will be released?

Mr. DODARO. Well, I think there will be some classified version of the report at least.

Let me ask Keith to explain that. He's been in contact with people on that commission, and we have been providing them our views.

Mr. RHODES. The lower level reports on department agency level have a great deal of detail, and most of the agencies are very concerned about having that level of detail, particularly when it is classified or at least so it will go through a process.

To be honest with you, I do not know when it will be released in final, but there is a mountain of information there that they have to get through.

Mr. HORN. So is it likely to be one report that is sort of generalized and then a whole series of appendices, or what?

Mr. RHODES. I would imagine it would probably be one report that's generalized and—on a need-to-know basis—would be able to access the appendices.

Mr. HORN. Staffers, let's follow up on that to see what we can learn out of that report in addition to what the CIO function—I suspect that is a major problem, a major concern.

Now here, of course, you note on my gripes about Medicare that on page 12 there is development of the Medicare Transaction System. MTS provides another example that these are strong management overdevelopment—finally, says GAO, as we reported to you earlier this year, the problems encountered by the Health Care Fi-

nancing Administration, HCFA, within parens, in its development of the Medicare Transaction System, MTS, provide another example of the need for strong management over the development and implementation of information system.

I think one of the problems with that whole operation is that Health and Human Services, I don't think have taken this seriously, on either the CFO law or the CIO law.

Now this is a bigger budget, the Department of Defense. Throw in Social Security, which is now independent of—but it just seems to me that part of the problem is, Cabinet officers have not taken some of the Congress' acts in this area very seriously, and that bothers me, to say the least. I think it will bother the average citizen when you see the billions of dollars that they can't collect.

We are going to have more hearings on our loan improvement legislation, and you see paperwork they can't seem to reduce. But I think we have got a marvelous example, this afternoon, of what can be done by CIO's working together and agency people working together to get some simplification in our import-export which have many agencies involved, and I was glad to see they are cooperating with each other.

Now let's see here; any loose ends? Otherwise, I will free you from your bonds.

Now you noted here on page 18, also, the CIO Council should follow the example set by the CFO Council which publishes the joint report each year on its progress, meaningful financial goals.

Now has GAO had a chance to review the various CFO reports? Do you think they can be helpful in terms of OMB input, or is it simply CFO Council submitting the report and OMB——

Mr. DODARO. It is pretty much a joint effort, and OMB participates in a dialog in setting the priorities. We think they have set the right priorities there—we think there are good measures in the reports. It's truly a joint report.

Mr. HORN. OK. Got any more questions we need to ask? I think we have covered it pretty well.

So we thank each one of you, and you brought a really great team with you this morning. They have all been—and we thank you all for coming.

Mr. DODARO. We appreciate the opportunity.

Mr. HORN. I appreciate it.

Mr. DODARO. Thank you, Mr. Chairman.

Mr. HORN. We now go to panel two this morning. If they will come forward, we will swear you in.

[Witnesses sworn.]

Mr. HORN. The clerk will note all three witnesses affirmed.

Mr. Balutis is the Deputy Chief Information Officer, Department of Commerce.

Welcome. As you know, the statements will go on the record, and résumés—very impressive—and if you will just summarize it for us, then we will get down to the questions.

STATEMENTS OF ALAN P. BALUTIS, DEPUTY CHIEF INFORMATION OFFICER, DEPARTMENT OF COMMERCE; LIZA McCLENAGHAN, CHIEF INFORMATION OFFICER, DEPARTMENT OF STATE; AND ANNE REED, CHIEF INFORMATION OFFICER, DEPARTMENT OF AGRICULTURE

Mr. BALUTIS. Thank you, Mr. Chairman, for the opportunity to appear here before you this morning and discuss the activities of the Chief Information Officers Council.

The Council was established by Executive Order 13011 on Federal information technology which created it as the principal interagency forum to improve agency practices and also laid out its role in the design, modernization, use, sharing, and performance of agency information resources.

We held our very first strategic planning retreat just a little over a year or so ago on October 28, 1996. We did so at the IRM College, which is part of the National Defense University in Fort McNair. The purpose of the retreat was not just to share ideas but to, in fact, produce focused, specific, action-oriented strategic plans.

We had the benefit of the experience of the CFO Council as it had been institutionalized, and we learned from that experience that it was important to move out quickly, to be able to provide some interim, perhaps albeit modest but nonetheless helpful steps to respond to the question: "What difference did this legislation make and what is the CIO Council doing?"

From the 10 working groups that made up that offsite planning retreat, we produced a total of 51 recommendations, and at the very next meeting of the council we went through a rating and ranking procedure to rate all of them on ease or difficulty of implementation and high or low payoff.

We then moved out to begin to take action on those where we had identified some payoff, where there was some ease of implementation. This is the proverbial low hanging fruit for which all of us are eternally searching, and I think we have made substantial progress in implementing that action plan and in organizing our operations.

We have, as has been noted, structured the Council, set our administrative procedures, and created a committee structure. We have endorsed major changes to the Federal acquisition regulations that enhance the overall goal of the Clinger-Cohen Act by streamlining the acquisition process.

We have worked very closely with OMB to produce first a draft capital programing guide which we took back after being reviewed by all members of the Council and then took back to our own agencies to ensure it was reviewed by senior IRM officials, budget officers, and interested and involved program managers. We issued that guide in July, 1997 as a basic reference manual on capital assets and provided guidance in the areas of planning, budgeting, financial management, financial control, and acquisition management.

We have established not only a working relationship at the Council level with the CFO Council, but Joe Thompson from the General Services Administration, who chairs our capital planning and investment committee, has had a series of meetings with his

counterpart on the CFO Council to discuss the capital planning methodologies and development of performance measures.

The Council has formed five standing committees. I chair one of those, the committee on outreach. Two of my colleagues are here, and we'll hear from them momentarily on their responsibilities.

Let me cover briefly the work of the two others who aren't present: Kathy Adams, the CIO, Social Security Administration, who chairs the year 2000 committee, a matter that I know this committee has more than passing knowledge of. Kathy, in addition to the great work she has done at the Social Security Administration, has conducted monthly meetings as a forum to share information on cross-cutting issues relating to the year 2000.

We have established nine subgroups. One of those focuses on State issues, and I'm very happy to say that later this week a number of us and members of our staff will be going up to Pittsburgh to participate in a session with our State and local government counterparts on the year 2000 problem.

We have developed a best practices document, published two pamphlets, and worked with the Office of Federal Procurement Policy to ensure that there is standard language which has been published and incorporated in the Federal acquisition regulation on contracts solicitation and year 2000 compliance. We developed a data base of information, which has since been transferred from the committee to the General Services Administration, on commercial, off-the-shelf products, so that we are not relying solely on the claims of vendors or sales people who say they have produced year 2000 complaint products, but have an inventory of subproducts that have been certified by this subcommittee's work.

Mr. HORN. Let me ask you this on that point, because that is a very important point.

Our understanding a year ago was that GSA would look at the software that was up for acquisition by Federal purchasers to make sure that it was year 2000 compliant. Then I learned they haven't really been doing that. Am I wrong? Or are they doing it?

Mr. BALUTIS. It's been done by this committee of the council. We have produced that data base, and we have transferred that data base to the General Services Administration. They will operate it, they will maintain it, and it will be available through them.

So it was done by the council. GSA participated in that, but the committee, chaired by Kathy Adams, had that effort.

Mr. HORN. Who is considered to be responsible for assuring that it is year 2000 compliant? Is it GSA? Is it the agency purchasing the software, or even hardware, or what?

Mr. BALUTIS. My understanding, sir—and I'll double check this matter and make it part of my response for the record—is that that certification was done by the staff, largely working for Ms. Adams and the Social Security Administration, aided by other interagency personnel. They have made the certification, and that is part of the data base now that will be maintained, I understand, by the General Services Administration staff, so that when it's checked by IT professionals or procurement staff at the individual agencies, they will rely first on that data base since they're——

Mr. HORN. Well, that is good news, I guess. But I get perturbed, shall I say, when the Agency for International Development told us

over a year ago that while we are solving the problem, we are getting a new computer system, and they went from A to F based on the fact that here they are getting a new computer procurement, and it didn't conform and wasn't year 2000 compliant.

I don't see how somebody can goof that up when they know there is a problem and not run the appropriate tests. I would think GSA, doing this for the whole Federal Government, ought to at least call on the right people, and maybe they have now under Chief Information Officer Adams' control. They have obviously lived with this, and that would be a good person. But, somebody has got to assume responsibility and at least put the right phrase in the vendor contract so we aren't stuck with the bill when somebody lied to us.

Mr. BALUTIS. We agree with that, sir, and I think the actions we have taken both to include the right kind of language in the solicitation itself but, more importantly, to rely not solely on the claim of the vendor, because the example you mentioned is—is disquieting, we hope unusual, but perhaps not. But we didn't think it made sense for each department or agency to go through this process themselves. The Year 2000 Committee was in place, certainly substantial expertise there, and we took on that tasking with the idea that, once we had that completed, it would be turned over to the General Services Administration.

Mr. HORN. So has it been turned over now?

Mr. BALUTIS. I believe it has, sir. Yes.

Mr. HORN. OK. We will ask the General Services Administration how they are doing on this.

To whom in GSA has it been turned over?

Mr. BALUTIS. I will get that name for you, sir, and provide it.

Mr. HORN. Let Mr. Alloway know, and I would like a followup on that just to see that they have a process here.

Mr. BALUTIS. I will do so.

Mr. HORN. Thank you.

[The information referred to follows:]

The Federal Year 2000 COTS Products Database

How was the Database Developed?

The Year 2000 is rapidly approaching. It is very important that Federal agencies are aware of when commercial off-the-shelf (COTS) products they use will accurately handle Year 2000 dates as defined in the Federal Acquisition Regulation. Individual agencies are seeking assurance from computer software vendors that their software is compliant or will be made compliant and will handle dates after the Year 2000. Recognizing the need to build a system which provides information on Year 2000 compliant products, the Federal Chief Information Officers (CIO) Council Subcommittee on the Year 2000's COTS workgroup initiated an effort to develop an internet-based database of Year 2000 compliant products. The database is known as the Federal Year 2000 COTS Products Database. The system was jointly developed by representatives from Social Security Administration and the General Services Administration. A pilot test of the database is scheduled to commence during November 1997. The Database site will be made available for Federal government use during December 1997.

Are COTS Products Certified?

The Federal Year 2000 COTS Products Database is being implemented to provide a centralized repository of information to all Federal agencies which will speed the research and investigation of products being done by each agency. This Database can be used by the entire information technology community, and it is intended to assist Federal agencies in meeting the Year 2000 challenge. Year 2000 product compliance information contained in the Database is based on vendor assertions about their products. Year 2000 test information is based on specific agency experiences with various vendor products. This information is updated frequently, and efforts will be made to assure accuracy. However, the information has not been verified by the sponsors of this database, and this database does not constitute endorsement or Year 2000 certification by the Federal government.

What is the address of the website?

Users will go to the y2k.policyworks.gov internet web site. They will be given the capability to provide information from either an agency or vendor perspective. Anyone with internet access may search the database.

Mr. BALUTIS. To continue, the Capital Planning and IT Investment Committee, again, chaired by Joe Thompson, the CIO of the General Services Administration, has sponsored seven capital planning pilots as part of the 1999 budget cycle that the executive branch is now engaged in. They held an interagency forum in February to review the progress of those pilots, issued their initial findings, which we dubbed "First Practices," in March, and then a final product focused on best practices in August, and they are now working on a survey in conjunction with the Industry Advisory Committee and Government Computer News on experiences with IT capital planning and measuring. There has been a sample of over 1,500 respondents identified from Federal, State, local, and private sector IT professionals.

In terms of the Outreach Committee which I chair, and have done so since this past spring, we held a private sector forum in February to begin to interact with industry and other interested parties on the work of the Council. We had a very useful session that also resulted in the establishment of an ongoing dialog with several industry associations.

From that dialog emerged a product of the Council with the Industry Advisory Committee that focused on assembling a number of IT practices drawn, not from the so-called runaway system, systems that are over budget and behind schedule, but from actual success stories. I'm pleased to have brought a number of copies of that to share with the committee and the audience.

You said in your opening statement, sir, that success stories are, in fact, few and far between. We would argue that they are present out there and that we need best practices pulled from successful, healthy systems as well as those that are drawn from the autopsies of systems that have gone awry. We are distributing this publication widely to the public, to other Government agencies, and to State and local governments.

We also did publish earlier a 6-month progress report that reported on our offsite and the status of the various action items that I noted earlier. We have developed a monthly seminar series for CIO's to meet with their private sector counterparts. We have worked with groups like the Chamber of Commerce and Highway One to put these kinds of sessions in place, and we hope to be hearing in February from Senator Roth on the Government Performance and Results Act and its implications for IT professionals.

And we are completing a survey on business process reengineering efforts; we hope to have that completed soon. That's one of the so-called pesky questions that we are supposed to answer as CIO's. We hope to have that survey completed in November and present the results at a seminar in January.

We've held several briefings on CIO Council activities with Senate staff. I'm glad, now that I've had the chance to talk with and meet Mr. Alloway, that we can hold similar sessions in the near future with your staff as well, sir.

So I think we are very pleased with these accomplishments to date. We realize that much remains to be done, and we have every intention to pursue the purposes of the Council with energy and constructive, results-oriented activity.

I would just say as an aside, sir, that I would respectfully disagree with Mr. Dodaro's statement that we are dependent on OMB for our success. I think, in fact, we are dependent on ourselves as CIO's and deputy CIO's who have been created by this act of Congress to change the way we do business, not only in our own agencies, but also collectively through the work of the Council.

And if I may be allowed one personal aside, sir, last night, instead of reading testimony, I searched through my library, although I say in vain, for one of your works as a political scientist in the University of California system, because I did read your work on legislative processes and systems while I served as a mere lowly assistant professor in political science at the State University of New York at Buffalo.

So I'm very pleased to be here this morning not only to testify before—although he's now left us—the Congressman who represents the Commonwealth of Virginia, but also before someone who has made a successful transition from the life of studying government and politics to a life of practicing government and politics.

So thank you for the opportunity to appear before you this morning, Mr. Horn.

[NOTE.—The publication entitled, "Best IT Practices in the Federal Government," may be found in subcommittee files.]

[The prepared statement of Mr. Balutis follows:]

Statement of Alan P. Balutis
Director, Office of Budget, Management and Information and
Deputy Chief Information Officer
U.S. Department of Commerce
and
Chair, CIO Council Outreach Committee
before
The Honorable Stephen Horn
Chairman of the House Subcommittee on
Government Management, Information and Technology
October 27, 1997

Thank you, Mr. Chairman, for the opportunity to discuss the activities of the Chief Information Officers Council.

Executive Order 13011, "Federal Information Technology," establishes a Chief Information Officers Council (CIO Council) as the principal interagency forum to improve agency practices on such matters as the design, modernization, use, sharing, and performance of agency information resources. The Order specifies that the Council shall:

- develop recommendations for overall Federal information technology management policy, procedures, and standards;
- share experiences, ideas, and promising practices, including work process redesign and the development of performance measures, to improve the management of information resources;
- identify opportunities, make recommendations for, and sponsor cooperation in using information resources;
- assess and address the hiring, training, classification, and professional development needs of the Federal Government with respect to information resources management;
- make recommendations and provide advice to appropriate executive agencies and organizations, including advice to the Office of Management and Budget (OMB) on the Governmentwide strategic plan required by the Paperwork Reduction Act of 1995; and
- seek the views of the Chief Financial Officers Council, Government Information Technology Services Board, Information Technology Resources Board, Federal Procurement Council, industry, academia, and State and local governments on matters of concern to the Council as appropriate.

In fulfilling the responsibilities outlined in the Executive Order, the CIO Council has undertaken a number of activities. During its first six months of operation (September 1996-February 1997), the CIO Council launched a number of important initiatives and set a course for long range solutions to several difficult management challenges.

Launching the Council: the Strategic Planning Retreat. The CIO Council held its first Strategic Planning Retreat on October 28, 1996, at the Information Resources Management College of the National Defense University at Ft. McNair. The agenda was ambitious and covered an array of CIO Council interests and concerns. The objectives of the retreat were to share ideas and produce focused, specific, action-oriented strategic plans.

Retreat members were broken into ten working groups to focus on specific issues and topics. The working group reports, with a total of 51 recommendations, were presented at the November 20, 1996, CIO Council meeting. The Council members ranked all recommendations by ease/difficulty of implementation and payoff (high or low).

Developing an Action Plan. The recommendations were then assigned to the CIO Council Committees to review the rankings and develop action plans. The results were presented at the December 18, 1996, CIO Council meeting and work to implement them began under the guidance of the respective committees.

The CIO Council has made substantial progress in implementing the action plan and organizing its operations. Examples of Council actions include the following:

- The Council has set its structure and established administrative procedures such as criteria for additional members; voting, quorum, and proxy vote procedures; committees; endorsements; sponsors; communications; and resources. The Council also abolished the Federal Information Resources Management Policy Committee (FIRMPOC), which was no longer needed.

- The Council endorsed three major changes to the Federal Acquisition Regulation Part 15, Contracting by Negotiation, proposed by OMB's Office of Federal Procurement Policy. The changes enhance the overall goals of the Clinger-Cohen Act by streamlining acquisition processes.

- A draft "Capital Programming Guide," sponsored by the Office of Management and Budget and developed by inter-agency working groups representing 14 agencies, was reviewed by all CIO Council members as well as agency information resource management officers, budget officers, and other interested and involved parties. The guide, which was issued in July 1997, is a basic reference manual for Federal managers on capital assets and provides guidance

and assistance in the areas of planning, budgeting, financial management, and control and acquisition management.

- In January, 1997, the Benefits Systems Review Team released their report, "Strategies for Efficiency: Improving the Coordination of Government Information Resources." The report evaluates commonality among information collection systems and identifies opportunities for improving the operation of Federally funded benefit programs through enhanced coordination and data sharing among agencies.

- The Capital Planning and Investment Committee Chair met with his counterpart on the CFO Council to discuss plans for developing a capital planning methodology and development of performance measures.

Highlights of Committee Achievements. The CIO Council has formed five standing committees, as described below. I will provide highlights of initial committee achievements and plans. Committee chairs will further elaborate on activities of their respective committees.

Standing Committees:

Year 2000	Kathleen Adams (SSA)
Outreach	Alan P. Balutis (DOC)
Interoperability	Anne Reed (USDA)
Education and Training	Eliza McClenaghan (State)
Capital Planning and Investment	Joe M. Thompson (GSA)

Year 2000 Committee Achievements:

- Conducted monthly meetings as a forum to share information among Federal agencies and to address cross-cutting issues relating to the year 2000.

- Established an Internet web site to share information and lessons learned.

- Established nine subgroups to focus on specific areas of concern: Best Practices, State Issues, Data Exchange, COTS Products, Industry Issues, GSA Schedules, Telecommunications, Building Infrastructure, and Biomedical Equipment.

- Developed a best practices document that provides guidance on the five-phased approach to solving the year 2000 problem.

- Published two pamphlets entitled "The Year 2000 Issue" and "Year 2000 Products and Services."

- Worked with the Office of Federal Procurement Policy to develop standard language for contract solicitations on year 2000 compliance, which has been published in the Federal Acquisition Regulations.

- Developed a database of information on the year 2000 compliance of commercial-off-the-shelf products.

Capital Planning and IT Investment Committee Achievements:

- Sponsored seven capital planning pilots for the FY 1999 budget cycle, including the General Services Administration (GSA), Department of Housing and Urban Development, Department of Agriculture, U.S. Coast Guard, Department of State, Environmental Protection Agency, and Department of Energy.

- Agencies are now implementing the full capital planning life cycle, including selection, control and evaluation phases.

- Held an Interagency Forum in February to review the progress of these pilots and to share "First Practices" in a publication that was issued in March 1997. A final product of "Best Practices" was issued in August 1997.

- Conducted a survey, in coordination with the Industry Advisory Council and Government Computer News, on experiences with IT capital planning and measuring return on investment.

Outreach Committee Achievements:

- Held a Private Sector Forum, on February 18, 1997, which brought together approximately 50 people, representing industry, government agencies, and other interested parties to discuss such matters as the design, modernization, use, sharing, and performance of agency information resources.

  During the Forum, five Committee Chairs gave brief summaries of their goals and initiatives for working with industry and six industry executives spoke of their interest and desire to work with the various committees. As a result of the Forum, a dialogue with several industry associations was established.

- Developed a White House policy statement on the relevance and importance of information technology in the Twenty-First Century. This policy has been defined in a new report presented to the President and Vice President by the National

Performance Review and the Government Information Technology Services Board. The report, "Access America: Reengineering Through Information Technology," provides a set of new reinvention recommendations to the President.

- Worked with the Industry Advisory Council (IAC) to organize a task force of industry and government volunteers in order to assemble a volume of approximately 150 "success stories." Reviewed and selected 20, which were developed into full-blown case studies of successful information technology initiatives. These case studies are detailed in "Best IT Practices in the Federal Government," which was issued in October 1997.

  We are now distributing "Best IT Practices in the Federal Government" to the Congress, the General Accounting Office, news media, universities, state and local governments, all Federal agencies/departments, public/private sector counterparts, etc.

- The Council has worked closely with the Interagency Management Council and OMB to develop policy guidelines that will enable agencies to procure their own telecommunications services competitively. In February 1997, the Interagency Management Council presented, and the CIO Council accepted, policy guidance on acquiring cost effective local telecommunications services Governmentwide.

- Developing a monthly seminar series for CIO's around a number of common themes/topics that have emerged from a series of meetings held with CIO's, Deputy CIO's, and their staff.

- Surveying the CIO community on business process reengineering efforts. Planned completion is late November 1997.

- Established an Internet web site with documentation about activities of the CIO Council and other documents of interest to the information resources management community.

- Made speeches and presentations on the Council's accomplishments and activities to a number of professional organizations/seminars/conferences, for instance:

  - IAC 7th Annual Leadership Conference,
  - Interagency Resources Management Conference (IRMCO) '97,
  - Information Resources Management College,
  - Armed Forces Communications and Electronics Association (AFCEA) International Management Conference 1997,

- Federal Office Systems Exposition (FOSE) Information Technology Roundtable, and
- The International 3rd Annual Government Financial Managers Conference.

- Held several briefings on CIO Council activities with Senate staff; we would like to hold similar sessions in the near future with House staff.

Education and Training Committee Achievements: (Eliza McClenaghan, chair of this Committee, will provide further details.)

- Developed and distributed information resources management core competencies to meet the Clinger-Cohen Act executive skills assessment requirements. These competencies cover the Federal information resources management environment, capital planning, change management, and professional development.

- Benchmarking the best practices of successful organizations to determine the status of information resources management core competency learning in the Federal environment. Information will be gathered through a survey and interviews with Federal CIO's.

