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INVESTIGATIVE REPORT

OF

SENATOR FRED THOMPSON

Chairman of the

COMMITTEE ON GOVERNMENTAL AFFAIRS UNITED STATES SENATE

regarding the

FEDERAL AGENCY COMPLIANCE WITH THE CLINGER-COHEN ACT

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INVESTIGATIVE REPORT ON FEDERAL AGENCY COMPLIANCE WITH THE CLINGER-COHEN ACT

EXECUTIVE SUMMARY

Senator Fred Thompson (R–TN), Chairman of the Senate Governmental Affairs Committee, recently completed a comprehensive investigation of agencies and departments subject to the Clinger-Cohen Act of 1996 (CCA).[1] The review was initiated as part of the Committee's oversight agenda and is the result of a series of questions posed to agencies to ascertain the status of their efforts to comply with the 1996 law.

The rapid pace of technological change and innovation has offered unprecedented opportunities for the Federal Government to use information technology (IT) to improve operational performance, reduce costs, and enhance service responsiveness to the public. Because of the Federal Government's increased reliance on information technology, in 1994 Congress increased its attention and oversight on agencies' acquisition, management and use of information technology. Congress' investigation of agency information technology use raised a range of thorny issues surrounding managing and integrating complex information management processes; computer hardware and software; telecommunications networks; and, most importantly, aligning information technology with business needs. Consequently, Congress found that Federal agencies must have effective leadership and must enforce management controls over the government's $38 billion in annual spending on information management and technology.

In response to concerns about how the Federal Government was managing and acquiring information technology, Congress passed the CCA in 1996. The CCA mandates, among other things, that executive agencies design and implement capital planning and investment controls, implement specified information technology-related actions to enhance performance and results-based management, and establish Chief Information Officers (CIOs) with certain defined duties and responsibilities. In addition, the CCA requires agencies to identify information technology acquisition programs that have significantly deviated from cost, performance, or schedule goals.

The Senate Committee on Governmental Affairs played a large role in the passage of the CCA and maintains a high level of interest in compliance with its provisions. As a part of the Committee's oversight agenda, Chairman Thompson, along with the Commit-

[1] Public Law 104–106 (Division D & Division E).

tee's Ranking Minority Member, Senator Joseph I. Lieberman (D–CT), developed a series of questions to better understand the status of CCA compliance in the agencies and departments subject to its mandates.

MAJOR FINDINGS

Information Technology Management: Chief Information Officer Turnover High

The CCA established CIOs in 24 agencies in order to ensure that sound IT investment decisions are made and that cost-effective return-on-investment—focus on results and contributions to mission effectiveness—is achieved. The CCA vested the CIO with specific responsibilities to help him or her accomplish their goals.

While all of the 24 agencies have CIOs, the Federal Government has been experiencing relatively high turnover. While this should be expected in CIO positions because similar turnover rates are not uncommon in the private sector, it presents a management challenge to agencies that are trying to maintain sustained focus in and momentum for ongoing IT projects. In addition, various levels of CIOs within an agency do not always coordinate with one central CIO thus causing reporting and policy inconsistencies within a single agency.

Agencies Aren't Complying with Capital Investment and Planning and Performance Measures

One of the most important aspects of the CCA is the requirement that agencies make sound information technology investment decisions based upon the business needs of an executive agency or department. Under the CCA, each agency is required to design and develop a process for assessing and managing the risk of its information technology purchases in order to ensure effective program performance results.

However, the findings reveal that 17 of the 24 agencies covered by the CCA are not implementing fully the CCA's IT capital planning and investment control requirements. For example, the Small Business Administration responded that because of its work on the Year 2000 computer problem, it did not have time to develop formal information technology capital planning procedures.

And while 21 agencies reported that their capital investment and planning work processes were being improved or reengineered, half of the agencies reported requiring process reengineering or mission-related processes before making significant investments in IT in support of those missions.

In order to make sound business decisions, agencies need reliable information upon which to base those decisions. However, the quality of the data for the assessments of major IT investments needed for decisionmaking and for measuring progress is questionable at most agencies. For example, the Department of Agriculture noted that, while it has improved the quality of the data used for decisionmaking, it is unclear whether the data it uses to measure program performance is accurate, reliable, or even current.

While it is important to have clear and accurate data before making investment decisions, it is equally important for agencies

to link IT performance to agency program performance. In fact, agencies are required to incorporate these performance goals in annual agency reports required under the Government Performance and Results Act (GPRA).[2] Unfortunately, the findings revealed that most agency links to these reports were often too broad to provide sufficiently robust measures of the impact information technology makes on an agency's overall performance. Additionally, Chairman Thompson found that 16 agencies neither developed nor submitted IT management reports that included accomplishments, progress, and identification of areas requiring attention. And, finally, one fourth of agencies reported significant deviations of projects from cost or schedule goals. Because agencies are not using sound business procedures before investing in information technology, they are unable to improve program performance and meet their mission goals.