- Drafted a white paper that addresses the resources needed to support the implementation of the knowledge management aspects of the Clinger-Cohen Act.

Interoperability Committee Achievements: (Anne Reed, chair of this Committee, will provide further details.)

- Identified and established two broad areas of focus: technical architecture and standards, and information management. Established several task forces to address specific interoperability issues including architecture, standards, and cross-cutting/information sharing initiatives.

- Reviewed and supported OMB's Memorandum 97-16, "Development, Maintenance, and Implementation of Agency Information Technology Architecture," as a sound basis for establishing a meta-architecture for the Federal Government.

- Developing Common Best Practices for Government Intranets. Completed the Common Best Practice, "How to Keep Computer Clocks Accurately Set," to ensure accurate time and date stamps for security purposes and electronic

commerce activities. Future topics include E-mail compatibility and issues associated with the transfer of attachments.

- Through the CIO Council, surveyed Government agencies to identify current and proposed information systems initiatives that have potential for increased information sharing Governmentwide. The surveys were due October 24.

- Working closely with a companion group under the Industry Advisory Council, which has developed a draft Information Systems Interoperability Reference Guide. The Guide provides information on activities undertaken by industry to standardize operations in systems infrastructure in six selected application domains. This group will also sponsor an Industry Symposium on Interoperability this winter.

Activities for Fiscal Year 1998

October 23, 1997	Meeting sponsored by the Outreach Committee with the Coalition for Government Procurement to discuss the Council's work with the private sector and get the advantage of their advice, insights, and concerns.
November 13, 1997	Co-sponsored forum with the Chamber of Commerce – *Pesky Question #2: Is There Someone Who Can Do It Better?* CIO's from Xerox, Dupont and Lockheed-Martin will discuss outsourcing their IT operations.
November 19, 1997	Session sponsored by Highway One with Marc Andreessen, Chief Information Officer and Senior Vice President of Technology as well as co-founder of Netscape Communications Corporation, and John Connors, Chief Information Officer, Microsoft Corporation. This session will be held after the regular CIO Council meeting.
February (TBD)	Session sponsored by the Chamber of Commerce: Senator William Roth on the Government Performance and Results Act.
February 10-12, 1998	*Virtual Government 1998* sponsored by AFCEA International; a CIO Roundtable will be part of conference.

March 1998	As an outgrowth of the "Best IT Practices in the Federal Government," the Council will sponsor preparation of a document that identifies best practices for measuring return on investment, both quantitatively and qualitatively.

As you can tell from the array of accomplishments noted and planned, the CIO Council has been extremely active and productive. Our recent strategic planning retreat, held October 14, has identified further strategies and actions to support these directions. We will share the report from this planning session with you as soon as it becomes available.

We are pleased with our accomplishments to date and heartily thank all those who have contributed to the success of our efforts. We recognize that much work remains and have every intention to pursue the purposes of the Council with energy and constructive, results-oriented activity.

I would be happy to respond to any question the Committee may have about the work of the Council.

Mr. HORN. I appreciate what you have done, all of you, on this, and I thank you for the compliment.

I noted when I went through your testimony, which was very well organized and succinct. I just asked the staff to get me that year 2000 issue and the year 2000 products and services. And, frankly, I missed that point Mr. Dodaro made on the OMB thing, so I am glad to hear your side of it, because I think that is exactly what happened, is you have all taken hold. I would ask you, do you feel you are sufficiently positioned within your agency so that you have the authority and the controls to do what you have to do in the role of a chief information officer?

Mr. BALUTIS. Yes, sir, I do. I have responsibility for some other areas besides IT, but I think in fact they only support and reinforce that IT responsibility. I am responsible for the Department's compliance with the Government Performance and Results Act, so I have been able to incorporate the contributions that technology can make to the accomplishment of the business mission.

I do not serve as the CFO or the deputy CFO, but I do have budget formulation responsibilities, and, as a result, I have control through that process or a say in that process in IT investments and ongoing systems efforts. And, as the person responsible for the management planning work as well, we can focus on the reengineering and reinvention needs to accompany the implementation of technology initiatives to our programs.

So, yes, sir, I do feel I have the authorities that accompany my responsibilities as the deputy CIO at the Department of Commerce.

Mr. HORN. When Congress passed these various acts, be it the inspector general 20 years ago, the CFO, or the CIO, the feeling certainly was that this should be a full-time job because it is massive and it is very important and billions of dollars are involved with it.

Do you feel that the CIO, your agency, ought to be a full-time job?

Mr. BALUTIS. I believe it is, sir. We are in a somewhat unusual circumstance in the sense that we have had an acting CFO Assistant Secretary for Administration since shortly after the tragic death, almost 20 months ago now, I guess, of then Secretary Ronald Brown while the CFO and Assistant Secretary for Administration was given the interim designation as CIO, when we were called upon to set our structure in place. I, in fact, had that title and responsibility previously, and I have carried it out, albeit with the deputy title since then.

Secretary Daley is revisiting that structure based on the experiences we've had to date, the requirements of the act, and his determination of what would fit best within the Department of Commerce. But I think it is a full-time responsibility for me, where I used the other authorities, I have to carry out that task in a way I think the legislation intends, with some role in systems investment, a link to strategic planning, and some capacity to not only lecture about the importance of good planning and systems architecture but some mechanisms to enforce it, if need be, within bureaus in the Department of Commerce.

Mr. HORN. Has there been a CIO—who is the chief information officer of the Department of Commerce?

Mr. BALUTIS. That title resides now with Scott Gould, who was just recently confirmed as chief financial officer and Assistant Secretary for Administration. But he is sending an organizational proposal forward to Secretary Daley which would set out a Deputy Assistant Secretary-level CIO, a career reserved position, that would report to the Secretary on IT issues and matters.

Mr. HORN. So would that be your position, the deputy CIO?

Mr. BALUTIS. I believe the plans are to keep that position, sir.

Mr. HORN. To keep the deputy CIO position.

Mr. BALUTIS. The deputy CIO position, I think, would be retained but in a different organizational structure than exists at present.

Mr. HORN. So that your deputy position would have access to the Secretary; is that it?

Mr. BALUTIS. Yes, sir. There would be a Deputy Assistant Secretary-level CIO, and that person would have access to the Secretary.

Mr. HORN. It just seems to me since I did this 20 years ago in a university, I wonder what is all the fuss? Why can't they do this? And, why do they combine it with jobs that are also full-time jobs if they want to get something done?

I marvel at the inefficiencies of the executive branch in some areas and don't understand why they don't see the need for this. Just throw it in the jungle, which means nobody is doing anything very well, but, boy, they have sure got the titles.

I expect to see, very frankly, full-time positions. I look at the departments, IRS under Treasury, where the CFO has been the Assistant Secretary. That is part of the problem. Nobody gives the attention to an IRS where you need about 20 CIO's practically to untangle it, and you need about 20 CFO's to untangle it, and here we are. You know, years go by, debts mount up, and the confusion mounts. So I am glad Commerce is doing something about it.

Since you won't be here this afternoon when that interesting panel on import-exports occurs, Commerce has two of your major bureaus that probably have a major input into this.

Mr. BALUTIS. Yes, we do——

Mr. HORN. You were involved in that.

Mr. BALUTIS. Yes, I've been aware of it, involved in it. I think the lead representative from the Department is a senior colleague from the Census Bureau. But he is the right one to be involved, and I have kept informed through him of the work of this as well as the presentations that have been made at the Council as well as discussions with my colleague, Alan Proctor, who will be testifying this afternoon.

Mr. HORN. Very good. Well, I thank you.

Now we will have some questions to submit for the record if you don't mind. Mr. Alloway will send them to you. Take one or two, three sentences to answer, and we will appreciate it. And, without objection, that will go in the record at this point in your testimony.

[The information referred to follows:]

Questions for the Record
Oversight Hearing on the Implementation of the Clinger-Cohen Act
Alan Balutis, Deputy CIO, Department of Commerce

1. **There are other boards that relate to Clinger-Cohen and the CIO Council, for example, the Information Services Technology Board. Are these boards composed of the heads of IT? Why are they independent boards instead of subcommittees of the CIO Council?**

   Executive Order 13011 of July 16, 1996, "Federal Information Technology," establishes the Chief Information Officers (CIO) Council, the Government Information Technology Services Board (GITSB), and the Information Technology Resources Board (ITRB) as independent entities. They perform complementary functions. The Order identifies CIO's and Deputy CIO's from specified executive agencies plus two representatives from other agencies as members of the CIO Council. The chairs of the GITSB and ITRB are also members of the CIO Council. Two members of the CIO Council serve on the GITSB. Attachment 1 provides the relevant text from the Executive Order defining the purpose and functions as well as membership of each board.

2. **Regarding the projects in the October 1997 article "Best IT Practices in the Federal Government," what role did the CIOs play in these projects?**

   Regarding the study itself, the CIO's played a key role in nominating projects for consideration and in selecting the final twenty projects for inclusion in the publication. Most of the projects were initiated before the Clinger-Cohen Act was passed. Thus, many -- if not most -- of the agencies did not have CIO's in place at the time the projects were initiated. For this reason, the study methodology did not specifically address CIO's and their roles. Some of the case studies do nonetheless discuss the role of the CIO or CIO-equivalent. For instance, in the Joint Automated Booking System of the U.S. Department of Justice, the Deputy Assistant Attorney General for Information Resources Management chairs a board that provides high level technical and programmatic guidance and that will ensure the development and national implementation of the system.

   Further, the interview process included posing what were referred to as the "CIO's Questions" about each nominated project. Should the department/agency be in this business? Should the department/agency be doing it or can someone else do it better (cheaper)? Were the business processes reengineered before technology was applied? Thus, the case studies address key issues that are the responsibility of the CIO or CIO-equivalent.

   The analytical chapter of the "Best IT Practices in the Federal Government" provides commentary on the CIO Council and its effectiveness.

Very early in our effort the team began to observe an improvement in the sharing of information, techniques, and approaches (both technical and business oriented) throughout the Federal Government. This improvement was not merely the result of some kind of indoctrination or sharing of published materials, but appeared to be in the form of consensus and agreement on approach arrived at after deliberation and debate. Such agreement was most evident when discussing high-level strategy and divergent viewpoints became clear as discussion moved in the direction of specific tactics -- which may be the result of specific individual department and agency considerations.

As the project continued, our IAC [Industry Advisory Council] team realized that the CIO Council itself was the source of the improved information sharing. The Council provided an essential, high-level opportunity for professionals to "network" among peers and then extend those contacts to their subordinates. This process of encouraging and facilitating contacts at second, third, and lower levels of leadership appears to have created new contacts that did not exist before. Of course, there were still those who preferred to highlight individual department or agency uniqueness rather acknowledge commonality of business needs. But for those who choose to avail themselves of its offerings, the CIO Council is a testament to the power in sharing information to leverage others' experience in defining and solving common business problems.

3. **It seems the successes are small projects and the failures are large projects. Is this just a perception or is this a real pattern?**

The study that led to the publication of the "Best IT Practices in the Federal Government" did not focus on failures. The purpose of the study was to highlight successful projects and practices. Consequently, one could not generalize from this study that small projects are successful and large projects fail. What can be noted is that in the course of the study effort, more than 150 different, successful IT projects were nominated. The nominated instances, like those finally selected, included a broad range of programs -- from very small to extremely large. Also included were several projects that were early "failures" that later became successes once more realistic and attainable timelines for performance were adopted by program management teams. The study team reviewed all these nominated instances and recommended 32 that best met a rigorous definition of "success." From these, twenty representative examples were drawn and are presented as case studies. These case studies highlight projects that range in expenditures from $100 thousand to $132 million. Although no billion dollar projects are included, several of the presented cases are sub-projects of agency "mega-programs." Though it is dangerous to draw broad conclusions

from this small sample, the relatively small size of the projects included in this set of case studies lends credence to the idea that modular development and implementation, with modules of small size, scope, and complexity, is an effective approach.

4. **What are the common characteristics of these successful projects. How closely related to agency strategic plans were these projects? Did they develop out of Results Act (GPRA) strategies? Were any derived from Clinger-Cohen strategic planning?**

Again, most of the projects were initiated before the Clinger-Cohen Act was passed. The strategic program planning and performance measurement that are required by the Government Performance and Results Act (GPRA) are just now maturing. Thus, most projects have not benefited from the recent legislation. However, there are exceptions. The Treasury Department undertook a formal, structured strategic planning process to develop an overall Treasury Communications System (TCS) Strategic Plan. This plan addressed Treasury's communications needs and changing bureau requirements, and supported early National Performance Review reinvention initiatives. The TCS Strategic Plan raised investment considerations, as well as modular pilot test implementation methodologies, preceding the Office of Management and Budget's "Raines Rules" and providing early conformance with GPRA.

Whether formal strategic planning was undertaken or not, the case studies show that all successful projects were closely aligned with core mission needs. Additionally, many of the case studies specifically cite customer support as a key focus. All case studies identified performance improvements, in dollar savings and/or enhanced service delivery and customer satisfaction. Many cited the ability to take advantage of current technology as a critical success factor.

5. **Many of these successful projects had real dollar savings. Did they also yield improvements in real performance measures like better program achievement, better citizen services, fraud detection, etceteras?**

In conducting the study, one of the key definitions used in defining "success" was that each of the projects had to have a positive return on investment (ROI). The study team did not impose a definition of ROI; rather the team asked the departments and agencies to explain their internal criteria for assessing ROI from the projects. ROI can be attained either by savings or by improved performance, or -- typically -- by a combination of both. In arriving at the recommendation of the 32 projects for consideration for publication, the relative strength of the basis for ROI was a major consideration.

All of the twenty projects that are presented as case studies noted improvements in real performance measures, in addition to dollar savings. Increased customer

satisfaction, improved data quality, and more timely response were frequent citations in the case studies. For instance, the Department of Commerce's Automated Surface Observing Systems, an effort of the National Weather Service, provides better detection of phenomena, earlier detection of freezing rain, improved nighttime observations, and greater data consistency. The Department of Housing and Urban Development reports that the Tenant Eligibility Verification System reduces fraud and abuse; improvements in the focus and efficiency of the overall program free personnel to work on other aspects of the program.

It is significant to note that the team also observed that, within government, ROI is a much more complex issue than within commercial entities. See the rationale offered in the Analytical chapter of the booklet for a more complete discussion. Additionally, please note that, under the auspices of the CIO Council, another joint government and industry task force is addressing the issue of ROI.

6. **Consider the earliest stages of these projects. Did they go through the project selection, capital budgeting, risk assessment and similar processes envisioned by Clinger-Cohen? Is that why they were successful?**

The case studies did not, in general, address formal processes for selection, control, and evaluation of information technology investments. However, there is strong evidence of careful selection procedures. All projects are aligned with the agency's mission. Many cite specific causal factors that led to development of new systems. For instance, the Department of Interior's Employee Express was motivated by streamlining within the Personnel Office that reduced personnel strength from 1500 to 750. The U.S. Department of Agriculture's Field Automation and Information Management System responded to the "Jack-in-the-Box" food disease outbreak and outbreaks of the ecoli virus in addition to an increased number of food products and food diseases. Many of the case studies address reengineering efforts that took place prior to project initiation or as part of the system development. Frequent mention is made of addressing customer needs and of taking advantage of existing technology. Taken together, these elements indicate attention paid to key selection criteria as outlined in the Clinger-Cohen Act and the Office of Management and Budget's "Raines Rules."

7. **Do you see the Clinger-Cohen changes increasing the flow of these kinds of projects?**

Yes. Formal selection, control, and evaluation processes to assess the viability of information technology investments will sort the high value, low risk projects from those that are less worthwhile or risky. True project tracking and oversight will allow for course corrections in problem systems before the problems escalate. In fact, the preparation of materials to present to formal investment

review boards should bring to light areas of concern, allowing those who are initiating projects to rethink their approaches to maximize the probability of success.

8. **We have discussed some successful IT projects. I would like to flip the coin. Why do we keep starting projects that fail?**

The information resources management community is now coming to grips with the sobering lessons learned from prior project failures. With application of the provisions of the Clinger-Cohen Act to analyze information technology projects as investments, to develop systems within a defined architecture, to assess progress through formal performance measurement, and to educate the information resources management community to apply best practices to information technology management, we should see a reduction in the start of projects that fail.

9. **Continuing on the question of project failure, why do we find out so late that projects are failing? Why can't we know when they are at the 4 million or the 40 million dollar level instead of the 400 million or 4 billion dollar levels?**

In many agencies, project concerns have not been raised because there was no mechanism to force a careful, independent analysis of project status relative to initial budget, schedule, and performance criteria. Formal selection, control, and evaluation processes, which include analysts from outside the project team, will bring to light, at an earlier date, those projects that are in trouble, and will allow for corrective actions.

Also, the Clinger-Cohen legislation has elevated the position of CIO within agencies so that the CIO has more input to the planning and implementation process. The CIO's mandate to develop and maintain an ongoing process to ensure that information resources management operations and decisions are integrated with organizational planning, budget, financial management, human resources management, and program decisions provides the base to ensure that projects are not developed in isolation and do respond to mission goals and customer needs.

10. **What can be done to make the CIO Council a more effective group? What can Congress, OMB, and the CIOs themselves do?**

See below.

11. **What can Congress, OMB, the Agencies, and/or the CIOs do to be more effective?**

See below.

12. What can Congress, OMB, the Agencies, CIOs, and the IT staffs do to make IT more successful?

This section responds to questions 10, 11, and 12.

Offered below are suggestions to improve the information resources management environment in the Federal Government. The suggestions are intended to supplement, and not duplicate, existing legislation and guidance from the Office of Management and Budget (OMB), General Accounting Office, and the General Services Administration. The CIO Council, CIO's, Congress, OMB, agencies, and IT staffs will have differing roles vis-a-vis each suggestion.

- Continued positive support for the CIO Council, especially from Congress and OMB, is important. The focus should be on the overall contribution of the CIO Council toward improving the application of information technology.

- Reinforcing the importance of the role of the CIO will lead to stronger CIO's who have the ability to improve the effectiveness of information technology. Ensuring a close relationship between the CIO, Chief Operating Officer, and key program officials will also lead to improvement.

- The ability to enforce effective project management through the budget process is critical. CIO's need to have influence over information technology budgets.

- Incentives, rewarding or punitive, for agencies to develop and institute effective capital investment review processes will be important and motivating.

- The planning, budgeting, selection, control, and evaluation phases of capital programming must be seen as part of a single process, a continuum to achieve results. If, for instance, planning is performed independent of evaluation, it is less likely that project problems will be caught at an early stage.

- Education regarding the intent and execution of the Clinger-Cohen Act, Government Performance and Results Act, and Paperwork Reduction Act is necessary. Within most agencies, a core group of administrators understands the provisions and intent of the legislation. The message has not spread uniformly to program managers in the field, many of whom have only a cursory awareness of the legislation and see the new management techniques as simply another variant in a long line of reform efforts. Buy-in is critical.

- Capitalizing on process improvement models, such as the Software Engineering Institute's capability maturity models for software development and acquisition risk management, should be helpful.

- The Department of Commerce report, "America's New Deficit: The Shortage of Information Technology Workers," points to the projected shortfall of information technology workers in the years to come. Effective responses to this challenge are needed.

Attachment 1: Excerpts from Executive Order 13011

Sec. 3. *Chief Information Officers Council.* (a) Purpose and Functions. A Chief Information Officers Council (``CIO Council'') is established as the principal interagency forum to improve agency practices on such matters as the design, modernization, use, sharing, and performance of agency information resources. The Council shall:

(1) develop recommendations for overall Federal information technology management policy, procedures, and standards;

(2) share experiences, ideas, and promising practices, including work process redesign and the development of performance measures, to improve the management of information resources;

(3) identify opportunities, make recommendations for, and sponsor cooperation in using information resources;

(4) assess and address the hiring, training, classification, and professional development needs of the Federal Government with respect to information resources management;

(5) make recommendations and provide advice to appropriate executive agencies and organizations, including advice to OMB on the Governmentwide strategic plan required by the Paperwork Reduction Act of 1995; and

(6) seek the views of the Chief Financial Officers Council, Government Information Technology Services Board, Information Technology Resources Board, Federal Procurement Council, industry, academia, and State and local governments on matters of concern to the Council as appropriate.

(b) Membership. The CIO Council shall be composed of the CIOs and Deputy CIOs of the following executive agencies plus two representatives from other agencies:

1. Department of State;
2. Department of the Treasury;
3. Department of Defense;
4. Department of Justice;
5. Department of the Interior;
6. Department of Agriculture;
7. Department of Commerce;
8. Department of Labor;
9. Department of Health and Human Services;
10. Department of Housing and Urban Development;
11. Department of Transportation;
12. Department of Energy;
13. Department of Education;
14. Department of Veterans Affairs;
15. Environmental Protection Agency;
16. Federal Emergency Management Agency;
17. Central Intelligence Agency;
18. Small Business Administration;

19. Social Security Administration;
20. Department of the Army;
21. Department of the Navy;
22. Department of the Air Force;
23. National Aeronautics and Space Administration;
24. Agency for International Development;
25. General Services Administration;
26. National Science Foundation;
27. Nuclear Regulatory Commission; and
28. Office of Personnel Management.

The Administrator of the Office of Information and Regulatory Affairs of OMB, the Controller of the Office of Federal Financial Management of OMB, the Administrator of the Office of Federal Procurement Policy of OMB, a Senior Representative of the Office of Science and Technology Policy, the Chair of the Government Information Technology Services Board, and the Chair of the Information Technology Resources Board shall also be members. The CIO Council shall be chaired by the Deputy Director for Management of OMB. The Vice Chair, elected by the CIO Council on a rotating basis, shall be an agency CIO.

Sec. 4. *Government Information Technology Services Board.*

(a) *Purpose and Functions.* A Government Information Technology Services Board (``Services Board'') is established to ensure continued implementation of the information technology recommendations of the National Performance Review and to identify and promote the development of innovative technologies, standards, and practices among agencies and State and local governments and the private sector. It shall seek the views of experts from industry, academia, and State and local governments on matters of concern to the Services Board as appropriate. The Services Board shall also make recommendations to the agencies, the CIO Council, OMB, and others as appropriate, and assist in the following:

(1) creating opportunities for cross-agency cooperation and intergovernmental approaches in using information resources to support common operational areas and to develop and provide shared governmentwide infrastructure services;

(2) developing shared governmentwide information infrastructure services to be used for innovative, multiagency information technology projects;

(3) creating and utilizing affinity groups for particular business or technology areas; and

(4) developing with the National Institute of Standards and Technology and with established standards bodies, standards and guidelines pertaining to Federal information systems, consistent with the limitations contained in the Computer Security Act of 1987 (40 U.S.C. 759 note), as amended by the Information Technology Act.

(b) *Membership.* The Services Board shall be composed of individuals from agencies based on their proven expertise or accomplishments in fields necessary to achieve its goals. Major government mission areas such as electronic benefits,

electronic commerce, law enforcement, environmental protection, national defense, and health care may be represented on the Services Board to provide a program operations perspective. Initial selection of members will be made by OMB in consultation with other agencies as appropriate. The CIO Council may nominate two members. The Services Board shall recommend new members to OMB for consideration. The Chair will be elected by the Services Board.

Sec. 5. *Information Technology Resources Board.*

(a) Purpose and Functions. An Information Technology Resources Board (``Resources Board") is established to provide independent assessments to assist in the development, acquisition, and management of selected major information systems and to provide recommendations to agency heads and OMB as appropriate. The Resources Board shall:

(1) review, at the request of an agency and OMB, specific information systems proposed or under development and make recommendations to the agency and OMB regarding the status of systems or next steps;

(2) publicize lessons learned and promising practices based on information systems reviewed by the Board; and

(3) seek the views of experts from industry, academia, and State and local governments on matters of concern to the Resources Board, as appropriate.

(b) Membership. The Resources Board shall be composed of individuals from executive branch agencies based on their knowledge of information technology, program, or acquisition management within Federal agencies. Selection of members shall be made by OMB in consultation with other agencies as appropriate. The Chair will be elected by the Resources Board. The Resources Board may call upon the department or agency whose project is being reviewed, or any other department or agency to provide knowledgeable representative(s) to the Board whose guidance and expertise will assist in focusing on the primary issue(s) presented by a specific system.

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OIPR Subject

Mr. HORN. We will move on to Chief Information Officer McClenaghan from the Department of State.

Welcome.

Ms. MCCLENAGHAN. Good morning. Thank you, Mr. Chairman.

I am Eliza McClenaghan, chief information officer of the Department of State. I'm here today in my role as chair of the CIO Council Education and Training Committee. Other members of the committee include representatives from the CIO organizations of the Departments of Agriculture, Education, Energy, Defense, Justice, Labor, Treasury, the Environmental Protection Agency, the National Science Foundation, the Nuclear Regulatory Commission, the Office of Management and Budget, and the General Accounting Office.

As Alan mentioned to you earlier, the CIO Council was formally established in August 1996, but shortly before it took effect we had an interagency CIO working group, and Mr. Koskinen asked us to establish an education and training committee. And immediately upon the CIO Council's institutionalization, we embraced this committee in its organizational structure.

We were prompted to do so for a number of reasons. One is, the legislative history of the Clinger-Cohen Act puts an emphasis on the development of the well-trained corps of professional Federal Government information resource managers; second, explicitly levels on the CIO the responsibilities related to work force planning and the strategic planning and performance evaluation processes.

CIO's must annually evaluate whether their agencies have established the appropriate knowledge, skills, and abilities required to achieve information resource management performance goals. Thereafter, we must assess whether agencies, first of all, meet those requirements and, if they don't, develop strategies for hiring, training, and professional development. And, finally, we must report to the agency head on the progress on improving information resource management capabilities.

Third, the CIO's knew from our own experience in the public and private sector that successful development and deployment of information technology strategies in an area of rapid technology obsolescence and tight budgets requires cognitive, highly skilled information resource management practitioners at all organizational levels.

This committee would offer an opportunity for Federal officials to collaborate on finding practical solutions to their common needs. Our mission has been to provide recommendations to the CIO Council on the whole education and training matters as identified in the Clinger-Cohen Act. As a general proposition, current work is focused on identifying problems for information resource management and practitioners in identifying, promoting, career development opportunities.

Let me summarize quickly some of our work in three areas.

In February, the CIO Council did approve our identification of Clinger-Cohen core competencies which we would use in our work force planning efforts, and we've attached that for the record. These planned competencies cover the Federal IRM requirement, capital planning, change management, and professional development. Within each of these broad areas specific subjects and business practices are identified.

The committee's analysis of IRM core competency has benefited substantially from discussions and review by the public and private sector organizations, and we will continue with these meetings as a CIO Council in the community to gain further experience with IRM and the competencies required for successful implementation.

I personally believe the core competencies we have so far recognized will be invaluable as CIO's turn to the identification of deficiencies in their respective agencies and their really hard work in designing, implementing, and evaluating remedial programs responsive to particular systems. It was particularly gratifying to note that the Department of Defense Information Resource Management College has incorporated these core competencies into its curriculum and created a CIO certificate program. Also, the General Services Administration has incorporated the core competencies into a 2000 program, and it's trailed off quickly.

At the Department of State, we are using them in our new School of Applied Information Technology for basis of curriculum development, and we are publishing these "competencies" widely, and they are on our web site, CIO.fed.gov, and other web sites. We will see some competition in the area of providing learning experiences at all levels.

In addition, we decided we needed to do a benchmarking of where the spending is occurring in these core competency areas across the Government, so we've identified and have attached for your review a draft benchmarking study that would go through each agency and the sub-Cabinet agencies to look at where the spending is occurring right now, so we can mark it over a period of time as your committee reviews the implementation of the Clinger-Cohen Act.

We are using the General Services Administration, the Industries Advisory Council, the American Society for Training and Development, and the Bureau of Labor Statistics in this exercise. The latter two organizations are sharing experiences from recently conducted research on similar nature and training in general to be used by executive and corporate America.

Without wishing to prejudge the outcome of this study, I would anticipate that we would find considerable variation in the state of argument—core competency learning. For example, there has been considerable attention in recent years to acquisition education training generally. In consequence, I would expect that it would be easier to identify best practices and benchmark learning processes in this area than in the area of IT capital planning and investments where agencies are still trying to determine how to introduce benefit-cost analysis and risk management concepts.

And, finally, we have developed a white paper to look at the resources required by CIO's to bring to bear work force planning and human resource development to their agencies. In the first instance, the CIO's must identify the current IRM knowledge, skills, and abilities resident in their agencies, and they must determine what knowledge, skills, and abilities are required at least 5 years in the future—no small chore given the rapid obsolescence of information technology. Therefore, there would be a shortfall across the board and CIO's would need to devise the strategy to address the shortfall.

The committee is working on this white paper to assist the CIO's, and we're particularly cognizant of the need to demonstrate to chief financial officers and other senior agency leadership in investment, you know, in work force planning, quite apart from the legal mandate will have important payoffs in the future. Among the benefits that the committee anticipates is the possibility of the Federal Government will be better able, in the face of an enormous number of vacant information technology jobs in the private sector, to retain its current IRM work force and more successfully recruit new employees.

We had a handle on the knowledge, skills, and abilities that our employees need to be productive, and if we can provide the wide educational training opportunities, we will increase job satisfaction, and if we are perceived as forward looking with challenging jobs for well-prepared people, we will be an attractive employer. And this leads me back to the significance of the committee's work in identifying IRM core competencies. The core competencies are what we must offer our current employees, and the core competence will guide our recruitment efforts.

In conclusion, the CIO Council's Education and Training Committee believes the task at hand is important. It realizes the job cannot wait, and, as its chair, I assure you that we are working diligently. The Congress took an important step in enacting the Clinger-Cohen Act, and we are grateful for the interest you and the members of your committee have shown in our work. We look forward to continuing our close collaboration with you in achieving the purposes of this legislation.

Mr. Chairman, that concludes my opening remarks, and I'll be happy to answer any of your questions.

[The prepared statement of Ms. McClenaghan follows:]

Statement of Eliza McClenaghan
Chair, CIO Council Committee on Education and Training
before the
Subcommittee on Government Management, Information and Technology
of the Committee on Government Reform and Oversight
U.S. House of Representatives

October 27, 1997

Thank you, Mr. Chairman. I am Eliza McClenaghan, Chief Information Officer of the Department of State. I am also the Chair of the CIO Council Committee on Education and Training. The other members of the Committee include representatives from the CIO organizations at the Departments of Agriculture, Education, Energy, Defense, Justice, Labor and Treasury, the Environmental Protection Agency, the National Science Foundation, the Nuclear Regulatory Agency, the Office of Management and Budget, and the General Accounting Office. I am speaking today in my capacity as Committee Chairman. There are inevitably differences in perception and emphasis among committee members. Nonetheless, I believe they will agree with the general thrust of my remarks.

Background

The CIO Council was formally established in August 1996, shortly after the Clinger-Cohen Act took effect. An inter-agency CIO working group that had been meeting to prepare for implementation of the legislation had set up an Education and Training Committee, and the Council placed the group within its ambit. It was prompted to do so for several reasons.

First, the legislative history of the Clinger-Cohen Act cites the need for action to provide for the development of a well-trained corps of professional federal government information resources managers.

Second, the Act explicitly levies responsibilities on Chief Information Officers relating to work force management. As part of the strategic planning and performance evaluation process, CIOs must annually assess whether agencies have established appropriate knowledge and skill requirements to facilitate achievement of information resources management performance goals. They must thereafter assess whether agency personnel meet those requirements. If they don't, CIOs must develop strategies and specific plans for hiring, training, and professional development. Finally, CIOs must report to the head of agency on progress in improving information resources management capability.

Third, the CIOs knew from their own prior experience in government and industry that the successful development and deployment of information technology strategies, in an era of rapid technological obsolescence and tight budgets, required a cadre of highly skilled information resources management practitioners at all organizational levels. The

Committee would offer an opportunity for federal officials to collaborate on finding practicable solutions to their common needs.

The Committee's mission is to provide recommendations to the CIO Council on all education and training matters as identified in the Clinger-Cohen Act. As a general proposition, current work is focused on identifying competencies for information resources management practitioners, and on identifying and promoting career development opportunities. Certain current work is summarized in the following paragraphs.

Activities to date

Identification of IRM core competencies

In February, 1997, the Education and Training Committee identified for the CIO Council IRM core competencies which it recommended the Council adopt as the basis for the IRM workforce planning called for in the Clinger-Cohen Act. The Council did so. (A copy of the IRM core competencies is appended to this statement.)

The core competencies identified by the Committee cover the Federal IRM environment, capital planning, change management, and professional development. Within each of these broad areas, specific subjects, analytic models and business practices are identified. The Committee's analysis of IRM core competencies benefited substantially from discussions with, and review by, public and private sector organizations. These discussions will continue, as the CIO community gains further experience with IRM and the competencies required of successful practitioners. I personally believe the core competencies we have so far recognized will be invaluable, as CIOs turn to the identification of deficiencies at their respective agencies, and the really hard work of designing, implementing and evaluating remedial programs responsive to particular circumstances.

It is gratifying to note that the Defense Department's Information Resources Management College, which offers a CIO certificate program, has incorporated these core competencies in its curriculum. The General Services Administration's 1000 by 2000 and Trail Boss initiatives have also added core competency training. The State Department's new School of Applied Information Technology is also using the core competencies as the basis for curriculum development.

The CIO Council has taken advantage of current information technology and posted the IRM core competencies on several web sites:

http://www.cio.fed.gov
http://www.itpolicy.gas.gov
http://www.dtic.mil/c3i/cio/cioedtrg.html
http://www.ndu.edu/irmc

Benchmarking Study

Benchmarking involves identifying the best practices of successful organizations and examining whether and to what extent your own organization falls short. Benchmarking applies as appropriately to IRM education and training as it does to other critical IRM activities under chief information officer purview.

Accordingly, the Education and Training Committee is now in the process of determining the status of IRM core competency learning in the Federal government. The study is being developed in consultation with the General Services Administration, the Industry Advisory Council, the American Society for Training and Development, and the Bureau of Labor Statistics; the latter two organizations are lending experience from recently conducted research of a similar nature. Information will be gathered through surveys and interviews with the CIOs who are members of the CIO Council, CIOs at other federal agencies, and CIOs designated by Executive Branch agencies for major subcomponents and bureaus. The survey instrument is attached.

Without wishing to prejudge the outcome of this study, I would anticipate that we will find considerable variation in the state of the art in core competency learning. For example, there has been considerable attention in recent years to acquisition education and training generally; in consequence, I would expect that it will be easier to identify best practices and benchmark learning processes in this area, than in the area of IT capital planning and investment, where agencies are still trying to determine how to introduce benefit-cost analyses and risk management concepts into their IRM education and training programs.

Resource requirements

Finally, the Education and Training Committee is looking at the question of the resources CIOs will have to bring to bear on workforce planning. In the first instance, CIOs must identify the current IRM knowledge, skills and abilities resident in their agencies. Then they must determine what knowledge, skills and abilities will be required at least five years into the future—no small chore given the rapid obsolescence of information technology. There will be a shortfall, probably across the board, and CIO's will have to devise strategies to address the shortfall. The Committee is working on a White Paper to assist CIOs. We are particularly cognizant of the need to demonstrate to Chief Financial Officers and other senior agency leadership that an investment now in workforce planning, quite apart from the legal mandate, will have important payoffs in the future.

Among the payoffs the Committee anticipates is the possibility that the Federal government will be better able, in the face of an enormous number of vacant information technology jobs in the private sector, to retain its current IRM workforce and more

successfully recruit new employees. If we have a handle on the knowledge, skills and abilities that our employees need to be productive, and if we then provide the right education and training opportunities, we will increase job satisfaction. If we are perceived as forward-looking, with challenging jobs for well-prepared people, we will be an attractive employer.

And this leads me back to the significance of the Committee's work in identifying IRM core competencies. The core competencies are what we must offer our current employees. And the core competencies must guide our recruitment initiatives.

Conclusion

The CIO Council's Education and Training Committee believes the task at hand is important. It realizes the job can not wait, and, as its chair, I can assure you we are working diligently. The Congress took an important step in enacting the Clinger-Cohen Act, and we are grateful for the interest you and the members of your Committee have shown in our work. We look forward to continuing our close collaboration with you in achieving the purposes of the legislation.

Attachment: IRM Core Competencies

CLINGER-COHEN CORE COMPETENCY RECOMMENDATIONS
Approved by the Chief Information Officers Council
February 19, 1997

Recommendation 1: It is recommended that the CIO Council endorse these core competencies as the baseline for Clinger-Cohen Sec. 5125, pertaining to knowledge, skills and abilities. Thereafter, the Council would recommend that all federal agencies employ this baseline to assess learning needs and promulgate corrective remedies for CIOs, other senior management, IM employees and professionals in functional areas using technology to support their mission.

Recommendation 2: It is recommended that the CIO Council endorse these core competencies as a baseline tool to assist government agencies in complying with Clinger-Cohen Sec. 5125(C)(3)(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."

Recommendation 3: It is recommended that the CIO Council endorse these core competencies as a baseline for assessing governmentwide knowledge, skills and abilities needed in the IRM field. To be in compliance with Clinger-Cohen Sec. 5125(C)(3)(A), all federal agencies would be encouraged to employ these core competencies as a roadmap for human resource planning and management of CIOs, other senior management, IM employees and professionals in functional areas using technology to support their mission.

Training Web Sites of Interest

http://www.cio.fed.gov
http://www.itpolicy.gsa.gov
http://www.dtic.mil/c3i/cio/cioedtrg.html
http://www.ndu.edu/irmc
http://www.fedworld.gov/training (under development)

CLINGER-COHEN CORE COMPETENCY AREAS

This document is designed to serve as a baseline to in identifying, organizing, evaluating and developing current and needed training materials for CIOs, senior managers with CIO responsibilities and professionals in other functional areas using information technology to support their mission. The mix and depth of coverage for these competencies in any course will be dependent on the group to be receiving the training. Upon approval of the Competencies by the CIO Council, the Clinger-Cohen General Core Competency listing will be used to identify currently available seminars, courses and other training resources that are available to train personnel.

Federal IRM Competencies

Policy and Organizational Knowledge

- Knowledge of dept/agency missions, organization, function, policies, procedures
- Knowledge of governing laws and regulations (e.g., Clinger-Cohen, GPRA, PRA)
- Knowledge of federal government decision-making and policy making process (political and administrative)
- Understanding of linkages and interrelationships among Agency Heads, COO, CIO and CFO functions
- Intergovernmental programs policies, and processes
- Privacy and security

Information Resources Strategy and Planning

- IT baseline assessment analysis
- Interdepartmental, inter-agency IT functional analysis
- IT planning methodologies
- Contingency planning
- Modeling and simulation tools and methods
- Monitoring and evaluation methods and techniques

IT Acquisition

- Alternative functional approaches (necessity, government, IT) analysis
- Business process reengineering as a foundation for IT acquisition
- Alternative acquisition models (e.g., franchising, contracting out, GWAC IDIQ, modular, performance -based contracting)
- Streamlined acquisition methodologies
- Post-award IT contract management models and methods, including past performance evaluation
- IT Acquisition best practices

CAPITAL PLANNING COMPETENCIES

IT Performance Assessment: Models and methods

- GPRA and IT: Measuring the business value of IT
- Monitoring and measuring new system development: When and how to "pull the plug" on new systems
- Effective project/program management
- Measuring IT success: practical and impractical approaches
- Processes and tools for creating, administering and analyzing survey questionnaires
- Techniques for defining and selecting effective performance measures
- Examples of defining and criteria for performance evaluation
- Managing IT reviews and oversight processes

Capital Planning and Investment Assessment

- Best practices
- Best value cost-technical tradeoff analysis
- Cost benefit, economic, and risk analysis
- Risk management - models and methods
- Weighing benefits of alternative IT investments
- Capital investment analysis - models and methods
- Business case analysis
- Integrating performance with mission and budget process
- Investment review process
- Cost as an independent variable (CAIV)
- Managing IT reviews and oversight process

CHANGE MANAGEMENT COMPETENCIES

- Techniques/models of organizational development and change
- Techniques/models of process management and control
- Business process redesign/reengineering models and methods
- Process quality improvement models and methods
- Partnership/team-building techniques
- Personnel performance management techniques

MANAGERIAL/TECHNICAL COMPETENCIES

Professional Development and Training

- Defining roles, skill sets, and responsibilities of Senior IRM Officials, CIO, IRM staff and stakeholders
- Methods for building federal IT management and technical staff expertise
- Competency testing -- standards, certification, and performance assessment

IT Topics (Knowledge of how the these disciplines can be applied to support the mission of the organization/ and the decision making process)

- Data Processing
- Programming
- Database Management
- Computer Systems Architectures Client/server, collaborative processing
- Systems Analysis, Design and Testing
- Telecommunications and Networks
- Information Technology Application
- Internet Structure and applications, WWW, Email etc
- Software Engineering, Software Development Lifecycle, Process, and Testing,
- Security and Policy
- Information Systems Management

IT Trends

-Knowledge of Intergovernmental, Federal, State, and Local Projects
-Knowledge of Developing Technologies

BIOGRAPHICAL SKETCH

ELIZA J. MCCLENAGHAN

Eliza McClenaghan joined the State Department in 1993 as a Special Assistant to the Under Secretary for Management on management and information resources management issues. She served as senior advisor to the acting Chief Information Officer before being named Chief Information Officer by the Secretary in 1996. Prior to joining the Department, Ms. McClenaghan worked in the private sector and on the Hill. CIO Magazine, in it's August 1997 *CIO-100* issue, selected the Department of State as a top performer in internal information systems innovation.

Mr. HORN. Well, I think you have shown a very well organized operation in which the chief information officers are all involved and note under the capital planning and investment assessment you have got the qualities and an independent variable, CAIB.

As I recall, the greatest Secretary of State, Dean Acheson, after he retired, was usually found in the Metropolitan Club with his cronies, Scotty Preston and Walter Glickman. This was in the fifties and sixties. And one day he huffed and puffed, and the mustache was quivering as he was late for lunch, and he said: "Well, I was just involved with a young man interviewing me, and you know what he said? That I'm an independent variable." So he might have been from the State University of New York in Buffalo, which is a very fine institution. But he was a great and sort of humanist in his own writing and never quite confronted the science world yet, so he might have also been a—I'm not sure.

Anyhow, we thank you for all you are doing on that. We will have a few questions simply for the record we would like to send you, and give us some answers.

My one question to you is, to whom do you report in the Department of State?

Ms. MCCLENAGHAN. I report to the Secretary of State on a day-to-day basis, I report to the under Secretary of State for Management——

Mr. HORN. OK. And do you feel you have sufficient authority over all of its various systems?

Ms. MCCLENAGHAN. Through the investment process, I do, sir. By the establishment of our IRM Program Board, I have review and oversight over all the information technology systems in the Department.

Mr. HORN. Do you see a particular problem with international systems that connect with you or our embassies when we get to the year 2000 situation?

Ms. MCCLENAGHAN. At this time, we do not commit to other international systems except through the telecommunication system, sir, and we have kind of a diplomatic telecommunication services program send out a cable to all of our embassies and ask them to review with the telegraph postal systems what that impact might be.

Mr. HORN. So you are looking at that aspect.

Ms. MCCLENAGHAN. Yes, sir.

Mr. HORN. Because, I would think you have possibly major problems there if you have a purified system and they don't.

We thank you very much for that very full statement, and we now move to Anne Reed, the Chief Information Officer of the Department of Agriculture.

Please proceed. You don't have to read your statement. I prefer that you look us in the eye and summarize it. The statement is automatically in the record. Everybody has read it. So if you would, proceed.

Ms. REED. Thank you, sir.

I would like to recognize my cochair, Dr. Neil Stillman, who has worked with me through this last year as we first established the interoperability committee. It was not one of the original committees that came out of our strategic planning session, though it took

us no small amount of time to realize that there wasn't need for a committee to focus on issues of interoperability as we kept bumping into opportunities in that area.

So over the last year, actually 8 months, that we have been in operation, we did develop a charter. I think the charter, my testimony laid out pretty succinctly what the scope of the responsibility is, but suffice it to say that we have focused on architectural issues and on issues with respect to standards, how we might work across the Government to be more efficient and more effective and how information is managed.

The architecture task force, one of our first efforts, did support the development of the OMB guide to architecture. Of course, this is an area where we continue to work. We understand very keenly the importance of it. We also are keenly aware of the complexity of an architecture—speaking for myself—the Department of Agriculture, we have diversity of the interest and responsibilities. That's something we work very hard in understanding, how the architecture can best support those diverse interests. When you take that governmentwide, there is another order of magnitude, but I've been very pleased with the dedication of the individuals who have worked on that.

In the standards task force we are looking at maybe some simpler measures but things that do make a difference. One, we recently identified a common best practice on how to keep computer clocks accurately set. It may sound like a fairly small matter, but in fact it has a tremendous impact for security, for one.

I think if you followed the activities of some of the departments, where they have tried to deal with security breaches, one of the most important aspects of discovery is the understanding of timing of events. Additionally, in the area of electronic commerce it becomes important that the date be consistent. So while it might seem a small matter, it is one that we think will have real benefit to people.

More recently in our strategic planning session, there was a very strong interest among the CIOs in our tackling the issue of e-mail interoperability. I think there is perhaps no single other day-to-day issue that causes more frustration for more people than the ability to possibly transmit attachments through e-mail, because there are so many different systems that don't connect very easily.