Agencies Aren't Applying Modular Contracting For Major IT Investments

In 1994, Congress found that Federal regulations governing information technology acquisitions were outdated, focused on paperwork and process rather than results, and prevented the government from taking timely advantage of rapid advances taking place in the competitive and fast changing global information technology marketplace. The CCA authorizes agencies to purchase IT on an incremental or modular basis to prevent the mismanagement of IT spending. This authority still hasn't been applied consistently in major IT investments governmentwide, In fact, the findings revealed that eight agencies reported still being in the process of implementing modular contracting.

RECOMMENDATIONS

The report includes a dozen recommendations for executive departments and agencies to implement in order to fully comply with the CCA. The recommendations provide that departments and agencies should:

- review the mechanisms in place for assuring that they are fully implementing the CCA through their policies, procedures, and practices;
- articulate the roles, reporting relationships and boundaries of authority among all CIOs within an agency in ways that enhance the effective implementation of the CCA;
- provide the appropriate authority to the CIO to ensure the CIO's control over IT capital planning and investment processes;
- increase quality control of their capital planning and investment control practices, including ensuring that any cost/benefit data used in investment decisionmaking is accurate and complete;

[2] Public Law 103–62.

- provide clear procedures on how CIOs and program managers communicate to senior management the status and progress of major IT projects;
- develop and incorporate the use of decision milestones in IT project management;
- develop an effective means of identifying IT projects that deviate significantly from cost, schedule and performance expectations;
- increase project management and capital planning skills within their IT workforce;
- provide better data on how IT investments will benefit Federal programs;
- develop IT management plans that include accomplishments, progress, and the identification of areas requiring attention;
- clarify the requirements for process reengineering in their overall capital planning and investment control procedures; and
- increase their use of modular contracting for building and acquiring information systems.

INTRODUCTION AND SCOPE OF INVESTIGATION

At the beginning of the second session of the 106th Congress, Senate Governmental Affairs Committee Chairman Fred Thompson began an investigation of how Federal agencies were complying with the requirements of the Clinger-Cohen Act. This review was undertaken as part of the Committee's oversight of Federal agency information technology procurement and management.

As part of the investigation, Chairman Thompson reviewed responses to certain questions posed to the agencies[3] as well as 31 reports on information technology management conducted by the General Accounting Office (GAO) since enactment of the CCA.[4]

BACKGROUND

During the 104th Congress, the Senate Governmental Affairs Committee reviewed the way information was being managed by Federal agencies. Realizing that information technology, particularly network computers, were changing the way Federal managers compiled, distributed, and maintained information, as well managed Federal programs, the Committee developed legislation (which became the CCA) to remedy some of the central problems underlying the way the government does business. For example, the Committee's Subcommittee on Oversight of Government Management and the District of Columbia found that the government was falling further behind the private sector in its ability to successfully use information technology. According to a 1995 statement by then Senator William Cohen:

[3] By letter dated April 6, 2000 from Chairman Thompson and Ranking Minority Member Lieberman (see Appendix A).

[4] See Appendix B.

> "The Federal Government rarely if ever examines how it does business before it automates. I recently held hearings which examined how the Pentagon could save more than $4 billion over 5 years simply by changing the way it processed travel vouchers. Automating the current voucher processing system will neither achieve the projected savings nor the efficiencies that are accomplished through reengineering. Second, the Federal Government has wasted billions of dollars by maintaining and updating so-called legacy or antiquated computers from the 1960's and 1970's which are ill-suited for the government's needs and by today's standards will never be efficient or reliable."[5]

These findings and others led to the development of legislation intended to make it easier for the government to buy and manage information technology. Most importantly, the CCA was designed to make sure that, before the government invests in technology, agencies will have carefully planned and justified their expenditures.

Since enactment of the CCA, GAO has conducted a number of audits at specific agencies to review the status of compliance with various provisions, including progress in implementing information technology investment controls, information security, and the status and role of the agency CIOs. Approximately 31 reports detailing agency strengths and weaknesses have been completed. However, this report details, for the first time, a governmentwide outline of agency compliance efforts with the CCA.

FINDINGS

STRONG EXECUTIVE LEADERSHIP: HOW TO RETAIN FEDERAL CHIEF INFORMATION OFFICERS[6]

Background: Obtaining and retaining qualified personnel to manage Federal information technology systems is a challenge for the Federal Government. A number of senior government officials have recommended changing the current salary structure and providing agencies with the authority to provide greater flexibility to workers, especially information technology workers, in order to maintain highly skilled employees and to be able to lure workers from the private sector to serve in the public sector.