So we have committed in the next year to putting together a very serious task force to, one, understand more precisely what versions of systems are interoperable, what technical work around some of our colleagues may have found to achieve interoperability than others that are less known and where that does not work, making it very, very clear to industry our need for this capacity across the Government. So I would expect a year from now to be able to use some degree of progress hopefully in that respect.

I would like also to tell you specifically about the work that we have done in interacting with industry. The Industry Advisory Council has established a companion working group to ours. The chair of that group does participate in our meetings, and they have undertaken some independent work efforts on our behalf.

The most recent of those is the development of a draft information systems interoperability reference guide. To our knowledge,

this is the first time that anyone has captured in one place all of the reference to all of the organizations which are engaged in standard setting. That will be web enabled, and we will make it possible for people to go into our site and link to any of those standard organizations so that we can have a useful tool for us to use as we move toward common standards working in tandem with industry as industry is moving into common standards.

So I think this is an important piece of work that you should look forward to seeing in the near future.

Now we do like to focus on desk practices and some of our—in each of our meetings, we do try to have a presentation from an organization that talks about something that they have done that has worked well for them in the area of interoperability, data management, and how that might be applied across government.

Mr. Chairman, I'll let my opening remarks conclude at this point, and I will let you know also that part of my written testimony I have provided some reflections on what kinds of progress we've made in the Department of Agriculture, and in many cases I have used quite effectively the work of the CIO Council to support what it is that we are doing at the Department of Agriculture.

Thank you sir.

[The prepared statement of Ms. Reed follows:]

Statement by
Anne F. Thomson Reed
Chief Information Officer, USDA
Before Congressman Stephen Horn, Chairman
Subcommittee
Government Management, Information, and Technology

October 27, 1997

Mr. Chairman, members of the Committee, I welcome the opportunity to appear before the Committee to provide you an overview of USDA's actions to implement the requirements of the Clinger-Cohen Act of 1996. The principles conveyed in the Clinger-Cohen Act figure prominently in our efforts to provide better management for USDA's technology resources and better support to our varied programs through the prudent use of technology.

USDA is a complex institution whose programs touch the lives of every American, every day. We manage a diverse portfolio of over 200 Federal programs throughout the nation and the world, at a cost of about $60 billion annually; with over 110,000 employees. We estimate that we will spend about 1.5% of our budget in Information Technology (IT)-related activities in FY 1998. Of this amount, we expect to spend approximately $280 million for acquisitions, with the balance used for commercial support services including operations and maintenance, personnel costs, and intra-governmental payments including grants to the States.

In 1996, the Secretary established an Office of the Chief Information Officer for USDA and appointed me as Acting Chief Information Officer (CIO). That appointment is now official. We have established an Executive Investment Technology Investment Review Board of Subcabinet officials, chaired by Deputy Secretary Rominger. I serve as vice-chair.

As part of USDA's plan to reorganize and streamline, the Secretary recently assigned to me responsibility for IRM-related activities of our county-based agencies (Rural Development, Farm Service Agency, and Natural Resources Conservation Service). This action was taken to ensure a coordinated technology approach as these agencies transition to a consolidated administrative services organization at both the headquarters and field level.

Currently, USDA is operating under a moratorium on significant information technology acquisitions. All requests for new acquisitions that exceed $25,000 are reviewed by my office. Exceptions are granted only for emergencies and for acquisitions that are directly related to ensuring Year 2000 compliance.

During the past year, in accordance with Government Performance and Results Act guidelines, USDA established a strategic plan for Information Technology. The central themes of this plan are: invest in planning, invest in infrastructure, and invest in people. It is in the context of this strategic direction that I would like to share with you our plans for the future.

Invest in Planning

USDA recognizes that its investment in information technology must involve Department-wide solutions to be effective and affordable. While USDA's disparate missions suggest the need for agency autonomy, there are many areas where there is more in common than not and resources must be leveraged by working together.

Recently, the Executive Investment Board reviewed our proposed IT investments, and endorsed those investments for FY 1998 and FY 1999. At our next meeting, members will review progress on our service center agencies' proposed common computing environment project.

Agencies and mission areas have similar boards which review and manage their own portfolios of investments. This structure assures review at the appropriate levels, and allows the Board to concentrate on those investments which are critical to achieving the Department's highest objectives.

Under the auspices of the federal CIO Council, USDA piloted our Capital Planning Investment Control (CPIC) process during the past year, thereby providing experience and insight to the broader Federal community. We have made great progress in educating our agencies in capital planning practices, establishing criteria for IT investments, and reviewing technology budgets according to Federal oversight guidance. We know much is left to do. We are currently evaluating our work and will continue to build upon these efforts.

Although we do not have a fully developed CPIC process, this year my staff provided new IT investment guidance to our agencies, in particular in the selection process. Before we provided the portfolio of IT investments to the Executive Investment Board, it was analyzed in terms of risk, potential for return, and the performance indicators for the systems.

To continue the development of our policies and processes and to ensure proven methodologies are used throughout the Department for measuring risk, calculating return and rating and ranking IT investments, we are consulting with agencies' staff and determining which methods for IT management will work for USDA. We expect to complete this analysis in February of 1998. A major deliverable for the project is a Capital Planning Guide and Case Study document. The Guide will assist USDA executives in assessing potential IT investments and in choosing the appropriate "mix" of IT investments to support USDA's mission. The Case Study will include a complete set of sample documentation that will take a project through the selection phase of the capital planning process.

Invest in Infrastructure

USDA has many successes implementing innovative technologies. Smart cards have been used within the Department since before it was considered a mature technology. We have been in the forefront of testing the use of Electronic Benefits Transfer to deliver food stamps. Examples of award-winning USDA programs that rely heavily on technology include: Food Safety and Inspection Service's Field Automation and Information Management program, identified by the CIO Council and the Industry Advisory Council in a report released this month as a "Best Practice" in the Federal Government; Rural Development's Direct Loan Origination and Servicing system, which received the Association For Federal Information Resources Management Leadership Award earlier this month; and the Department's Purchase Card Management System, which received Vice President Gore's Hammer Award. Other major initiatives include Forest Service's Project 615, the Office of the Chief Financial Officer's Foundation Financial Information System, field service agencies' LAN/WAN/VOICE project, and the Animal and Plant Health Inspection Service's Integrated Systems Acquisition Project.

One of the key responsibilities of the CIO defined in the Clinger-Cohen Act is the development and maintenance of an integrated information technology architecture for USDA that will assure that information can be shared more effectively among our agencies and customers. Our USDA Information Systems Technology Architecture has been developed around three distinct components -- the business/data architecture, the technical standards, and the telecommunications architecture.

Streamlining business processes is the principle we use for business improvement efforts and determining the technology needed to support them. The Business/Data Architecture team is examining business objectives and specific work activities. This activity is designed to find opportunities for more efficient and effective business practices used to deliver services to our clients and partners.

The Technical Standards Architecture sets the parameters for interoperability and standardization of USDA information technology. To date, USDA has identified standard configurations for desktop equipment, office automation and client/server operating systems.

Through the Telecommunications Architecture, USDA will stabilize and manage the current USDA agency networks. USDA will optimize acquisition of new telecommunications resources through coordination of business processes and telecommunications plans among all USDA agencies. We are identifying redundant circuits and eliminating them. The most recent example of success in this area is the coordination between Forest Service's 615 Project implementation and our field service agencies' LAN/WAN/Voice project. We are also expanding this cooperation to other Federal agencies, such as the Department of Interior.

To help ensure successful architecture implementation, we have developed a USDA Information Systems Technology Architecture Implementation and Management Plan. This plan outlines the actions required to define, integrate, and institutionalize the three components of the architecture. Major planned actions include validating the core business processes identified for each of the mission areas, defining Departmental technical standards, and implementing a USDA enterprise network. The architecture will be continually refreshed to ensure USDA uses established and emerging technology to meet most effectively its strategic business needs.

As the Chair of the government-wide CIO Council Interoperability Committee, I have worked to promote data sharing and the development of common standards. We have sought to support projects such as the International Trade Data Systems and the development of common data for geospatial information systems. During the next year, we plan to establish a task force to address barriers to exchanging information across incompatible e-mail systems.

Even as we develop a department-wide architecture and deploy modern information systems in support of our programs, we know that our most critical infrastructure challenge is to assure that we can meet the challenge of the Year 2000 data conversion. We have recently named a Senior Executive Project Leader for the Department and have increased the staffing of our Year 2000 Project Team to bring focus to our efforts. We have worked closely with the CIO Council Committee on Year 2000 to share lessons learned and help assure the success of interagency interfaces.

Recognizing that most of the actual work to correct Year 2000 problems must take place at the agency (bureau) level, the Secretary has required that each USDA agency name a program level Senior Executive to serve as Executive

Sponsor, with performance standards linked to Year 2000 compliance. This is in addition to the requirement for a full time Year 2000 Project Team leader. I have also worked with our Inspector General who is helping to provide assessment of our Year 2000 compliance. By the time that we next report to OMB and your committee on the status of our efforts, I am very confident that we will show significant progress. We are keenly aware that there are only 795 days left until January 1, 2000. I assure you that this will remain an area of top management focus so that our infrastructure will continue to support the critical services we provide to the public.

Investment in People

USDA is a dynamic organization, with ever-changing business objectives and legislated requirements. In order that we realize the maximum benefit of technology to our business community, USDA must make a concerted effort to assess the skills of its technical staff, identify deficiencies, and take corrective action to train and inform employees who provide technical support. There is anecdotal evidence that USDA is feeling the impact of the national shortage of IT specialists. Together with the recent downsizing initiatives that have constrained hiring, there is an increasing recognition that we must address human resource requirements to assure that critical functions are fully and appropriately staffed.

During the next year, we expect to study this issue more carefully and work with the CIO Council Committee on Training and Education and the Office of Personnel Management to devise appropriate personnel strategies. These strategies will address recruitment, retention, retraining, technical competence, certification, and private/public sector changes. USDA possesses a number of talented and energetic technology specialists, and it is my challenge to leverage this asset to the benefit of the larger community.

USDA is working hard to address the challenges we face. With the strong support of Secretary Glickman and Deputy Secretary Rominger, USDA has made some very good moves to change fundamentally the way we do business. We recognize that as we move into the 21st century, our capacity to provide service to the public is directly linked to our ability to make smart decisions. While much has been accomplished, much remains to be done as we focus on our investments in the planning, infrastructure, and people necessary to achieve our mission.

Mr. HORN. When I read your testimony I was—I think that is a real contribution.

To whom do you report to in the Department of Agriculture?

Ms. REED. I report to Secretary Glickman on a day-to-day basis. I work with the Deputy Secretary——

Mr. HORN. Very good, and I take it when you have wanted access, you got it?

Ms. REED. Yes, sir.

Mr. HORN. And it seems to me Secretary Glickman is sort of ahead of most other secretaries in his commitment to do some of—you are probably very fortunate to be working with him.

Ms. REED. We've taken some pretty bold steps in the last year certainly, sir.

Mr. HORN. What would you regard as your boldest step?

Ms. REED. I think establishing almost a year ago a moratorium on information technology spending which required instantly, did not wait for, a capital planning process for me to have an impact on how funds were used on our information technology programs. But right from last October when that was established, any acquisition over $250,000 had to come to me for prior approval.

In telecommunications, for network equipment, I set a threshold of zero, because I wanted to get a much stronger degree of control over how we manage our telecommunications infrastructure. That's one—the moratorium in how we have managed that process changed the paradigm significantly early on.

The second major step that the Secretary took last summer was to make the decision to consolidate information technology management operations of seven agencies across three mission areas, and he at that time asked that I take the leadership role in a much more direct responsibility for information technology in those agencies, again, with the Department of Agriculture——

Mr. HORN. In terms of the Secretary's interest in management, do you have an integrated system where, if he is trying to look at various data that would give him an indication of progress, a particular agency or service he is making—does he have that available to him? I mean, have you worked the integrated management system in Agriculture?

Ms. REED. Would that we had sir—we have as many organizations due in large number of Legacy systems which were developed around the particular interest of the particular agencies. We have learned, in some cases the hard way, that it was—how important it is that that information be shared and are now moving—as we develop the architecture for the Department, that is one of the key issues that we face, as I'm sure that right kind of information gets to the right person at the right time seamlessly. We aren't there now; we have a ways to go.

Mr. HORN. Well, it is very interesting. You have historically one of the greatest budget offices in the American Government where, during the Second World War, it was ahead of everybody else. I don't know if this legend or legacy is still around the Department, but I would be curious to know how many different accounting systems exist within the Department of Agriculture, or have you knowledge of that? Would that really be the chief financial officer that I should ask that question of?

Ms. REED. You should ask that question of the chief financial officer. Let me give you that for the record. It is more than we should have.

[The information referred to follows:]

In response to your inquiry about accounting systems, the number of USDA "accounting systems" we need to report is at least partially dependent on how the reader defines "accounting system."

USDA reported in its January 1998 USDA Financial Management Status Report and 5-Year Plan that "the Department operates 70 financial management systems that include 142 applications." Although not real significant, one of the 70 systems belongs to the Federal Reserve Bank but was designed, and is operated, by USDA. Some people interpret "financial management systems" as being "accounting systems." Nevertheless, others restrict their definition of accounting system to only those 5 USDA financial management systems that are considered to be "core financial systems."

The Joint Financial Management Improvement Program defines a core financial system as a system that "controls and supports the key functions of an agency's financial management, including general ledger management, funds management, payment management, receipt management, cost management, and reporting. The core financial system receives data from all other financial and mixed systems and from direct user input, and it provides data and supports processing for those systems that need it." In addition to USDA's 5 core financial systems in operation, 2 others are being phased in and will replace some of the other systems and applications currently in operation.

Ms. REED. One of our major initiatives right now is the establishment of an accounting system. That project is being managed by the deputy CFO, and currently we are still the acting CFO.

Mr. HORN. How many computer systems do you have operating in the Department, and are they integrated or aren't they?

Ms. REED. I wouldn't even want to hazard a guess at how many different computer systems.

Mr. HORN. Well, is it over 500, or is it 100? What are we talking about?

Ms. REED. In terms of scale, I think I would say—each agency took its own approach, and then within each agency, there are probably several different variations in how they have approached their particular business problems. So we are not talking in the scale of 500, but with now about 30 agencies, some of these are smaller and have combined systems. Some of those are larger and have multiple systems, so it is a fair number of systems.

When I get one of those forms, sir, when they require me to identify what—everything that you have, you know, where you identify what you have, I look for the column that says "all of the above."

Mr. HORN. I can believe that. When we went into depth with the Department of Defense on accounting, they had 49 separate accounting systems. Of course the first Secretary should have taken care of that, but Mr. Forrestal didn't do it, and every service is sitting there saying, "We can't operate," which is nonsense, and I am sure all of your agencies say, "We are unique."

Ms. REED. Well, I am sure you are aware that the Department of Agriculture has a very, very long history of a highly decentralized operation, and no question but what we are doing now with the strengthening of the CFO and the CIO, and it is a changing, longstanding cultural process.

Mr. HORN. Well, we thank you all. There will be questions that staff will submit to you. If you could just type out an answer, we will put it, without objection, at this point in the record. But there are some technical questions here that we will just file on all three of you for the record.

[The information referred to follows:]

Response to Information Requested
by
Congressman Stephen Horn
November 6, 1997

1. Please explain in layman's terminology why an IT Architecture is so important and why we have not had one before?

Development and implementation of an IT architecture helps ensure strategic alignment of technology to support business needs and goals. This becomes imperative when those technologies are the primary means to achieving new ways to provide increased customer services and radically improved, highly cost effective new business practices.

2. Developing an IT Architecture for the Federal Government is a large task. Do you have preliminary schedule for intermediate deliverables?

We do not have a schedule at this time. The development of a Federal IT architecture is a monumental task. It will take the efforts of many Federal Government organizations working toward this common goal to make a Federal IT architecture a reality. As a first step, the Interoperability Committee has participated in the development of OMB Memorandum 97-16, "Development, Maintenance, and Implementation of Agency Information Technology Architectures", which was issued on June 18, 1997. As a second step, the Committee is now forming a task group to advance proposals for an approach to a Federal IT architecture. One proposal is to deal with the issue agency by agency and business line by business line or possibly by interagency common business lines such as the International Trade Data System. At the same time we must keep in mind that our IT environments include many systems and many vendor platforms. Many of these were built and purchased over a long period of time. From a budget perspective a single architecture per agency or agency business line is a good idea but the process to achieve it is extremely large with major financial implications. We recognize the importance of this issue and see the primary role of the Interoperability Committee as a catalytic agent to identify approaches that are working and to synergize them into some form of broader framework, yet to be identified.

3. Are there some Agencies that have already developed an IT architecture and, if so, how will you be able to get them to agree on a common architecture?

Several agencies have made significant progress with the development of documented enterprise architectures. Recently, four Cabinet agencies were referenced in OMB Memorandum 97-16, "Development, Maintenance, and Implementation of Agency Information Technology Architectures", dated June 18, 1997. The development of these architectures were based on a business need and were being developed prior to the requirements of the Clinger-Cohen Act of 1996.

These agencies have developed formal IT architectures that are at varying degrees of maturity. As progress is made, the CIO Council will work with OMB to facilitate common architectures where it is appropriate and cost effective. The work to support collaborative efforts in common business lines (such as the International Trade Data System) is an example of this.

4. What role does the CIO play in the development of an agency's IT architecture, does the CIO's staff actually develop the architecture or oversee its completion by the IT staff?

The CIO plays a crucial role in the development of an IT architecture. The Clinger-Cohen Act states that the CIO has responsibility for "developing, maintaining, and facilitating the implementation of a sound and integrated information technology architecture for the executive agency." In addition to being a blueprint for business and IT, the IT architecture is a policy document. The CIO is a partner with line executives in setting the corporate vision for the IT architecture. It is the CIO's role to facilitate the achievement of this corporate vision. While the IT architecture has several technical layers, it is not exclusively an IT document. To gain acceptance of the IT architecture, it is critical that the organization perceives it as belonging to the enterprise. If it is perceived as a IT document, its full value cannot be achieved. The IT architecture must also be incorporated into the Capital Planning and Investment Process.

5. In agencies where the CIO is not the head of IT, what happens if the CIO has an architecture but the IT staff just ignores it, or has a different architecture, or says it will have to wait until "next year" or some other delaying tactic?

As noted in question four, the Clinger-Cohen Act vests authority for the development and implementation of an IT architecture in the CIO. With the support of agency heads, the IT architecture can be enforced through the Capital Planning and Investment Process. Each executive agency must also establish planning and budgeting processes to support the IT infrastructure.

6. When your subcommittee develops an architecture standard, for instance the e-mail attachments you are working on, and the CIO Council votes to accept the standard. In a case like that would the standard be advisory, official, or would there be any enforcement?

It is anticipated that standards recommended by the Interoperability Committee will be presented to the CIO Council for approval. Once approved, these standards/guidelines will be issued by OMB or become a recommended best practice of the CIO Council, depending on the recommendation of OMB and the CIO Council. The Interoperability Committee has already created a best practice "Keep Computer and Network Clocks Accurate." This best practice was provided to members of the CIO Council and posted on the CIO Council web site. The issue of mandatory standards and their enforcement is a continuing debate. Many voluntary standards are being used effectively, especially when they provide common solutions and opportunities (like the HTTP/ TCPIP of Internet). Enforcement can be an expensive, manpower intensive activity that often doesn't reap the intended results. Many CIOs with limited staffs are sensitive

to this and are working on the front end of this issue in actively promoting collaborative and cooperative standards and approaches that will, in effect, police themselves by virtue of the interoperability achieved.

7. How can we avoid the problem that occurred for example with GOSIP, the "official" government standard for networking that was simply by-passed by the "Internet Standard?"

The GOSIP standard provided the mechanism for the Federal Government to begin working toward an open systems concept. While GOSIP did not become the industry standard, the concept of open systems for the Federal Government was an admirable goal. The lessons learned from the GOSIP standard setting initiative provides the Federal Government with the knowledge base for setting future Federal Government standards and guidelines. Since GOSIP was overtaken by industry standards, the Federal Government has become more reliant on defacto industry standards and has increased its participation on industry setting standards organizations. The Interoperability Committee encourages its members to participate on such standards setting organizations.

8. Why do we keep re-inventing the wheel? Surely the intelligence community in all its various incarnations like DIA, NSA, and the CIA itself have solved the IT security problem. Can't we just use a weak version of their standards, why do we have to do it all over again?

The CIO council now has a security committee. Security for unclassified information and systems should be commensurate with the risk and the magnitude of the harm, according to the Computer Security Act of 1985. While no one has "solved" the ever-changing computer security challenge, some intelligence solutions can be cost-effective for other kinds of information. The goal of this committee is to ensure implementation of security practices within the Federal Government that gain public confidence and protect government services, privacy, and sensitive and national security information. During the coming year, they will be working closely with NSA and NIST.

9. I understand your subcommittee is surveying to identify other opportunities for cross-cutting projects. I would like to have a copy of your report, is that possible?

The results from this survey are currently being compiled. We will provide you with a copy when the report is completed. The purpose of this effort is to identify cross-cutting projects. It is expected that this initiative will (1) identify ways to minimize the data that we collect from the public and (2) identify data sharing relationships that provide opportunities for increased efficiency in the data exchange process.

03/05/98 9:37 AM

RESPONSE TO

Questions for International Trade Data System (ITDS) Project
Implementation of the Clinger-Cohen Act
October 27, 1997 at 1:00 in 2154 RHOB

Addressed to Whole Panel

I would like to ask for your suggestions. Not address my questions to one of you in particular, but all of you should feel free to answer.

NOTE: *All questions answered by Robert W. Ehinger, Project Director of International Trade Data System (ITDS) Project.*

Question 1. What suggestions do you have for all cross-cutting projects?

Response 1. Management of government resources should move from one focused on the organization to one focused on function. Congress and the Administration should start to look at what the government does as a set of functions and move from an orientation toward organizations. Our customers (i.e., the public) only cares about the functioning of government (i.e., trade works, trade does not work). They care very little about how we are organized.

The revised orientation is the equivalent of the government looking at itself as a responsive body attempting to ensure satisfaction for its customers, not its internal organizations. After looking at a set of functions, government should determine what limited and proper role it should play and compare that with the current environment. If this simple analysis were performed, so many glaringly obvious cross-cutting projects would be revealed that there would be too many to handle. Additionally, the evidence that this view is not being accorded any attention will be abundant.

Question 2. It sounds like we have some work ahead of us. My staff thinks we should ask the Congressional Research Service to collect the legislative constraints to data sharing. We can certainly do that and see what can be done when we see their results. Would you be willing to help my staff to make sure we help, rather, than hurt.

Response 2. The simple answer is yes, we welcome assistance on the terribly critical issue of legislative constraints to data sharing. The restrictions can be compared to the Loch Ness monster, which keeps getting reported but verifiable sightings do not exist. It is not clear what these data sharing restrictions specifically are or where they exist. What is known is that every time data sharing among agencies is proposed, there is an immediate reaction of "we can't do that." It has been a show stopper for integrating functions and reducing duplication. What we need to do is drain the loch and find the monster or more likely, show that there is no monster or that it is not as menacing as the myth it has created. And again, yes, the research that would tell us what is actually legislated that prevents data sharing would be helpful.

Question 3. Are there any other things Congress can do while I am still feeling generous?

Response 3. Yes, there are several things Congress can do. We have five suggestions.

- Mandate coordination among agencies to enter into agreements to conduct cross-cutting projects that have clear and efficiencies that can be documented.
- Provide financial incentives for agencies to cooperate on cross-cutting projects.
- Be the catalyst for new personnel reward standards for cross-cutting activities.
- Earmark cross-cutting budgets for special Congressional attention.
- Formalize the existence of the ITDS Project as one of the first cross-cut projects to be authorized. It should be given a specific Congressional mandate to simplify the government processes for international trade as well as an annual review. Finally, it should be given a sunset date so it doesn't become just another government organization with an endless life, so that the operational responsibilities for ITDS can be established.

Question 4. What about funding, how do projects like this get funded, does it work well, and what should we do instead?

Response 4. The funding process is horrible and does not work well. There is no systematic method for ensuring that projects like ITDS get funded. We know from experience. Before our first Congressional Appropriation in FY97, we tried to get the trade-related agencies to contribute to the Project. Even at a request for only $300k, major departments turned us down. Only two government organizations supported the Project at that time.

Funding for cross-cutting projects is very difficult. Only when projects fall under tight scrutiny of Congress or are endorsed by the White House do agencies act outside their own organizational interests and in terms of the government as a whole. A mechanism should be put in place to provide incentives for cross-cutting projects.

For a specific recommendation on what we should do instead, please refer to our Response 3 regarding uses of your generosity where we respectively request a special place in the budget for cross-cutting projects.

Question 5. How do we change the incentive system for agencies, either to increase the rewards or decrease the barriers, so they are less reluctant to support these cross-cutting projects?

Response 5. It is important to both increase rewards and decrease the barriers. One such mechanism would be for the Administration to put a section in the budget for cross-cutting projects. Then, Congress could pass budget resolutions that recognize these cross-cutting projects. This budget section would include the identification of efficiencies and the affected agencies as well as include the individual agency budget requirements. With this mechanism, all cross-cutting projects would be highlighted for consideration by Congress.

The Government Information Technology Services (GITS) Board is working with OMB on a pilot project to encourage reinvestment of re-engineering savings into the given agency's projects. This same vision should be expanded to encourage cross-cutting projects. Congress should act as the catalyst. Such an initiative would be a natural second step to the Clinger-Cohen Act and give agencies proper incentive without the threat of an immediate budget reduction.

Question 6. This particular project is apparently housed at Treasury. Is housing important, how does one decide where and how should it be done?

Response 6. You bet housing is *important*. As we said before, high-level attention is required for this type of project to survive. Cross-cutting projects have no natural home. Government projects of this nature need to be housed at as high a level as possible in order to be freed of the parochial interest of subordinate organizations. Empowerment can not be accomplished without important high-level attention to ensure that cooperation and participation continues and roadblocks are removed.

The housing selection for ITDS was drawn from the recommendations of the National Performance Review (NPR). ITDS, as a trade function, has great potential for encouraging trade and reducing costs for American businesses. This link with international economic policy was key in placing the project at Treasury. Secretary Rubin, Undersecretary Kelley and Assistant Secretaries Johnson and Killefer have been supportive of the ITDS effort.

Question 7. We have talked about cross-cutting projects being rare. What can be done to make them common place, to generate the hundreds of more cross-cutting projects that we need?

Response 7. Let the success of ITDS serve as an example of the value added to the Government by conducting cross-cutting projects. Every project of this type that dies creates a dampened environment for upcoming projects.

It is original thinking at the working-level that inspires such projects, but its the working-level people who can least afford the career risk of proposing cross-cutting agency activity. Their risk should be limited to performance. Having said that, such risk-taking staff do exist and may be found right here at the ITDS Project Office. Incentives in the personnel system would be a great asset to the success of cross-cutting projects.

If perspectives could be changed at the department-level as well as the lower levels to one that is government-wide, cross-cutting projects would be much easier. This structural change, as well as incentives in the personnel system, would a great asset to the success of cross-cutting projects.

Question 8. I was generous at least with offers of Congressional help. I might as well be equally generous with OMB. What can OMB do, not so much on this project, but on this type of project to increase the supply and success?

Response 8. Unfortunately, OMB suffers from the same organizational (vs. functional) emphasis of much of government. As a result, endorsement and support must come from upper management. Without it, no new project will succeed.

OMB's comparative advantage is in encouraging interagency cooperation. Unfortunately, OMB examiners are usually rewarded for success with their own accounts (i.e., organizations), seldom for addressing cross-cutting issues. Thus, there is opportunity for improvement and a potential catalyst for cross-cutting projects.

Mr. HORN. Thank you for coming. We are particularly appreciative to get this insight into how the chiefs and various task forces and subcommittees are working. I think the example which was set shows very well what ultimately should happen when each of these agencies gets turned around. The fact that you are sharing experiences, which is very important, not just for the psychiatric care of your fellow CIO's, but I think the CFO and CIO and inspector general, the monthly meeting is worthwhile for just that reason.

But you have given us a very good reflection of where you are headed as a group and why Congress made the right decision by saying: "Hey, we need the chief information officer at the very top of these agencies if we are going to get something done in this modern world where, when you buy a system, it is already out of date by 5 years." And that is the way it is moving, and we need to move with it and have the logical analysis of what it is we want to do and then do it, because you can't manage the modern world without responsive systems to help you in that regard. You can imagine, but it won't be as wise, shall we say, as it ought to be.

So thank you very much for coming. We appreciate your testimony. With that, we are in recess until 1 o'clock.

[Whereupon, at 12:03 p.m., the subcommittee was recessed, to reconvene at 1 p.m., the same day.]

Mr. HORN. The subcommittee on Government Management, Information, and Technology will come to order.

Let me just make a few remarks that relate to this session that didn't relate to this morning's session.

We now resume our hearing on the Clinger-Cohen Act of 1996. That act required the development of an effective and efficient, mission-oriented, user-oriented, results-oriented information technology practice in each and every Federal agency. One way to meet this challenge is to develop crosscutting projects and eliminate duplication. In the private sector, crosscutting projects are difficult to achieve. In the public sector, where the Federal Government spends over $25 billion every year on information technology, crosscutting projects are sometimes impossible. We need these crosscutting projects to help eliminate waste, fraud, and duplication.

This morning, we investigated the Chief Information Officers Council. This afternoon, we will investigate one particular crosscutting information technology project, the international trade data system. The purpose of focusing on this project is not only to help it succeed but also to help spawn hundreds of similar projects.

Recently, it has become fashionable to propose crosscutting projects. The National Performance Review has identified a number of such projects that could materially improve government. Congress, the leadership in the House of Representatives, the Government Reform and Oversight Committee, and this subcommittee are constantly encouraging such crosscutting projects through the Results Act as well as through general efforts at improving effectiveness and efficiency.

Unfortunately, there are all too few crosscutting projects actually being developed. We need to help this and similar projects startup and be successful. Let us use this particular project as an example,

an opportunity for lessons learned. What needs to be done? In particular, what can Congress do?

This afternoon, we will hear from John B. Simpson, Deputy Assistant Secretary of the Treasury for Regulatory, Tariff, and Trade Enforcement; Michael D. Cronin, Assistant Commissioner of Inspection, Immigration and Naturalization Service; Robert W. Ehinger, Director of the ITDS Project Office, Department of the Treasury; Alan Proctor, Chief Information Officer, Federal Trade Commission. The ITDS stands for the International Trade Data System.

We will now begin with Mr. Simpson, the Deputy Assistant Secretary of the Treasury for Regulatory, Tariff, and Trade Enforcement.

Mr. Simpson.

[The prepared statement of Hon. Stephen Horn follows:]

ONE HUNDRED FIFTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT

2157 RAYBURN HOUSE OFFICE BUILDING

WASHINGTON, DC 20515–6143

"The First Year of the Clinger-Cohen Act"

October 27, 1997

OPENING STATEMENT
REPRESENTATIVE STEPHEN HORN (R-CA)

Chairman, Subcommittee on Government Management,
Information, and Technology

[afternoon session]

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Alan Proctor, Chief Information Officer, Federal Trade Commission

Mr. SIMPSON. Thank you, Mr. Chairman.

Mr. HORN. I might say, since some of you weren't here this morning, we need to swear you in. When you are sworn in, your résumé and your full statement is put in the record, and I would appreciate it if you would just look us in the eye and summarize your statement and not read it word for word. We can read, and what we want to do is just hear the summary and get down to the question.

So why don't we all stand and raise our right hands.

[Witnesses sworn.]

Mr. HORN. All four witnesses affirmed, the clerk will note. We will begin with Mr. Simpson.

STATEMENTS OF JOHN P. SIMPSON, DEPUTY ASSISTANT SECRETARY OF TREASURY FOR REGULATORY, TARIFF, AND TRADE ENFORCEMENT; ROBERT W. EHINGER, DIRECTOR, ITDS PROJECT, DEPARTMENT OF THE TREASURY; MICHAEL D. CRONIN, ASSISTANT COMMISSIONER OF INSPECTION, IMMIGRATION AND NATURALIZATION SERVICE; AND ALAN PROCTOR, CHIEF INFORMATION OFFICER, FEDERAL TRADE COMMISSION

Mr. SIMPSON. Thank you, Mr. Chairman.

Let me begin by thanking you and the subcommittee for holding this hearing. I will say that those who are involved in innovation projects and government are accustomed to getting sort of ambivalent reactions from the institutions in which they work. So it is nice to have an opportunity to feel the warmth of sunshine now and then.

Let me begin by giving you a brief summary of what the International Trade Data System is about. Over the years, as laws have been enacted to protect health and safety of the American people, to protect American agriculture from plant and animal diseases, to protect the environment, to protect endangered species, to protect American workers from unfair trade practices, to protect intellectual property, and to prevent the export of sensitive technology to inappropriate destinations.

Over the years, as these laws have been enacted, the agencies responsible for carrying them out have prescribed their own systems and forums for reporting the data they needed from the international trade community to carry out these laws. So over a period of time, somewhere upward of 50 or 60 agencies of the U.S. Government have become involved in collecting data from the international trade community. There are over 100 agencies that either collect or use those data.

But 33 years ago, the United Nations Council on Trade and Development did a survey and reported on it in Columbus, OH, and they concluded that, worldwide, the cost of documenting international trade amounts to about 4 to 6 percent of the value of goods.

We didn't think that could be possible in the United States, so we asked one American company, Household Word, that is both an exporter and importer, to go deep into the financial records of their company to survey the costs that they incurred in the course of documenting exports and imports, and, to our surprise and dismay, the report we got back from them was that their costs were pretty

much in the ballpark, within the limits outlined by the United Nations Council on Trade and Development. In other words, the costs of simply documenting trade amounts to about 4 to 6 percent.

Now, when you realize that the average rate of duty that we collect in the United States is only about 3 percent, it is a little shocking that the cost of documenting a transaction is actually higher than the cost of the duties imposed. But it is a tax nonetheless. So about 2 years ago, in September 1995, Vice President Gore issued a mandate to all Federal agencies to work together to create a single International Trade Data System.

The International Trade Data System has essentially three components. The first component which we were successful in putting together in June of this year is a standard set of data that will satisfy the legal needs of all Federal Government agencies. That was not easy to do, but we think we are at the point now where we have a standard data set. We started with over 1,200 different data elements that were being collected by U.S. Government agencies. We found that over 270 of them were redundant, and, in the end, we have it down now to, I think, about 127 data elements that will satisfy the needs of Federal agencies.

Only a few of those are what we call mandatory data elements and are to be collected with each importation or exportation. The others are conditional, which means that they are only required in special cases; for example, when the product being imported is a pharmaceutical product, or they are data elements that we think the automated system can generate, itself, automatically.

For example, for years we required importers to report the date and time of filing. Well, in an automated system, the computer will generate that information itself. So we have gone from over 1,200 data elements that we were collecting down to a very small number that are actually mandatory.

The second part of an International Trade Data System is to create a single point through which importers and exporters can report electronically to replace the system that we have in place now where they send paper forms to every agency that has an interest in the transaction.

Under most of the electronic reporting systems in place now, the only parties who have access to electronic reporting are those who have access to what are called value-added networks, the very expensive, dedicated lines, T–1 lines and so on. We wanted to make this system accessible to small business, so we have begun researching ways that we can make the reporting system open to those who can file over the Internet.

One of the first tasks that was undertaken was to develop a robust encryption system that will allow small businessmen to use their Internet connection to transmit data that they feel are confidential. Once those data are in the system, and what we call the front end of the ITDS, the ITDS system will distribute the data to those agencies that need it, and if several different agencies need the same data item, they will get it from that single collection. They won't need to collect it repetitively or redundantly.

For a certain period of time, the format in which data will be collected by this front end will be somewhat incompatible with the format used by these Legacy systems in agencies around the Gov-

ernment, and so for that period of time we will have between the ITDS front end and those Legacy systems what we call intelligent agents that will make some transmissions and conversions to the formats that the agencies need. But over time, as agency Legacy systems become obsolete and they are replaced, we have a system in place through OMB that will assure that any replacement systems are compatible with the International Trade Data System.

At the back end of the process, there is a large body of parties who use data for analytical purposes, for trade promotion and for research. This includes the Library of Congress, the Ways and Means Trade Subcommittee, the U.S. Trade Representative, and economics faculties at every university in the country.

Currently, in order to get data on U.S. international trade, they have to go to a number of different sources scattered around Washington, so one of the things we wanted to create within the international trade data system is a single point of access to all of those data bases. So if you are a professor at the University of Illinois and you want to know the impact of U.S. international trade on the economy of Illinois, you can enter through the U.S. Trade Data System, the International Trade Data System, and, using hypertext links on the screen, you can get to the data no matter where they are all over the country, but it appears to you, as a user, as if you are using a single data system.

In the course of developing the International Trade Data System, we realized that the most challenging environment in which we would be collecting data is at our land border ports. Trucks arrive at the border and we have virtually no prior notice that they are coming. Unlike airline flights or ocean vessels which are able to transmit their manifests hours and sometimes weeks in advance, with the land border crossings, the trucks arrive and we don't know that they are there until they actually pull up in front of the primary booth.

So we are testing, in a prototype called the North American trade automation prototype, our capacity to collect data through a single point of entry to get those data distributed to the Federal agencies that need it, to allow them to do risk assessment on those data if they have enforcement responsibilities at the border, and to get the results of that risk assessment back to the customs inspector so that when the truck arrives, the finished review of that electronic data is available for his use.

Now, let me briefly contrast that with the system that is in place today. The most advanced system we have in U.S. Customs is a system in which there is a bar code sticker that is put on the top document that is handed out the window by the truck driver. The U.S. Customs inspector in the booth can run a wand over that bar code and all of the information that is constant is in the computer: The name of the company that is exporting, the name of the importer, maybe a description of the merchandise; but all of the variable information, such as quantity and value information that changes from one shipment to another, has to be punched in by the inspector during the few precious seconds that he has with the truck there.

We don't train customs inspectors to be keypunch operators; we train them to use their intuition to spot anomalies about the truck.

We look for a driver who just appears to be out of the ordinary or appears to be nervous; we look for something about the truck that suggests that it might be dangerous from a highway safety point of view; we look for new weld marks on the trailer that suggest that perhaps someone has installed a false compartment. That is what we want the inspector to do. Instead, under today's environment, he has his face down over a keyboard and we are not able to use him the way we would like.

So one of the benefits we get out of an International Trade Data System and the North American trade prototype is not only that we get economies in terms of the reporting burden we impose on the international trade community, but we are able to utilize that information much more effectively for enforcement of all of those laws at the border.

The prototype that I am describing takes advantage of some technologies that are being deployed by the Department of Transportation under its CVIS program; that is, commercial vehicle intelligence systems network. The Department of Transportation created this program to help State highway authorities enforce their safety and revenue laws. Basically, today, when the State highway department opens up the weigh scales on any highway in the country, within a few minutes a line forms.

Using transponder technology that is now becoming feasible, it is possible for the States to install a reader on the highway and to detect each truck that passes by, which will have a transponder on board, and to know immediately whether that truck has a history of running overweight, running with bad tires, running with bad brakes, or not paying its road taxes.

We can use that same technology at the border to identify trucks that are arriving from Mexico and Canada, and because we have all of the information about that truck, about the driver of the truck, and about the cargo inside the truck, in advance, when the truck arrives and we detect its presence because of the transponder on board, the electronic record that corresponds to that truck can immediately be presented on the screen in front of the inspector. We think this is a significant improvement over the system we have in place today.

We have taken this process, this whole process, one step farther. If it makes sense for U.S. Government agencies to terminate the duplicative data collection systems they have in place and to put all of their data needs into a single data set, it also makes sense for the United States to do that with its major trading partners.

What happens today is that, on one end of the bridge, the Mexican Customs Administration collects a set of data from the driver; a 100 yards later, the U.S. Customs Service collects almost exactly those same data. And there is no reason for it.

When we have looked at this and looked at the data being collected by our trading partners, it has become apparent to us that there is a tremendous amount of overlap. There are some differences any way the data elements are defined, but, by and large, we think it is possible to negotiate with our trading partners a single data set that will serve not only as export documentation but as import documentation. And on the basis of that theory, we are now negotiating with the G–7 countries to create a standard set of

data that U.S. exporters can use when they export to any of the G–7 countries.

Now, let me very quickly contrast that with the situation that obtains today. An exporter in the Netherlands who is exporting to the United States is able to send his products to a market of 280 million people, and there is only one data set that he has to use. On the other hand, a U.S. exporter in California sending goods to Europe has to deal with the data requirements of all of the different European countries.

It is simply not true that the European Union, because it is a customs union, has a uniform set of data, and that is something that they are realizing themselves. Not only are the data elements different but the electronic protocols that they use to transmit data are also different from one country to another.

So beginning with the G–7 summit in the summer of 1996, and then going through the Denver summit last year, where we got a mandate to finish our work before the next summit in 1998, we have been working with the G–7 countries to agree on a standard set of data and on a common electronic protocol for transmitting those data. I think what that will mean for U.S. exporters is substantially reduced costs, substantially reduced burden of data production and recordkeeping, and will make it much easier for U.S. exporters to be competitive in foreign markets.

Let me turn now from a description of the International Trade Data System to talk briefly about the process for putting it together. It is an interagency system; it is being developed interagency; it is genuinely a crosscutting effort. And although today I can say I am immensely pleased with the progress we are making and with the working relationship that exists among all of the different agencies, I can tell you that it didn't start out that way. The process of getting agencies that did not have the habit of working together toward a common objective, moving along parallel lines or convergent lines, was tougher than I had expected it to be.

When we started this process, I thought that the challenges would be technological: finding a way to collect data over the Internet and over value-added networks, getting it distributed to the agencies that need it, getting them to perform risk assessment audits, and getting them to report results back to the border. In fact, that has turned out to be the easiest part of the project. The harder part by far has been the human part, getting people to work together.

The thing that has made that successful at every critical stage has been intervention from the political levels of government, starting with the Vice President's initial mandate to Federal agencies to do this, going through the very helpful intervention from Chairman Livingston of the Appropriations Committee when it appeared that opponents of this project were going to be able to stop funding for it, and continuing to this day.

We are very grateful for the interests that your subcommittee is taking in this project. Frankly, without the interests at the political level of government, projects like this lose momentum and eventually die.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Simpson follows:]

STATEMENT OF JOHN P. SIMPSON
DEPUTY ASSISTANT SECRETARY OF THE TREASURY
REGULATORY, TARIFF, AND TRADE ENFORCEMENT
BEFORE THE
SUBCOMMITTEE ON MANAGEMENT, INFORMATION, AND TECHNOLOGY
OF THE
HOUSE COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT

OCTOBER 27, 1997

Mr. Chairman, on behalf of the Treasury Department and all of the agencies of the federal government who are working together to create an international trade data system I want to thank you and the members of the Subcommittee for giving us the opportunity to appear here today.

The Environment

Let me begin by describing to you the environment in which we are working. The United States is the world's largest exporter and importer. The U.S. economy depends heavily on world markets to support a higher rate of growth. In 1995, exports increased by more than 14 percent over the previous year, increased by another 6 percent in 1996 over 1995, and are up more than 11 percent already this year over 1996. Export accounted and have accounted for one-third] of overall U.S. economic growth over the period 1992 to 1996. About one of every ten U.S. jobs, and one of every five manufacturing jobs, is supported by exports.

The U.S. economy is also heavily dependent on imports. The competitiveness of U.S. manufacturers and the quality of life for U.S. consumers depend on having access to materials and goods from around the world. Indicative of this, the value of imports into the United States has increased by 118 percent over the decade ending in 1996 and by 64 percent over just the period 1992 through 1996.

Because international trade is so important to the U.S. economy, the cost of government procedural requirements affecting international trade, and specifically information reporting requirements imposed on import and export transactions, is a burden on the performance of the economy as a whole.

This burden is not imposed as a matter of conscious policy. Rather, as laws have been enacted to implement trade agreements; prevent unfair trade practices; protect the environment, consumers, animal and plant health, and endangered species; ensure highway, rail, and air safety; better regulate immigration; impose economic sanctions on hostile regimes; and prevent export of sensitive technologies to inappropriate destinations, new requirements for reporting have been superimposed one on top of another, despite efforts to limit the cumulative burden.

Although there are no reliable cost figures for the United States alone, the United Nations Council on Trade and Development estimates that worldwide the cost of documentation requirements for international trade accounts for 4 to 6 percent of the cost of goods traded. In other words, the cost of preparing documentation is equivalent to a tax of 4 to 6 percent on the value of goods.

Today, separate reporting and data systems are maintained by federal agencies involved in all aspects of the international trade process, including regulation of goods, transportation, and immigration. Exporters and importers deal with numerous paper and electronic systems, and are confronted with duplicative, incompatible, and non-uniform data reporting and record keeping requirements.

In addition, those who need access to international trade data, including those who make trade policy for the U.S. Government, must often research several potentially incompatible sources because the systems do not use standard data or technology. The current state of trade data reporting and processing acts as a barrier to efficient and effective trade and transportation flows, adds to the costs for business and government of conducting international trade, and makes analysis of the data difficult or even impossible.

The Mandate for ITDS

In September of 1995, in connection with a report of the National Re-invention Project, Vice President Gore directed federal agencies to work together to create an integrated International Trade Data System (ITDS). ITDS will be a coordinated, government-wide system for the collection, use, and dissemination of information related to commerce across our national borders. The International Trade Data System (ITDS) will include information about cargoes, the conveyances in which they are transported, and where applicable, the personnel involved in the transportation of goods (to support enforcement of immigration laws). The system will also be designed to accommodate the eventual inclusion of data on certain aspects of non-goods trade, specifically, trade in services.