Finding 1: CIO positions in the Federal Government have been experiencing relatively high turnover.[7]

- Ten of the 24 major agencies/departments have had three or four CIOs since enactment of the CCA in February 1996. One department, Department of Education, has had five.
- The remaining 13 agencies and departments have had one or two CIOs since February 1996.

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[5] Statement of Senator William Cohen, Vol. 141, No. 101 Congressional Record, p. S8686, June 20, 1995.

[6] Section 5125 of the CCA (40 U.S.C. 1425(b)).

[7] Turnover should be expected in CIO positions, and these rates of turnover are not uncommon in the private sector. The challenge it presents is one of maintaining sustained focus and momentum to ongoing IT priority projects as well as to strategic IT direction.

- Since 1996, several departments and agencies have named "acting" CIOs, some for extended periods of time, due to lengthy recruitment searches.

Finding 2: Roles, reporting relationships, and boundaries of authority among CIOs within large executive agencies and departments are not clearly established.

- Decentralized executive agencies/departments have several component-level organizations that have designated CIOs. The staff of the component-level organizations report to the component-level head. A majority of agencies reported not having direct reporting relationships to the agency-wide CIO.[8] This reporting arrangement may reduce the agency-wide CIO's ability to institutionalize department-wide IT management practices and technical standards.
  - For example, the Department of Health and Human Services (HHS) has 13 operating divisions that have designated CIOs. According to HHS, four CIOs report to the head of the operating division (top level), four CIOs report to a top deputy (second level), and five report to lower levels of management. None of the CIOs have a direct reporting relationship to the department-level CIO.

ACHIEVING BENEFITS FROM CAPITAL PLANNING AND INVESTMENT CONTROL[9]

Background: A strong and comprehensive IT capital planning process is necessary to assure that agency IT expenditures receive the executive-level oversight required for confidence that the agency head is executing his or her responsibility in IT investment management as specified in the CCA. In addition, the IT capital planning process provides the mechanism for selecting IT investments as part of the overall IT portfolio that support the agency mission.

Finding 3: IT capital planning and investment control processes have not been fully implemented governmentwide.

- Seventeen of the 24 agencies and departments have not established a complete and comprehensive IT capital planning and investment control process (CPIC). The agencies' and departments' efforts range from needing improvements in their established processes to developing a process as specified by the CCA.
- Seven agencies and departments—the Department of Defense, the Environmental Protection Agency, the General Services Administration, the National Aeronautics and Space Administration, the Nuclear Regulatory Commission, the National Science Foundation, and the Department of Veterans Affairs—reported that they had implemented a complete and comprehensive IT CPIC process, with only one—GSA—saying its process needed to be refined and enhanced.

[8] The Department of Commerce is planning to have component agency CIOs (NOAA, PTO, etc.) report to both their agency heads and to the department CIO.
[9] Section 5122 of the CCA (40 U.S.C. 1422).

- For example, Agriculture reported that while it has established processes for three phases of capital planning—select, control, and evaluate—efforts are under way to improve inconsistent component-level capital planning. Additionally, Agriculture reported that its CIO office has engaged contract support to help review the major investments to determine where improvements need to be made.
- The Department of Interior reported that the Y2K problem became that agency's top priority and, as a result, the CCA took a back seat. According to Interior, its CIO Office was not organized until March 2000. However, Interior reported that it has made significant progress in implementing its IT CPIC process.
- SBA also reported Y2K as a problem which forced it to use all of its IT resources to sustain routine operations and maintenance. This effort, according to SBA, reduced its resources in other areas including the development of formal IT capital planning procedures.

Finding 4: CIO authority and control in IT investment and capital planning is limited.

- Not all agencies require their IT initiatives to come under agency-wide CIO review or control unless the initiative fits specific threshold requirements which may be based on financial or functional criteria. In addition, agency-wide CIOs often only have direct responsibility for systems that cut across department units. Moreover, those system projects that are under the CIO's control may not line up with those classified as "major" by OMB for those agencies that use this criteria.[10]
- Not all department initiatives are reviewed within a department-wide portfolio. Moreover, not all initiatives come under CIO technical review at some level of the review process, although for most agencies, "major" IT initiatives do. This may impact the effectiveness of the capital planning and investment process as well as the impact of IT on the agency's ability to achieve its mission successfully and efficiently.
- Several agencies reported they are initiating efforts to coordinate component and agency-wide practices or to ensure the implementation of sound capital planning and investment processes within their component levels.
- In many cases, major department CIOs do not have control over IT expenditures which do not meet the department-wide threshold requirements for capital planning.
- Some agencies reported inconsistencies in their capital planning and investing processes across their organizational components.