Goals and Objectives

The goal of the ITDS is to implement a government-wide integrated system that meets the data needs of all users, reduces the reporting burden on the public through elimination of duplicative collection, and enables data providers and users to transmit and obtain all data electronically. The following steps will be taken to achieve this goal:

- Standardization of data element names, definitions, and formats;

- Provision for electronic entry of transaction data in advance to a single reporting site;

- Adoption of a policy to rely to the extent possible on commercial data, rather than government-mandated data;

- Adoption of uniform reporting requirements for exports and imports in the U.S.;

- Provision for integrated government-wide system for data sharing among authorized agency users;

- Provision for timely access to statistics derived from transaction-level data; and

- Creation of a plain English information source for current, clearly defined, international trade requirements.

Once developed, ITDS will:

- Provide more accurate and complete trade statistics and data;

- Standardize data collection to allow for direct comparison of U.S. imports and U.S. exports for balance of trade purposes;

- Reduce of government and trade community processing time and costs;
- Provide knowledge to improve informed compliance with trade statutes;
- Eliminate duplication and unnecessary reporting;
- Enhance fraud detection capabilities;
- Improve financial controls;
- Provide more immediate access to trade data; and
- Establish a basis for re-engineering processes of government agencies and the processes by which the international trade operates.

ITDS Is a True Inter-Agency Effort

As directed by the Vice President's Memorandum and charter, an inter-agency Board of Directors comprising senior officials of agencies with substantial interests in collection and use of international trade data was formed to oversee development of the ITDS. Agencies on the Board include Treasury, the Food and Drug

Administration, the Department of Agriculture, the Department of Transportation, the Immigration and Naturalization Service, the U.S. International Trade Commission, the Bureau of the Census, the U.S. Trade Representative, and the U.S. Customs Service. *Ex officio* members include a representative of the National Performance Review team, the Office of Management and Budget, the Government Information Technology Services Board , and the Federal Trade Commission.

Responsibilities of the Board include oversight of project design, review of current and future resource needs (including an assessment of the cost-effectiveness of various design options), and review of existing statutes and regulations respecting collection of international trade data to assure that changes needed to implement an ITDS are identified.

The Board members recognize their responsibility to represent not only the interests of the agencies for which they work but also the large number of other agencies not represented directly on the Board, other branches of the government, and private sector interests, all of which either supply or use international trade data. Ex-Officio members on the Board represent the Government Information Technology Services (GITS) Board and the Office of Management and Budget (OMB).

The Board has established an ITDS Project Office to carry out the day-to-day work of developing the ITDS. The Project Office currently has sixteen full-time employees, including one detailed from the U.S. Treasury's Departmental Offices, seven detailed from the U.S. Customs Service, and one detailed from the Food and Drug Administration. Occasional assistance from staff of other agencies is provided as needed.

Structure of the ITDS

Initially, it was envisioned that there would be three principal tasks to construction of an ITDS: (1) creation of a standard set of data to satisfy the needs of all users without redundancy, (2) design of a single point of collection from which data would be distributed to all agencies requiring them, (3) and design of a single point for accessing all data collected by the system, regardless of where they are stored.

However, as the project developed, participants have taken advantage of opportunities created by the project to address other objectives. For example, a module for data on trade in services will be included in the ITDS, certain processes for clearing trucks and trains entering the U.S. will be re-engineered to take advantage of technology being deployed by the Department of Transportation, and data definitions will be developed with an eye

toward the possibility of future harmonization of U.S. trade data with data collected by our major trading partners.

The ITDS will not take over the data analysis functions of agencies; it will simply serve as a conduit for getting data to those agencies and enabling users to obtain data and data analyses through a single point of access. The system will be developed using open systems architectures, to encourage innovation by private sector systems developers and to assure competition in the development of systems for interfacing with the ITDS.

Standardization of Product Codes

Several agencies have developed unique coding and nomenclature systems for products subject to their regulatory authority. In April 1997 a working group was formed to undertake an evaluation of product codes in use at several agencies in order to develop a single standard for inclusion in the data set. Agencies involved are the Food and Drug Administration, the Department of Agriculture, the Bureau of the Census, the Fish and Wildlife Service, the Consumer Product Safety Commission, the National Marine Fisheries Service, the Customs Service, the Bureau of Alcohol, Tobacco, and Firearms, and the Environmental Protection Agency.

Identification of Legal Changes Needed to Implement the ITDS

Agencies currently collect duplicative data under statutory and regulatory authorities that are also duplicative. Once agreement is reached on a standard set of data that meets the needs of all agencies it will be possible to identify legal authorities for data collection that may be revoked, and also to identify legal restrictions on sharing data among agencies that have a genuine need for them. Issues of burden, enforcement, privacy, and security may compete with each other and work against data sharing, requiring balancing at the highest policy levels.

A compilation of legal authorities by agency has been prepared as a starting point for this effort.

Establishment of A Benefit-Cost Baseline

In order to assure the cost-effectiveness of an ITDS, there is need for an accounting of the forms that agencies are currently using to collect international trade data from the public, along with each form's associated frequency of use and collection burden. In order to develop a preliminary estimate of effect on public reporting burden, the Project Office analyzed 25 forms identified in Phase I of the data element study. These forms account for a current total public collection burden of 7,482,306 hours per year. A preliminary analysis of the redundant collection that can be eliminated consolidating these forms into a single entry system identified a savings of 1,973,329 hours per year of paperwork burden. In order

to develop a full estimate of reduction in public reporting burden that could result from an ITDS, the Project Office, in cooperation with the Office of Managemetn and Budget, will gather and analyze data on file in OMB's Docket Library about the forms currently approved for collection of international trade data.

The North American Trade Automation Prototype (NATAP)

The first prototype developed to test ITDS concepts is the North American Trade Automation Prototype, or NATAP. The NATAP is an international project developed trilaterally by Canada, Mexico, and the United States. The key features of NATAP are:

- use of an international electronic message standard (UN/EDIFACT),

- use of standard commercial data,

- use of standardized data for processing both imports and exports,

- use of this standard data to meet the needs of multiple federal and local agencies,

- use of the Internet for sending data, and

- use of encryption to secure the data.

These concepts relate to key goals established by the ITDS.

In recognition of the fact that arrival of a truck at the border requires clearance of not only the cargo but also the driver (for immigration purposes) and the truck (for highway safety and other purposes), the NATAP integrates the processing of goods, transportation, and crew members into a comprehensive, totally electronic process. To the extent possible, NATAP uses the data normally used in international commercial trade transactions as the basis for government processing instead of the data elements conventionally required. Additional government-devised data are added to these commercial data only when necessary to meet mandated government information requirements.

The U.S. is using the NATAP to compare the feasibility of using commercial data with use of data received by Federal agencies under current procedures, as well as to test the capabilities of a central data collection system for border clearance. Under NATAP, commercial data are received and processed through U.S. border agency risk assessment systems prior to the actual arrival of a vehicle. When a vehicle arrives at a border entry point, Automated Vehicle Identification (AVI) devices, developed by the Department of Transportation for its Commercial Vehicle Intelligent Systems Network, provide electronic notification of arrival of the vehicle.

Because the data query under the NATAP is made automatically, and because the receipt of a "hit" from government automated risk assessment systems cannot be overridden by any inspector, opportunities for corruption within the border clearance process are significantly reduced.

The NATAP began operation for evaluation purposes on April 1, 1997. Prototype operations will run through the end of the year. During this time, evaluation information will be gathered by the three governments in close cooperation with each other. Evaluation studies will be released by the individual governments as well as a trilateral evaluation.

As part of the ITDS initiative, the Board of Directors will review the results of the NATAP operation to identify successful applications of these concepts for possible inclusion in ITDS. Although the ITDS does not currently involve any multi-lateral efforts at data standardization, the NATAP does provide an opportunity to assess the benefits - to policy makers, trade negotiators, analysts, and enforcement agencies - of having trade data that are standardized with those of key trading partners.

Allow me again to thank you and your colleagues, Mr. Chairman, for your interest in the International Trade Data System Project, and for giving us an opportunity to appear here today. I shall be

happy to answer any questions you may have and to provide any written material you may want.

Thank you.

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Mr. HORN. Well, we thank you.

Ordinarily I wait until all of the witnesses have finished on a panel before asking questions, but I am very impressed by what has gone on in this project, and we will be glad to help in any way.

You mentioned opposition coming before the Committee on Appropriations. What was the nature of the opposition? Was it within Congress? Was it within the bureaucracy? Was it within some of the clients, shall we say, that Customs have? Or what?

Mr. SIMPSON. Well, in the interests of being diplomatic, and so as not to reopen old wounds, let me say, it initiated in the executive branch of Government from some of the agencies that were simply unwilling to share data collection. These bureaus have been very successful in creating ties with their appropriators, and we frankly found ourselves on the outside looking in.

The Treasury Department, Mr. Chairman, I sometimes compare to the president of a university who has a very popular and successful football coach. Nominally, the Treasury Department and the university professor are on top, they are the bosses, but everyone knows who has the real power. And in the Treasury Department, I am afraid, very often our bureaus who have the ability to provide travel and information and briefings for congressional staffers on the appropriations subcommittees just have the inside track on us.

But let me say that I think we are past that. We have support from all of the bureaus and agencies who are working on this, and I know, as of this morning, we now have the full support, and, in fact, the enthusiastic support, of our appropriations subcommittees.

Mr. HORN. Well, I must say, with that analogy and having been a university president for 18 years, I really feel sorry as heck for Treasury right now, and I am glad you have overcome it. You don't have completely tenured faculty, but I know some days it seems that way.

So the football coach—it depends on how tough the president is, you can get rid of him also, but some don't—they do run the university ultimately, in some of our Midwestern and Southern States.

Let me ask you on the transponder, is that inserted by U.S. Customs in the truck, or how does that system work?

Mr. SIMPSON. Right now, the transponder is provided by the Government for the prototype and the transponder readers are being provided by the Department of Transportation. But over time, we expect the transponders themselves will be put on the trucks either by the manufacturer or by the party who purchases the truck. These transponders are already less than $5 a unit, and we expect that to go even lower.

Mr. HORN. Is this sort of like the global positioning transponder?

Mr. SIMPSON. As I understand it, Mr. Chairman, the range of these transponders is great enough, and in fact they can be read by satellite.

Mr. HORN. Well, that is what I was wondering. Is there a way that some forces we don't want to know what we have on there, that they can decipher the data base that is on there?

Mr. SIMPSON. No, for a number of reasons, but let me give you why I think is the primary reason.

I sit on an advisory committee on which there is substantial representation by the U.S. trucking industry. This is the Department

of Transportation Advisory Committee. One of the biggest concerns is privacy. They think that there will be all sorts of data resident on the transponder that anyone can read.

The point I make to them is, we have the data about your shipment, about your truck, and about you as a driver in a secure data base within Government. All we need to have on the transponder is just an identification of what the truck is. In addition to that, we have a substantial encryption technology built into this system to help protect it.

So I think that even the most skeptical representatives of the trucking industry are now satisfied that, whatever other concerns they might have, privacy should not be one of them.

Mr. HORN. So in other words, as long as you relate that truck and driver, you could have a code that simply accesses a secured data base here, and it isn't necessarily on the transponder?

Mr. SIMPSON. That's right. Yes, sir.

Mr. HORN. In terms of the remarks you had prepared, one thing I noticed, it would be very hard to figure out the import figure in relation to what you said in the first full paragraph under the environment as to our export figure. Those are the things, of course, up here that, when we are trying to get a handle on the balance of trade, the deficits in trade, and all of that, you use the 1992 through 1996 import figure. But, I guess I would like to know, what is the export figure?

We have here into the United States—well, actually, value of imports has increased by 118 percent over the decade ending in 1996; 64 percent over the period 1992 through 1996. Then earlier, in the preceding paragraph, there is another figure there. In other words, I would like to be comparing apples and apples, and I don't know how—do you get those data easily?

Mr. SIMPSON. We do have those data.

As you may know, Mr. Chairman, there is substantial concern that U.S. import and export data are not comparable. In fact, our export data are not comparable with the import data of our trading partners. That is one of the things we expect to be corrected when we finish our process of creating a standard data set that will be used as both export and import documentation for our major trading partners. At that point, we will have the same information on both ends of the transaction, and the comparability of the export and import data should be much better.

Mr. HORN. Ten years ago, when the World Trade Center in Long Beach was opening, one of the aspects of the services they wanted to provide to people that had an international trade interest, as well as any government agencies or State agencies that were encouraging exports and imports, was the tariff data on particular commodities worldwide. As I remember, at that time there was an individual in the private sector who had developed and kept an up-to-date database on import-export tariffs country by country.

Now, will that be part of your system, and is that still in private hands, or does the Government have a similar thing? I don't know why it should, if it is being done well in the private sector, but I was just curious. When I saw these data, it reminded me of how helpful that was for the shipper and the person trying to develop a strategic niche, shall we say, in a particular country to which he

could export from the United States, so it would be their imports, and we could maybe solve some of the balance of trade problems.

What do you know on that particular niche of the database?

Mr. SIMPSON. That is a McGraw-Hill database. We are perfectly happy to collect data and allow all of the users of the system to manipulate it as they want, both government users and private sector users. Our job is simply to economize in the collection of data and to provide a single repository for it. We are not out to put people out of business. If they can do it more efficiently than government can, more power to them. We are trying to improve the efficiency of our own operation, not to destroy the efficacy of theirs.

Mr. HORN. Well, 10 years ago I had never heard of McGraw-Hill, maybe they had it then, but this was an individual that was doing it, and I am just curious, will that type of data be in this system on actual tariffs for particular commodities?

Mr. SIMPSON. Yes; it will. We may not have all of the manipulations of it that the private sector finds useful, but that is what private sector data manipulators can do, they can fill that gap.

Mr. HORN. So government would have access to that, or do you pay the fee that the private sector pays?

Mr. SIMPSON. We usually pay the fee.

Mr. HORN. OK. Well, let's proceed with the rest of the testimony, then. We have Mr. Cronin, Michael Cronin, who is Assistant Commissioner of Inspection, Immigration and Naturalization Service.

Mr. CRONIN. Thank you very much, Mr. Chairman, for providing this opportunity to describe INS's role in both the International Trade Data System and the North American trade automation prototype. My statement will be quite brief, as befits the limited nature of INS's role. However, I think the fact that that role has been recognized and the fact that INS is participating both in the ITDS Board of Directors, in the project office and in NATAP, demonstrate both the complexity of the project and the comprehensive approach that has been adopted to bring this project to fruition.

The border management agencies, Customs, INS, Agriculture, and the Department of State, jointly have made great strides in the application of technology to passenger processing. A first step in INS's participation in ITDS has been the application and integration of this technology with the trade automation prototype, with an eye to controlling and tracking the movements of drivers and cargo handlers throughout ports of entry, and certainly benefited from the guidance of John Simpson and the hard work of the project office in bringing this project to closure in terms of that technology integration.

We certainly look forward to continuing this work, the maturation of the trade data system, and to developing new means of moving relevant data from INS in terms of temporary workers and employment of foreigners in the United States to the trade data system. Thank you.

[The prepared statement of Mr. Cronin follows:]

Mr. Chairman and Members of the Subcommittee, thank you for providing this opportunity to describe the participation of the Immigration and Naturalization Service (INS) in the development of the International Trade Data System (ITDS) and to offer our perspective on the relationship between ITDS and various facets of immigration operations and policy. My statement will be brief, as the gathering and analysis of trade data clearly is not a core mission of INS.

INS is, however, required to monitor the movement into and out of the United States of non-U.S. citizens who trade in goods and services. INS is the agency which authorizes the lawful employment in the U.S. of non-U.S. citizens under numerous provisions of the Immigration and Nationality Act. It enforces the provisions of that Act in relation to aliens who violate our laws by accepting unauthorized employment. These responsibilities necessitate the provision of data by INS to those departments and agencies with direct responsibility for reporting and analyzing trade data. INS experience in the use of technology for examination and tracking of applicants for admission to the United States has also been used in development of those components of trade automation systems that relate to the entry into the United States of drivers and other operators of commercial transports. The result is a fully automated and fully integrated system for cargo tracking and entry. This system does not require separate immigration processing of various classes of cargo handlers who are required to cross international boundaries in the course of their work. The ITDS will enhance INS ability to consistently and accurately verify the immigration status of cargo drivers and their crew each time they enter and exit the country.

INS comes to the ITDS project from a framework of highly productive cooperation and coordination among the agencies principally responsible for managing the movement of persons and goods into and out of the United States. These agencies--INS, the U.S. Customs Service, the Animal and Plant Health Inspection Service of the Department of Agriculture, and the Bureau of Consular Affairs of the Department of State--jointly have developed and operate a sophisticated information technology and database management platform, the Interagency Border Inspection System or IBIS, to support operation of our ports-of-entry. Similarly, these agencies have collaborated

in a highly productive Border Process Reengineering project to eliminate mission and operational overlap and to streamline, focus, and coordinate agency activities.

INS has profited greatly from this approach to border management and brings this experience to the development of the International Trade Data System. We look forward to continuing to provide design input and operational support to ITDS and to development of more timely and effective methods for transfer of relevant INS data to our ITDS partners.

This concludes my testimony. I would be glad to respond to any questions which you may have.

Mr. HORN. Well, thank you, Mr. Cronin. We appreciate that insight.

Mr. Proctor is the Chief Information Officer for the Federal Trade Commission, and his testimony describes him as former champion, International Trade Data System initiative. Are we going to create a special either civil service or senior civil service former champion? I take it you are a continuing champion.

Mr. PROCTOR. I am also a continuing champion. We also have two champions now, I guess one who is official and one who started with the project. But a lot of things like this project actually have been kind of a little bit seat-of-the-pants, ad hoc, and skunk work, which is actually one of the reasons why I think we have made the progress we have. So that was a fitting beginning of my prepared statement, and I too will be brief.

I am the former GITS champion and ongoing champion. I also was reminded to mention that although I am CIO of the Federal Trade Commission, my role here has absolutely nothing to do with the FTC and I don't speak for them.

I was also here this morning, as you may know, as a CIO observing your hearings, and I was most interested. I think you covered a lot of interesting, pertinent, and important issues, and I was struck, I guess, by the wisdom in some ways of pairing your investigation this afternoon of this particular initiative with the subjects that you were looking at this morning. Because ITDS does, as a matter of fact, represent a lot of independents bureaucratically in the day-to-day of this, and although FTC doesn't have very much to do with international trade, it is still a very important example of what we can and should be doing, and in many respects are not doing as much as we should, as you noted this morning.

I have at least 10 years, as my prepared remarks note, of experience in early permutations of the Federal IRM Government information technologies working group, 2,000, et cetera, and I can tell you from my perspective as an individual agency CIO, as GITS champion here, and as a taxpayer, the CIO Council really reflects not only the latest but the best effort that has been made to date. I give Congress a lot of credit and the people who are working with it now a lot of credit for putting something in place that is not yet there, as the testimony this morning suggested, but certainly it is making contributions. In fact, it is making contributions right on this project, which is kind of the interesting connection.

As I approach the work of the CIO Council and ITDS, it seems to me one of the kind of hallmark principles of this endeavor is that we, all of us, need to rise above our individual, very much agency-oriented roles, and take a truly enterprise perspective. What is it taxpayers are looking for from us as a government to provide here? What is it we as a supposedly integrated, unified, coordinated Government are trying to do? And to really start with that vision at the very beginning.

And that of course in a lot of respects is what is embedded in Clinger-Cohen: Hey, don't tell me about your systems, don't tell me about the data elements and stuff, as GAO talked about this morning; let us talk about this logical view of what we are trying to do here, and that means business processes. Frankly, although it is interesting that Customs collects this and Treasury or INS collects

that, Agriculture gets some other elements, you need to look at it as the importers and exporters of the world do and the taxpayers, which is it is a unified process.

Clinger-Cohen, I am proud to say, actually has this model of the information architecture and, as far as I know, the ITDS project is the very first cross-agency effort within government to apply that largely agency-oriented discipline to what we are trying to do. I happen to think it has actually been a very good exercise, and although we haven't completed it, in fact we are just kind of getting warmed up. It is going to surface and is surfacing the tough issues that are designed to be raised by that tool. So I think it is an early success for Clinger-Cohen in that respect; also, standardization across agencies, which John Simpson mentioned earlier, and there are a host of other examples in which I think it has made it easier for CIO's in the world and others to help with the process and support activities like ITDS.

I would also note before summarizing just a couple of key observations specifically on ITDS, that one of the things that has really struck me here is this kind of enterprise view. When you think about what the NPR process has done, and they have talked about this vision of virtual government, we should really put aside the organizational division and look as individual agencies at our overall function. That is something, as I have mentioned, that obviously is pertinent here from the executive branch perspective. But in my experience, it is actually also pertinent to the way OMB approaches its processes.

Imagine that when you go over to talk to OMB you find a desk officer responsible, and then you start seeing these line agencies. Or imagine you come to Congress and you find, this committee to the contrary notwithstanding, a whole lot of appropriation and authorizing committees that are looking at the world, you know, as the Treasury Department or as INS or whatever else. That is what all of us need to rise above and deal with here.

Just a couple of key observations. One, I think you should have seen on its intuitive the obvious, which is a pretty simple vision here. Government should get it straight from the beginning what it wants, tell people, let them submit it in a nice efficient way, and be done. Yet, here we are still working on our vision for 4 years, and I sense frequently spending far too much time shoring up the commitment that we have to that vision.

I play this little game with my kids at home, my four little boys, kind of show them pictures of things and say, what is wrong with this picture? I show them a picture of the existing trade processes within the Government and they get it really quickly. And yet 4 years later, I mean, there is all this yak, yak, yak about you know, well, this and that sort of thing. This is not a hard concept to deal with. The hard part is kind of doing it, and that fact actually is not all that hard either.

As I see it, there are a couple of key things from a leadership and management perspective we need to be focusing on here, and frankly I think there is room for OMB and Congress to turn up the support on this as well. Beyond what we have been able to do with the National Trade Data System, we need to communicate our firm commitment to this. It has been an interesting 4 years, but it is

time to basically say we are going to do it and make that clear, and if people aren't interested in doing that, they should go find something else to work on. It just seems kind of basic. We ought to be focused on doing this.

Second, there are two key issues at this point that need to be put behind us, raised and put behind us. How are we going to organize this thing? What are we going to do to enable it in terms of cleaning up the regulatory and statutory environment that is the legacy, if you will, of decades of efforts that created organizations to deal with specific problems?

I think there have been proposals to do lots of studies of these things, but in a lot of respects, I think, you know, the answer is pretty easy. Frankly, from kind of a practical management perspective, I am not sure this is a case in which we need more time. I think we really just need to sit down, get the right people together, and make a decision of how we are going to do it.

As far as organization, I think there is a lot to be said for—I think the board of directors is clearly moving toward this for ITDS, toward having a single agent that basically collects, holds, makes available for the line agencies that use the information and do it. That is a highly contentious issue that we see from month to month, year to year. Until that issue is addressed, we ain't going nowhere in terms of actually debating the merits of this thing to actually doing it.

Second, in terms of the laws and regulations. I heard just recently, we don't know what Congress is going to do. Imagine if they don't buy off on this vision. Well, hundreds of millions of dollars are being wasted by the private sector. I am not sure why they wouldn't, but maybe we should wait until Congress clarifies.

In fact, there are lots of laws that prohibit one agency that collects information from sharing it with another. Well, those are problems and those, I think, as far as I am concerned, are not going to get easier to solve later. There are a variety of ways of approaching this, but I am sure those who are expert in legislative affairs should be able to figure this thing out. Lay out a clear vision of what we want to do, and leave it to the lawyers and legislative types of the world to implement that.

Finally, we need a clear project. It has been 4 years and we still don't have a lot of deadlines for a lot of things that need to be done, and from a management perspective, again, I think we need to get serious about this, lay out the challenges and get on with it.

The third of my quick observations here has to do with resources. I continue to be amazed. You mentioned this morning that the latest estimate is $27 billion that government spends on ITDS, and that presumably is on hardware, software, and the other stuff that looks in object class land like ITDS. That, of course, doesn't count the much larger number of those up in the personnel resources who actually attach to those systems, and who knows, but I will bet that is multiple to $27 billion. If you have duplicate systems, you probably have duplicate people doing duplicate efforts that are wasting even more money.

What strikes me, I guess, as amazingly anomalous is that we have plenty of money to spend on that count, but when it comes to actually supporting interagency efforts, and I say this due to my

experience, and ITDS, and from the perspective of the CIO Council, you are talking about a very small handful of people who are actually working on this stuff. You are talking a few people kind of on a voluntary basis like this: How are you spending time on that when you have your ITA to do? Well, that is important. I am a taxpayer too. But you know, it does seem that if we are serious about this, that we should be able to cough up from existing business processes more resources to kind of make this change process work a little faster.

I would commend, I guess, the ITDS team for being fairly creative in coming up with some resources. The GITS board IMC innovations fund has been helpful. I think it is a great example of kind of helping change move along. A number of agencies, including Customs Service, have kicked in a bunch of money to kind of help fund the project, and then there have been a lot of volunteers that have helped make the process as well.

Finally, in terms of the cooperation and teamwork which I see as important here, we really are talking teamwork and it needs to include executive branch agencies; Congress, obviously; and OMB. I think this International Trade Data System Board of Directors has been a most interesting tool for implementing this kind of crosscutting management process. It is important to have the confidence of individual agencies as alive and well. I think it is a good model and it will be interesting to see kind of how that moves.

From there, I am finished with my basic statement, and thank you for the opportunity to be supportive of this project and to your committee.

[The prepared statement of Mr. Proctor follows:]

Hello, and good afternoon. I am Alan Proctor, a member of the original Government Information Technology Services Working Group ("GITS"), and for a number of years the GITS "Champion" for the International Trade Data System Initiative, otherwise known by many as "ITDS." As you may know, GITS was chartered in connection with the original National Performance Review to assist in implementing NPR information technology ("IT") initiatives and to serve as a continuing source of innovation and sponsor of IT-driven change within the federal government. Like many interagency projects, my participation has been as a volunteer on a very part time basis. My real job is as Chief Information Officer ("CIO") at the Federal Trade Commission, although I must hasten to add that I am appearing here solely in my capacity as a former Champion for the ITDS project. The views I express are my own; they are not those of the Federal Trade Commission, any FTC Commissioner, the ITDS Board of Directors, or the National Performance Review.

First, a bit of background on me. Before coming to government and the FTC almost 21 years ago, I earned a BA in economics and joint law and business degrees from Stanford University and also participated in the Business School's public sector management program. I spent my first six years at the FTC working as an antitrust lawyer, and internal champion of using computers to support the Commission's consumer protection and competition missions. Fifteen years ago I made a big switch to running the Commission's information and technology management program – first commissioned, I might add, by Jim Miller, fresh from his first tour at OMB, as Director of the Office of Information and Regulatory Affairs. Since then, I've served as the Commission's "Designated Senior Official" for IRM, under the Paperwork Reduction Act, and now, as the position has been renamed and evolved, as the FTC's Chief Information Officer.

Throughout my career in government, I've been a proponent of using technology to better and more effectively support our government mission. I have also been an ardent supporter of more cooperation, collaboration, and sharing of resources across agencies in doing so. I founded the Small Agency Council IRM Committee more than ten years ago, as an organization of IRM professionals from more than 40 smaller agencies of the federal government dedicated to working smarter and cheaper by sharing resources across agencies. The driving force for me in this respect has been the view that we government employees and agencies can do more working together than alone. This is good for the taxpayers and good for government. I have also represented the Small Agency Council in an assortment of other interagency groups, including the former Federal IRM Policy Council ("FIRMPoC"), the Interagency Management Council for the Federal Telecommunications System ("IMC"), GITS, and now the Federal CIO Council, and its Interoperability Subcommittee. Finally, over the years I have also participated in a number of other special interagency projects; these include, for

example, an initiative with NARA aimed at defining goals for electronic records management, work with GSA to develop agency requirements for government telecommunications systems, and assistance to OMB, on a task force designed to spread the use of email within the government.

My experience offers three points of some relevance here today. I have half a career of experience working cooperatively with other government employees and organizations to use information technology more effectively. The ITDS project you are hearing about today is an excellent example of the challenges and opportunities in doing so. And the CIO Council, minted just about a year ago under the Clinger-Cohen Act, offers what strikes me as a set of outstanding new ways of overcoming old barriers to change in government's use of information technology.

As GITS Champion for the ITDS project over a number of years, I saw it as my job to see through and sustain the vision of the overall project, acting as a knowledgeable and friendly sponsor, and as a link to OMB and other interagency groups and organizations that may be involved. Coming from an agency that is not part of the project, I have been well-positioned to serve as a reasonably objective and neutral broker or facilitator among the more than 60 departments and agencies with many of the big stakes in the project that earlier witnesses have already reviewed with you.

My purpose today is to comment on lessons learned from our experience with the ITDS project to date, and to offer my thoughts on ways to encourage further success of ITDS and additional interagency reinvention projects in the future.

* * *

ITDS is a big and important example of how modern information technology can be used to enable major changes in the way the federal government does its business, cutting costs and improving service along the way. It is a cooperative initiative originally proposed by the National Performance Review which now spans more than 70 federal agencies. It seeks to redefine the way in which the federal government uses information technology to collect, store, access and use import and export trade data, and most probably to reorganize related business processes along the way.

The initiative offers potentially big benefits for both the private sector and government. For our country's importers and exporters, it offers the promise of dramatically cutting the regulatory costs and delay involved in international trade transactions. In this respect, it is an opportunity to move beyond the current

process in which exporters and importers are required in connection with a single trade transaction, to submit information that is duplicative, overlapping, and costly, in parallel to many different agencies. One small example I've heard of anecdotally is suggestive of the potential for improvement here. I'm told to consider the operations of just one auto company supplier, with plants located in both Canada and the United States, and focus just on the movement of parts between these plants, from where the parts are manufactured in some plants to where they are assembled in others. If the government would just do three things – define once, up-front, in a single place, what information is required to be submitted in connection with the movement of material between plants in Canada and the United States; let the company provide this information to the federal government through a single, consolidated submission; and to do so electronically -- the company could save tens of millions of dollars a year. Multiply this many times for all of the companies involved in international trade and you start to get a picture of the costs imposed by the current system, and the economic case for moving ahead quickly.

What is neat about ITDS is that it's also good for government. The fact is that accurate, timely and cost-effective collection, maintenance and use of trade data is essential to many of the enforcement, operational, statistical, and policy functions of many government organizations. I haven't met anyone in the four years I've been associated with this project that doubts that government could save big through smart use of information technology in consolidating and streamlining both the overarching business processes of data collection, storage and access, or in developing and maintaining the many information systems that support these various business processes. We save by standardizing and streamlining our processes, eliminating duplication, and improving quality and timeliness of data. This reduces operating costs and makes for better quality policy and enforcement.

The project has made considerable progress since our first gathering more than four years ago. The vision then was pretty much as it is now – simple and powerful – and guided by the clearly stated goal of the Vice President and many others across the political spectrum, of making a government that works better and costs less. But there we were, representatives from more than 40 agencies sitting together talking about the initiative. Several speakers had laid out the vision and benefits of working together on this really big thing. There was also some discernable tension around some of the implications. And then a representative of one relatively big player stood up, announced to the group what I'm sure many, if not most, of the people in that room were thinking ... that he was actually already plenty comfortable with his agency's current legislative mandate and budget and didn't see they would gain anything from this new idea ... and then basically walked out of the meeting.

Fortunately, as I said, we've moved far from that point. We have developed an interagency "board of directors" for the project – several of whom you have heard from today. The Board is composed of representatives of the biggest players from the enforcement, operations, statistical and policy agencies, and it now functions as a team to provide top-level guidance for the project. A project office has been formed. There is clear support for the vision and goals of the project, and work is underway to develop a Clinger-Cohen style information architecture to guide further work, including business process reengineering and future systems design and development work. A massive data standardization (and simplification) effort has also been completed, in which, I might add, the CIO Council and a number of individual CIO's lent some needed help, to reduce from more than 1900 to 74 the number of data elements collected and used by agencies across the government in connection with trade transactions. Moreover, many of the principles and approaches involved in ITDS have already been tested in connection with the North American Trade Automation Prototype, a cooperative pilot involving governments of the US, Canada and Mexico. Work is also underway to similarly test and advance these concepts in cooperation with our major European G7 trading partners.

The challenge and difficulty of this exercise in better government unfortunately continue to rival the expected benefits. Consider in this context what we're dealing with. We are trying to jointly, cooperatively change interlinked trade transaction processes that have been put in place over many decades and are now engaged in by as many as 104 different federal agencies, each with its own legislative mandates and budgets, where data elements, data collection and data sharing is a true mish mash of overlapping, duplicative and frequently unnecessary reporting requirements, information collections, and related processes. These processes are attached to organizations that were created long before the technology that produces the vision and enables the delivery of a government which, though complex in its many roles, can still act with a single, service-oriented face to the public we serve. Everywhere you look there is bureaucratic uncertainty and risk that comes with possible change. Mix understandable issues of traditional roles and turf, with a huge mass of legislation that has built up over the years authorizing and directing the work of individual agencies, and guess what we have? Slow change, and much lost opportunity.

Yes, there has been some progress to date, and the ITDS project is a good example of a better way of doing business under the Clinger-Cohen Act. Unfortunately, this is also one of those efforts where the goal is incredibly easy to state and uniformly appealing to many, but where actually implementing the change will be a most challenging and difficult task. The bad news is that actually putting the new technology and systems in place will be the easy part. The good news is that the obstacles and alternatives are actually pretty easy to define now,

even if they call for some very tough decisions. What's going to be hard, and what is going to require effective teamwork between the legislative and executive branches, is dealing with two principal issues: reconciling the existing legislative framework that sustains government's current approach with the new vision; and agreeing on how to organize the people and systems that will support the new environment.

* * *

Lessons learned from ITDS to date.

ITDS has accomplished a lot to date, and there are several good lessons to be learned for use in the future in connection with this and other interagency projects.

• Leadership and top-level support is crucial. This is a major point made by a recent, keystone GAO study, *Improving Mission Performance Through Strategic Information Management and Technology,* and we've gotten as far as we have on this project with leadership from Vice President Gore, OMB, the NPR, the project Board of Directors, and the ITDS Project office. Together, these people and organizations have staked out, highlighted and helped us stay focused on our highest priorities. They have also provided the support it takes to maintain a major effort like this.

• Information management practices mandated by Clinger-Cohen are important. Although the ITDS project predates it, Clinger-Cohen defines – and is supplemented in this respect by OMB Memorandum 92-02, *Funding Information Systems Investments* -- an approach and a number of best practices that have been most valuable in advancing the ITDS project. These include the concept and requirement of an information architecture and a host of related best-practices, including reengineering business process before building new systems, standardizing data elements and other system attributes wherever possible, and having program staff lead the effort.

• The budget process is an important facilitator and enabler of change. This project wouldn't be where it is without effective use of a budget process that has made provisions for special funding of innovation opportunities, has highlighted total system costs (and therefore opportunities) through budget cross-cuts, or for that matter, in presenting the Administration's budget request to Congress, has highlighted this cross-agency initiative as a major information technology initiative. The overall process has also provided some structure and support for agency participants to contribute resources on an ongoing basis.

• Innovative approaches have also helped. The project has also been assisted along the way by a number of creative approaches that have been applied to deal with the special challenges of this kind of effort. For example, any project needs a leader, but in an interagency context, meeting the needs of major participants to be involved presents a special challenge. To meet this need, the ITDS initiative recommended and Vice President Gore chartered, an interagency Board of Directors to oversee and guide the reinvention project on a truly interagency basis. And there are a respectable list of additional examples. The GITS/IMC innovation fund contributed some seed money to get the project started. The CIO Council and member CIO's have helped to reinforce the data standardization effort. OMB has used its authorities to identify total system costs, reduce the burden of information collections, and intervene on those occasions when the services of a referee have been helpful. People and organizations have also been encouraged and empowered within the government to work for change a bit outside normal their normal bureaucratic envelopes, taking some extra initiative and risks to advance the process more quickly. The ITDS Board has on its own initiative applied the spirit of some of Clinger-Cohen's department-oriented procedures to its own interagency initiative, drafting, for example, an information architecture for the government's trade data processes. And yes, there is also the use of a project "champion," to position someone outside of the normal bureaucratic positions, but still well placed to keep asking those pesky questions Clinger-Cohen expects CIO's to ask.

• Finally, a more clearly and aggressively defined project plan is needed, with clear accountably for results. It is also clear that the project has taken considerable calendar time, far more, I suppose, than really necessary to do the work that has been accomplished to date. This reflects the scope of the challenge, but it also suggests to me that we have come to a point where more aggressive milestones, dates, and deliverables need to be laid out and committed to, and that the participants, including the Board, need to become accountable for them. As it turns out, the ITDS Board recently came to the same conclusion and is in the process now of incorporating this structure in its overall ITA and project plan.

* * *

Applying these lessons in the future

I draw from these lessons three sets of suggestions with respect to ITDS and the dozens, if not hundreds, of similar efforts that can or should be underway. They are really interlinked "conditions for change" that are required if we are to be successful in using information technology to make a government that works better and cuts costs for everyone.

• Leadership. There is great value to having important players letting their vision be known, and that they expect cooperation and assistance in getting it implemented. We have some of this now, but I am not sure that we are seeing it as much, as often, or from as many sources, as would be helpful. For its part, the CIO Council is also in the process of developing a role in this respect, going beyond maximizing the interests of individual agencies, to taking what I call an "enterprise" view of government IT management. This view cuts across organization lines within the government and accepts as our goal acting in well-coordinated, integrated, and cost-effective fashion as a common enterprise. This could contribute to some of the agenda and direction-setting leadership that is needed, although ultimately the driving force for major changes in government business processes needs to come from the people and organizations who are responsible for the programs that use the technology, not those who simply provide it.

There is also an ongoing need for an overall plan that establishes, communicates and coordinates our cross-cutting and highest priorities, and explicitly linking this to agency operating plans. The NPR has made major contributions in this respect, but more is needed. This could include an overall strategic IT plan or top-level information architecture for the government, which, as it turns out, is also an issue that the CIO Council is beginning to deal with. Beyond this, timetables and accountability for interagency projects are very important. I am not quite sure where these come from, or in the setting of volunteer interagency initiatives, what the mechanisms are for setting and achieving sufficiently aggressive timeframes to appropriately reflect the value of benefits to be had in the future. The CIO Council is still in initial period of development and evolution, but it is making some progress in establishing at least several strategic priorities. Moreover, the work of CIO Council Interoperability Committee is also supportive. At a recent planning session, the CIO Council endorsed a specific role for this committee in identifying priority areas for cross-cutting initiatives. Initiatives have also been undertaken, such as with ITDS, to support data standardization, and to take on some of the higher-visibility glitches on the interoperability front, including such mundane, but show-stopping problems, such as inability to exchange email attachments.

Still, greater enterprise-level perspective and commitment is needed. This has been an issue in ITDS, going back to the incident I described at the first ITDS meeting, and it continues today, even at the CIO Council. We are all a part of the same government, and should be serving the public in a well-coordinated and cost-effective way. This isn't always the way we act and look at the world, however, as we go about our daily work. In many ways, old organization structures are a problem for all of the players, including not only departments and agencies that do

the work, but OMB and Congress. Agencies have their traditional roles, data definitions, and systems. Interestingly, OMB and Congress are also largely organized along the same organization lines as well. Everyone has an ongoing challenge to rise above and go beyond traditional organization structures to focus on our core business and support functions, and how, given modern technology, we should best evolve our business processes. An enterprise-level, cross-cutting perspective needs to become a basic and overarching part of each of our jobs.

• Resources. The GITSB/IMC Innovation fund provides some assistance to interagency initiatives, as do the people at OMB and GSA who, though limited in number but often boundless in energy, work hard to support some interagency processes. The CIO council is also evolving to be of assistance. But it seems there are precious few people and organizations who take it as their job to support reform of interagency processes, which actually covers a lot of what we do. Much of what is getting done is done through volunteer committees and other groups, as an add-on to people's regular jobs. This approach is a positive and appropriate one in many respects, but I continue to be concerned that as a government we're seriously underinvesting in the people and organization and management processes that would facilitate faster progress on the ITDS and many other initiatives. I don't believe, by the way, that more money and people are necessarily required. Competing demands are great and we as a government are already spending plenty on information technology and the related business processes those expenditures are aimed at supporting. But I sense that we could and should be doing more to find resources within current spending to innovate and change the way we do business. This goes back to my first point, on leadership.

• Cooperation. Finally, cooperation and teamwork are vital -- across agencies, and with Congress and the private sector. Great ideas and visions, by themselves, are generally not adequate to power the major changes required to take full advantage of much of what modern information technology has to offer us as a government. Indeed, barriers are such that we will most likely not succeed unless we all get very serious about making it happen soon. This will require unusual degrees of cooperation across agencies, with Congress, and the private sector. I am not sure that we, in ITDS, or that other government IT groups, have fully taken advantage of the assistance and support that either congress or the private sector could provide. Again, in a hopeful sign from the CIO Council, an active outreach program is in place to a number of industry groups and there have been a number of clear contributions already. The CIO Council has been privileged to have one of the staff members supporting this subcommittee join us – another step in the right direction of working together better and more closely. And of course, we have this hearing today, marking what I see as welcome Congressional interest in both the ITDS and the broader issues of how we work

together to take better advantage of all that well-managed information technology can do for government and the public we serve.

This concludes my prepared remarks. I'd be pleased to respond to any questions you may have.

Mr. HORN. Well, we appreciate you coming back into the pit and the firing and all of this, because you have raised some very good questions which I will pass on here to Secretary Simpson.

How do we plan to get closure on this, and by what authority do you see that happening? Individual Cabinet officers signing off? OMB being the one that signs off in some way? What is the thinking about this?

Mr. SIMPSON. Mr. Chairman, we are engaged in what I am going to call the toe-in-the-water stage of this process. The Vice President gave us a mandate to design the system, not to develop it and implement it. However, on the basis of the work that we have been able to get done in the first year, I think there is a consensus, at least among the agencies represented on the Board of Directors, that we should move forward to develop a system and to deploy it.

I do believe that that sort of a step, which requires every agency to prepare legislation, to convert from the old system to the new system, to terminate the old reporting requirements and to accommodate data sharing in the new system, that requires them over time to adjust their Legacy systems to a new format—I think that sort of transition will only come about if it receives a fairly high level of political mandate, either from the Vice President or from the Congress. And at the risk of appearing to be hesitant, certainly in comparison to Alan, I guess I am perhaps more prudent. I do think we need sort of a mandate before we can go ahead with any assurance that people are going to fall in line behind us.

Mr. HORN. I have wondered, and I really don't know the answer: to what degree is the Cabinet used within the administration as a sounding board for projects like this? I go back to President Eisenhower's administration. That was a very systematic process, and when they came in to him with the Interstate Highway Act proposal and the National Parks proposal, he looked at them and he said, "What's taking you so long?"

Then it would go into a Cabinet system where every department had an assistant to the Secretary for Cabinet coordination, where working papers would go out, and it would then be brought up at the Cabinet. The principal person involved with that, an Under Secretary or whoever, would give the briefing. There would be the minutes signed and initialled by the President that said this is a decision, and every 6 months there would be a progress report.

It was an orderly way to do crosscutting business or simply to inform one's colleagues, since they all go out on the road and they are all expected to help defend the administration, whichever one is in power. And, I was just curious, have any of these things ever escalated up? The Vice President has been immensely active and very helpful, but does anything go up the pipe so they can have it on an agenda, or do they even meet? I have never heard of a Cabinet meeting. It doesn't mean they don't do it," I just haven't heard of it.

What happens in Treasury, for example?

Mr. SIMPSON. On the occasions that I have been able to talk to Secretary Rubin, as I might have predicted, he has been very supportive, but he cannot watch over every little sparrow all the time. I think that in order to get this project done with the cooperation of all of the departments involved, it is more practical to focus on

getting the attention of one person, the Vice President, the President, or the Director of OMB, than it is to attempt to get the simultaneous attention of all of the Cabinet officers who would need to pay attention to this. So from my point of view it is just a question of what is practical.

What we are missing now is exactly that action that you described. President Eisenhower did something more significant than he realized than when he said simply, "What's taking you so long?" That was the imprimatur that was needed, and that is what we need now.

Mr. HORN. Well, I know on some occasions we have written to the President and the Director of OMB urging attention in these areas, and we would be glad to help. Because out of your testimony I think our first question ought to be, how do we stimulate such crosscutting projects? And then what I have already mentioned, how do we get closure on them? Because we need somebody, just for all of the reasons you have cited or implied, that nothing much is going to happen unless there is a mother and father up there that are giving it some of their personal attention.

The Vice President doesn't have any authority unless the President gives it to him. The President can give it to him, as President Eisenhower did give Vice President Nixon authority in the equal employment opportunity area. President Carter gave Vice President Mondale probably more actual administrative responsibility than any Vice President in this century.

But it takes the President signing on the dotted line so everybody knows who is boss, or who is acting for him, either the Director of OMB or the Vice President of the United States. But, it means he has to sign a piece of paper somewhere saying: "Do it." As Churchill once said, "Just do it," and that is what we are talking about here.

How do we get closure on these very good ideas and how do we stimulate others like it? Let us take that one. What else is obvious to you, now that you have dipped your feet into this battle, what else can we do? This is an exciting idea, as far as I am concerned. What is the next exciting idea we ought to be thinking about?

Mr. PROCTOR. I mentioned I suspect this panel is pretty busy, and will be for a long time, with this one project. If you are interested in knowing the ITRB discussions, you can go to the NPR report which had probably——

Mr. HORN. Translate all of that bureaucratic gibberish you just gave me.

Mr. PROCTOR. National Performance Review has made two publications; the first one, which actually was the most complete, which was NPR, National Performance Review Information Technology supplement. NPR was broken up into a bunch of different areas. They had teams, including one that dealt with information technology.

They came out with a little book, which I would be happy to provide to the subcommittee a copy of that, summarized I guess best thinking on maybe 60 to 80 different information technology initiatives. I think it is safe to say ITDS is probably as far along as many of them, and in a lot of respects is more ahead. A lot of these

are crosscutting and are very hard, but it is a long list of very, very good ideas.

That report was updated recently by Access America, another report from NPR called Access America, and that also repackages some of the earlier suggestions and adds some additional ones.

Mr. HORN. I notice the CIO Council is doing a survey about some of these projects, and apparently October 24 was the deadline; is that correct? Does anybody know anything about that?

Mr. PROCTOR. Well, we had a retreat, which was mentioned this morning, on October 14 and various pieces of new initiatives have been assigned to the groups. Anne Reed who testified this morning, the CIO of Agriculture Department, is chair of a group that I am on as well, the Interoperability Committee. That group actually attracted a firm with a suggestion that we serve as a place for people to come who have ideas for crosscutting initiatives. Interesting, I think.

One of the challenges, if you are interested in having more of these things come out, is to move from a model where you get a bunch of knowledgeable people together once every 3 or 4 years and kind of come up with a huge number of things and spit them out and drop them on the world, and move to a continuous improvement process where tomorrow when you wake up and have a good idea you have someplace you can kind of send that, have some knowledgeable people look at it, farm it out to people who really know about it, and come back with a recommendation and say to the CIO Council, "This makes sense. Why don't we spin off a group dealing with it?"

It is that kind of challenge that I think the CIO Council is still very much kind of getting its legs on. The Interoperability Committee, as strange as that title might be for this function, looks like it may well embrace that kind of capability.

Mr. HORN. I was impressed when I heard that testimony and looked at the various subcommittees, how they have divided the labor. It made a lot of sense.

One of the things that a number of us have been thinking about is an Office of Management and an Office of Budget. It used to be that the old BOB had a very powerful section in there that dealt with management problems, Government corporations, etc. They had real experts, and these people continued between administrations. It had nothing to do with being a Democrat or being a Republican. These were professionals.

Now, since President Kennedy, primarily President Johnson on, we have had much more politicizing of OMB. Now the President doesn't have available all of the expertise that a Franklin Roosevelt had, a Harry Truman had, a Dwight David Eisenhower had, and even President Kennedy had. I thought when President Nixon put the M in OMB, it might solve a lot of our problems.

My friends on the inside of the Government have been telling me for 10 years or 15 years, "You are dead wrong, the budget drives out management," and I agree with them now. I changed my mind about 3 years ago. They told me enough about this, and you look at it, and with the $5.3 trillion national debt. With the huge budget deficit we have had and we will still have in the years ahead if we are not careful, the Director of OMB has the toughest job next to

the President. It is a job that needs full attention of top people that represent the President. It is the President's reputation that is on the line, not theirs. They have to do something to help him.

So we are getting down to putting in the legislation on an Office of Management. Now, would these be good types of projects for an Office of Management to be available? And I am thinking of it in a very nonpartisan way, with professionals out of the senior civil service and others who know what they are doing in this area and know the ins and outs of government like many of you do. I would just be curious if you have any reaction to that. Let's start over here and just go down the line here. We haven't had a chance to hear from Mr. Ehinger.

Mr. Ehinger, do you have any thoughts on this?

Mr. EHINGER. Well, I am not an expert on government organizations so I am not certain I can respond exactly to your proposal, but it is interesting that when this project has come forward for discussion throughout the government, we do tend to have issues of management arise. Not one department, not one agency seems to be able to respond very often beyond their own mission, so it becomes an issue.

One of the things we have done to alleviate that and has come of some interest along the lines of your proposal is, we have discussed this at great length with the John F. Kennedy School of Government at Harvard, where there tends to be a concentration of the types of management experts over many years, having conducted studies and so forth. That seems to be a repository of many people from government too, from different administrations. We have gotten a very good crosscutting sort of response and evaluation to the proposals of this project as it relates to treating international trade as a function of government rather than as an individual stovepipe organization.

So in that respect we have tried to get that sort of expert management opinion across a broad range of philosophies and so forth from a management side, and it has been very helpful and very useful. To the extent that such an entity that you are speaking of may help to do that within the government, that would be useful.

Mr. HORN. Secretary Simpson.

Mr. SIMPSON. I am sure Director Raines can speak for himself, but I think it would be useful to have OMB take on greater responsibility for crosscutting management issues. Over the years, as the different substantive committees of the Congress have addressed problems that arise within the scope of their jurisdictions, there have been many acts of legislation passed that have expanded to the point that they overlap with each other.

Food safety is an example. I think there are probably many areas of government activity in which committees of Congress, acting in good faith but with little awareness of what the others have done, have expanded the functions of the agencies over which they have oversight to overlap with the functions of other Government agencies. This has gone on long enough that there is probably substantial overlap in many areas now. Frankly, I doubt that any entity other than OMB is in a position to do something about it.

Mr. HORN. Mr. Cronin.

Mr. CRONIN. I think certainly that this is reflected at my level, Mr. Chairman. As agencies deal with the requirements of the Government Performance and Results Act, we are reaching a point where we see a need to focus on management issues and to fit the budget process to that as opposed to the reverse, which has been the consistent fashion in which we have performed over the years. I think those management issues will be surfaced as something on which OMB can focus and you will see that coming out in an overarching fashion as the agencies have to relate, as we certainly do in the border management community.

Mr. HORN. Mr. Proctor.

Mr. PROCTOR. I think it is a tough issue, and which is probably why you asked about it, but in terms of a model I think it would work either way. There is a lot to be said for, I think, hitching important things like information technology management to budget processes. If you look at Clinger-Cohen, if you look at GPRA, a lot of that stuff revolves around budget. Budget, although it has a lot of short-term aspects to it, is also a driver for a lot of the rest of what we do. So whatever you do, obviously taking advantage of that focal point for bureaucratic life is very important.

Having said that, I am also impressed with the comments that you, GAO, and others have made over the course of the hearing this morning, about the value of people who are dealing with information technology to be focusing on information technology. That is implicit in the role of a CIO within an agency, and it seems to me that is a useful model for thinking about bringing management ascension to some of the issues you have dealt with here.

Mr. HORN. Let me pursue a few questions now just for the record. I have been impressed by your testimony that this project obviously is a clear winner. It seems some of this happens, and obviously Mr. Davis and I, who have a particular interest, and I am sure Mrs. Maloney, will be glad to help move this off dead center around here.

Because you are absolutely right; when you look at the landscape, the President submits this as a unified budget, immediately it's 13 portions. Because, historically, that is the way we dealt with the budgets before the Budget Accounting Act of 1921. So the President changed; the Congress didn't change. And we have got 13 subcommittees, all of which are headed by Congress. I am not sure that is appropriate. But you will just note that the budget director is looking at it that way regardless of the organization of the executive branch.

We need some crosscutting efforts up here. The Government Reform and Oversight Committee is essentially the agency in the Government; we have that jurisdiction. But sometimes there is some duplication, but sometimes it gives us the overview that a lot of substantive authorization and appropriations subcommittees simply don't have. So we would be interested in helping causes like this.

I was a strong backer of NPR. And it seems to have fizzled out a little. There is a lot that I thought they put in that made a lot of sense and you ought to be doing much more than what has occurred to implement some of those ideas.

Let me ask you, on the estimate of about 5 percent of total trade dollars spent in paperwork overhead, is that a pretty accurate estimate, do we think, on the 5 percent of total trade dollars, or is this simply the cost of filling out the forms and all the rest? I heard that figure bandied around.

Mr. SIMPSON. It is the cost of collecting, to the trade community, of assembling the data that are required, of putting it on to the forms, and maintaining records that are required to support those data. That figure was initially developed by the U.N. Council on Trade and Development. It was a survey that they did across a number of nations.

We thought, being the United States and being more efficient than most, that it was probably pretty high. It was too high for us, but we asked well known American manufacturing company that both exports and imports to go very deep into its financial records and take some of the costs apart and see how much it costs them to document trade. They came up with a very similar figure. It was a little discouraging to us, but at least we know that we have a real problem to deal with.

Mr. HORN. What would that amount to, if you convert 5 percent of our total trade? I assume that is imports and exports. What would that 5 percent boil down to?

Mr. SIMPSON. We have about three-quarters of a trillion dollars' worth of imports and a slightly smaller figure in terms of exports. Let's call it $1.3 trillion times, take the low side of that estimate, 4 percent. That's a lot.

Mr. HORN. So converting it, since you are from the Treasury, you can add and subtract. Tell me what it is in terms of billions. I mean, that is what we are talking about.

Mr. SIMPSON. I was afraid you were going to ask that.

Mr. HORN. I assume you brought your pocket calculator with you.

Mr. SIMPSON. I'm going to say it is in excess of $50 billion.

Mr. PROCTOR. It is $52 billion.

Mr. HORN. It is $50 billion out of the $1.3 trillion; right?

Mr. SIMPSON. Right.

Mr. HORN. So we sort of agree on that? Will that be now the mantra around town, at least until tomorrow?

Mr. SIMPSON. That's as good a figure we have. I'm sure better figures can be developed, but that's as good as we have right now.

By the way, let me mention that on the basis of this work that this one American company did, we have gone to Penn State University, which has an ongoing survey of benchmarking exercise, to look at the efficiency of different American companies. There are about 40 different companies that are involved in this, and the original U.S. company that we went to has taken the lead to broaden the survey to these others.

I think what we're going to find is, they are going to be thwarting very unhappy chief executive officers when they find out how much the hidden cost has been.

Mr. HORN. Yes; no question about that. So that is the savings in the private sector. Now, what about the public sector savings, say, with the Federal Government? If your system here and proposals see the light of day, which I am sure they will, what are we talking about saving the Federal Government?

Mr. SIMPSON. We're doing a cost-benefit analysis that we expect to have by June 1998. But rather than leave you in suspense, let me say that the estimates depend to a great extent on the assumptions that one makes about the cost of maintaining Legacy systems, and those assumptions can be pretty high or pretty low, and we're trying to get a realistic handle on it.

Obviously, if one makes high assumptions about the cost of maintaining Legacy systems, then we look pretty good. If the assumptions are on the low side, then we still look good but not quite as good as before. But rather than make a seat-of-the-pants guess, I'd rather work that out and give it to you.

Mr. HORN. Fine. Without objection, it will be put at this point in the record.

[The information referred to follows:]

Early results from the ITDS Cost/Benefit analysis estimate the system cumulative net savings (defined as the difference between discounted savings and ITDS costs) through 2005 at $6.8 billion. This figure represents the lowest end of the net savings estimate and only includes the trade community filing cost savings.

There are a number of ITDS benefits that remain "intangible" in our current analysis that we expect to quantify in the future. The flip side of each US trade transaction is accompanied by the burden imposed by the governments of our trading partners. As the ITDS approach is accepted and adopted by our trading partners a reduction of at least as much again can be expected in the cost of government processing. Within our own government there are strong indications of improved port operations and management, enhanced enforcement, greater productivity, and cost reductions. The ITDS will supply better quality trade data in a more timely manner, sparking innovative new applications.

The addition of these government agency savings and other trade community savings (in such areas as licenses, permits, and fees, surety, legal support, and border delays) will increase the net savings figure several times over.

Mr. HORN. It seems to me that on the Legacy system and the point made by Mr. Proctor on duplication and human resource, which a number of you have made and others have made. Let's face it, government is labor intensive, just like the universities are labor intensive, and so if the people go with the Legacy system, there are some savings there.

I remember when we computerized our library to be one of the best in the country. We went from 35 acquisition librarians down to 3. We didn't fire anybody; we made them service librarians. The result is, we have the best reputation for service in the West. And you can retrain people to do other useful things, but they aren't doing things you can do by automation.

Mr. PROCTOR. Mr. Chairman, if I might just add on that point, one of the other real benefits that come out of this process that's already been demonstrated in some of the prototyping is that you not only cut the cost of private sector and cut the cost of government, you improve the quality of what government is doing in the way of enforcement.

If you are actually collecting the data in a way that you can compare what you are getting because it is a single filing, you eliminate the possibility of the Government being gamed where one importer will tell you that the source of origin was country X because you're trying to get around an FDA prohibition on something and they tell Customs something else because of tariff. You actually improve the quality, as well, and there is an untold benefit to that as well, which you need to add to the calculus here.

Mr. HORN. That might be part of what the CIO Council will be doing. What kind of retraining courses can we possibly salvage people that have been involved and updating and merging areas, not declining areas?

Now, the estimate of about 2 million hours per year paperwork burden on the private sector is sitting in some of the testimony. Does that mean we also have about 2 million hours per year for Federal agencies on, do I dare use the word, "keypunching" those data at $50 an hour fully loaded? That is $100 million for just the first 2 million hours, not counting reading these forms, storing them, all the rest.

Are we really looking at hundreds of millions of dollars in agency savings?

Mr. SIMPSON. Some of this data, Mr. Chairman, come in electronically, in a form that makes them immediately subject to manipulation electronically. But many of them don't. Many agencies continue to collect paper forms, and even those agencies that have the capability to collect data or receive data electronically at this point can't compel it and, frankly, don't always have a very wide participation in this.

One of the reasons for that—and it is a reason I mentioned earlier—is that the systems are set up so that data can be transmitted over only value-added networks, to which only the large businesses have access or, in the case of Customs, which dedicated Customs brokers have access. We want to make this system open to Internet transmissions so that we can increase the rate of electronic transmission of data. We think that will drive down the cost of data transcription, keypunching, substantially.

Mr. HORN. I am sure it will. It seems to be the experience.

Legal restrictions against data sharing. I would like a list from you of, where could Congress be helpful in going around and saying, look, we have got to loosen up this law. Certainly for government involvement, there shouldn't be those, but I know when I have talked to various commissioners and tried to get them to cooperate on things, they look at me and very huffily say, "Well, we have privacy laws." I say, "Hey, I'm not talking about invasion of privacy; I'm talking about the bottom line."

Let's say we get into debt collection, which the Treasury has done a very fine job on this for us, by the way, since you are a representative of the Treasury. And, you know, it is just utter nonsense. They had no organization for collecting debts, and they had no intention of doing anything about it. So we need to change those laws so that Governmental agencies can talk to each other.

So, let us know what they are, and I will be glad to systematically work my way around the appropriations committees or the authorization committees, as the case may be.

Now, let's see. I think, Mr. Cronin, I was interested in the history of the project at INS in terms of its acceptance. I am assuming that in the beginning INS was reluctant to slowly change. Give me some highlights. Why the initial reluctance? Why the change?

Mr. CRONIN. I really don't think there was initial reluctance. There was a matter of determining exactly—if there was reluctance, it was related to de-evolution of INS' authority to clear persons into the country.

However, the work we've done with automation in terms of passenger processing and in terms of processing commuters on the land border dovetailed really well with the trade automation prototype. And I think Bob can perhaps comment more fully as project director.

But integration really wasn't that much of a challenge. The technology certainly appeared to be very compatible. It is a process by which we enroll and vet truck drivers and cargo handlers. Subsequent to the initial enrollment, as they come through with their trucks, they are automatically identified through the system.

Mr. HORN. You have already a preclearance system, don't you, on the California border?

Mr. CRONIN. Right, San Jose.

Mr. HORN. So when certain trucks come, you look into their status and you track to see if they have ever carried drugs?

Mr. CRONIN. Precisely, we track for criminal history.

Mr. HORN. So you have got a pretty good database in the sense of your own experience that would say this type of system works. It is just a question then of getting it up to speed and having a speedier reply in the limited time that your people, as well as Customs, have at the border before it is a few miles long.

Mr. CRONIN. That is exactly right. That system has been extremely successful in terms of processing commuters, and we are seeing the same success.

Mr. HORN. Well, I won't ask you which of the recalcitrant agencies. We can talk privately on that.

Let's see. Mr. Proctor, one of the things that interests me is, there is now a small agency CIO Council, and how are they doing, and is your agency represented in that?

Mr. PROCTOR. I hope so.

Mr. HORN. Do you perceive this as a small agency with tremendous impact?

Mr. PROCTOR. Well, we have a small agency council, the IRM Committee, which actually I founded about 10 years ago, and that continues to this day. We've never succeeded in attracting CIO's on a wholesale basis to that, and we continue to kind of try to figure out how to do something that is aimed for specifically at CIO's.

I have actually proposed an agenda initiative for the next CIO Council meeting in November under which nonparticipating CIO's and CIO Council would have access to the private part of the website and selective access to circulations so they can be part of the collaborative process and brought into that community even those that don't go to those meetings.

Mr. HORN. Do most of the regulatory agencies, such as FTC, your major brothers and sisters from the 19th century up, or really we view from the early part of this century up—do most of them have CIO's?

Mr. PROCTOR. We are actually compiling a list, and it appears that most of the small agencies do have CIO's. There is the range of assignments that track those at the large agencies that you were reviewing this morning, but, for the most part, agencies have implemented the position of CIO particularly combined with some other responsibilities.

Mr. HORN. Now, the Interstate Commerce Commission is no more, but the Surface Transportation Board is. Is that agency thinking in terms of a data base that is comfortable for the clientele they serve so they can get answers much more rapidly? Because that is really what you all are doing; you are enabling the people that depend on Customs, Immigration, Coast Guard, and all the other groups to find in one spot a way to advance and help their business or their concern, which, if we weren't doing this and you weren't doing this, it wouldn't be happening.

So I think that you have got a very sympathetic clientele out there.

Mr. PROCTOR. We do. And I'm not familiar with what surface transportation group is doing, but I do know that NPR has taken the lead a lot in putting a number of websites up and providing people crosscutting access. They are doing this in the phone book as well as the Blue Pages. The business advisor function gives public, comprehensive access to crosscutting information about what Federal agencies are doing.

Mr. HORN. Now, will these projects—when they are finished, will they be asking for their own budget, or will they just simply be what the agencies are doing through their own budgets? What is the thinking on that anyway? Will this become a separate budget item, or will everybody just share their part and it simply is cooperation?

Mr. SIMPSON. In the case of the International Trade Data System, there will be certain budget costs that will have to be provided for in the individual agency budgets, But that will be done as part

of a crosscutting review by OMB, so that even though the money is put into separate departments, the umbrella framework is there.

There will also, probably in the end, need to be a single, stand-alone data collection organization that maintains the raw transaction data collected by the Government. That's just for the sake of the integrity of those data. So that, for example, if there is a congressional need to know exactly what was reported, if there is a criminal investigation, whatever, we need to have some entity that is responsible for the entire data record as it was transmitted. Those are the raw data. And that organization may need to be stand-alone, may need to be a separate entity and funded as a separate entity.

Mr. HORN. Are there incentives we should be giving agencies so they do what you have already been doing? What kind of incentives would wake them up in some areas?

Mr. SIMPSON. That's one of the most intriguing questions you could ask, Mr. Chairman, because I guess it invites an opinion about human nature that might be different in my case than in someone else's.

One of the things I've noticed in 32 years in government is that the innovators seldom rise to the top. People are just uncomfortable with them. They are uncomfortable all year round.

Mr. HORN. They are always nagging.

Mr. SIMPSON. They are always nagging. They have always got another idea about how it can be done better. And, frankly, most people who come to work expecting a pleasant day and not wanting to be upset before lunchtime find the innovators to be really meddlesome.

And so one of the things I think that we need to find a way to do is to give the innovators the audience that they need at the policy level and at the political level. Not all of their ideas will be good, but the knee-jerk reaction to just suppress them because they are a nuisance I think is holding government back and keeping good ideas at arm's length.

Frankly, I don't know how, other than by just repeatedly calling policy leaders up before this committee to report on what they are doing. I don't know how you can keep this negotiation of innovation in front of them all the time and keep their attention focused on it.

Mr. HORN. We are having a very interesting hearing, I believe, this coming Friday on the Excellence in Government projects, which are both Federal, State and local. And, I think we try to let the performer to show whatever through this meeting. We hope that it will be broadly covered, because one of my favorites has been the benchmarking project in the State of Oregon, as well as what goes on in New Zealand and Australia.

And, of course, in a results-oriented government, the Performance and Results Act, we are now getting that in our own government. And it seems to me that it would help all of you that have executive responsibilities to be able to get people to talk about: "how do we know where we are going? How do we know we are on the right road? And, How do we know when we are there?" That would make a lot of sense for the average citizen to say: "My gosh, there is a change here."

I think that the excellent people I know in government have just exactly the attitude you have, all of you. And, the question is, how do we promote more of that?

I have felt for a long time that if you are going to be a senior civil servant, which is an honored position, and should be, and I commend President Carter for getting that through. The Hoover Commission, as I remember, in 1949, when I was just getting out of high school, I remember reading that report, and we need more like that.

But we ought to do what the military has done, which is to say, look, if you want to be a general around here, or admiral, you have got to have Joint Staff experience before you do that.

And I would like to see us move a lot more people around than I think we do move around who could be generalists' managers and bring new life to agencies by the experience they have had, providing it is an innovative, enlightening experience, and government would be rapidly improved.

I don't know how many of you have had a chance to move around. But, I think the military has done pretty well with help from Congress. I believe it was the Goldwater-Nichols bill that said, "Hey, we've got to have that experience, and do it, and made all the difference in the world in terms of getting to know your colleagues in other areas and working closely in this kind of thing."

When, in military operations, you get down and if it is going to be a success, there has to be some joint Staff experience there, some Joint line demands there, that you realize that your particular service isn't the only thing that is winning, that we are all in this together.

So I would hope that this type of project that you all have been involved in would be a very sought-after model throughout the executive branch.

So we thank you all for coming. Unless you have some comments you would like to make on anybody's testimony that you heard or on anything I have had to say, you are welcome to wind it up. If not, thank you all. I appreciate it.

I do want to thank the following people: J. Russell George, staff director and chief counsel; Robert Alloway, to my left, professional staff member; John Hynes, professional staff member; Andrea Miller, clerk; Matthew Ebert, staff assistant; Serrica Brown, intern; Mark Stephenson, minority professional staff member, and Ellen Rayner, who is minority chief clerk. And to our court reporters, Ryan Jackson and Julie Bryan, thank you, very much.

The hearing is adjourned.

[Whereupon, at 2:25 p.m., the subcommittee was adjourned.]

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