[10] Memo (M–97–02) sent on October 25, 1996, by then OMB Director Franklin D. Raines to heads of executive departments and agencies providing direction regarding investments in major information technology systems defines "major information system" as a system "that requires special management attention because of its importance to an agency mission; its high development operating, or maintenance costs; or its significant role in the administration of agency programs, finances, property, or other resources."

- For example, in the Department of Transportation, the two largest organizations—the Federal Aviation Administration and the U.S. Coast Guard—use their own agency capital planning and investment control processes which DOT asserts account for about 90 percent of DOT's total IT expenditures.

Finding 5: The quality of data for the assessments of major IT investments and initiatives for decisionmaking and for measuring progress is questionable.

- A majority of the agencies and departments reported that the quality of the data for making investment decisions and measuring progress needs improvement.
- Many of these agencies reported that they had begun using, or plan to use, the Information Technology Investment Portfolio System (ITIPS) to better manage their IT investments. Agencies reported that ITIPS helps them to collect and track investment data needed to effectively select and control IT investments.
  - For example, Agriculture reported that it believes it has improved the quality of the data used for decisionmaking, but more improvement is needed before there will be consistency across the whole agency. As for the quality of the data for measuring progress, Agriculture also reported that it is unsure of its accuracy, reliability, or currency, but will use a contractor to aid in this evaluation effort.
  - In another example, Interior reported that a major obstacle to instilling confidence in cost data is that its Federal budgeting and accounting systems do not adequately support cost accounting information related to IT costs.

MANAGING IT FOR OVERALL PERFORMANCE AND RESULTS [11]

Background: Federal CIOs are responsible for managing IT investments to demonstrate cost effectiveness and efficiencies. In addition, IT investment strategies and spending should be tightly aligned with expected improvements in mission performance and results. The inability to track IT development and implementation effectively can result in a failure to identify cost and schedule overruns and the failure of IT initiatives to meet performance expectations. Management plans and reporting are critical to providing continuity in planning from year to year and in measuring the contribution of IT to mission performance across the agency.

Finding 6: Although most agencies reported the linking of IT system performance to mission performance through annual GPIRA plans and reports, these links were often too broad to provide sufficiently robust measures of IT impact on overall strategic performance.

- Processes necessary for effective tracking of IT development and implementation are weak.

[11] Section 5123 of the CCA (40 U.S.C. 1423).

- Five agencies reported needing great improvement in the quality of data necessary for tracking IT development and implementation.
- Fourteen agencies reported the use of milestones in monitoring the progress of IT projects and four agencies reported not using milestones.

Finding 7: Most agencies reported that they have not developed IT management plans that include accomplishments, progress, and identification of areas requiring attention.[12]

- Sixteen agencies and departments neither developed nor submitted IT management reports that included accomplishments, progress, and identification of areas requiring attention.
- One fourth of the agencies reported significant deviations of projects from cost or schedule goals laid out in agency strategic information resource management plans.
  - For example, Agriculture reported that, while its CIO had not developed agency-wide IT management reports for its agency head, the CIO plans to submit a separate IT report.
  - In another example, the Department of Justice has produced an Annual Accountability Report for the last 2 years in which it describes the progress toward goals laid out in its Strategic Plan. However, Justice agrees that an annual assessment of progress will be useful and intends to modify its IT investment management program to conduct and document annual evaluations of agency progress.

USING IT TO IMPROVE WORK PROCESSES[13]

Background: The CCA requires reengineering analyses of administrative and business processes either prior to or as part of major systems investment decision-making. Investments made in updating systems without reconsidering the underlying processes risk producing less than optimal returns on investment.

Finding 8: Fewer than half of the agencies reported requiring process reengineering of mission-related processes before making significant IT investment in support of those missions.

- Twenty-one of the 24 agencies reported that work processes are being improved or reengineered.
- Eighteen of the agencies claimed that some or all of its top 10 IT investments included work process improvement or reengineering.
- A few agencies reported that they are in the process of analyzing their mission or are just starting to perform business process reengineering.
- Some departments and agencies have initiated major IT efforts to overhaul services and citizen access. Agencies reporting such

[12] Section 5127 of the CCA (40 U.S.C. 1427).
[13] Section 5123 of the CCA (40 U.S.C. 1423).

efforts include Agriculture, Education, EPA, Federal Emergency Management Agency, NRC, and the Department of Treasury.

- For example, Agriculture reported that business process reengineering remains a cornerstone of its implementation of the CCA and its IT capital planning process. Prior to design and deployment of major IT investments throughout Agriculture in compliance with the CCA and with Raines Rules,[14] its CIO conducts business reviews as a necessary management tool.

- However, fewer than half of the agencies reported requiring process reengineering of mission-related processes before making significant IT investment in support of those missions.
  - Although 21 agencies reported that work processes were being improved or reengineered, only about half of these noted that this was a required activity and few specifically noted that these activities occurred prior to funding IT investments as required by the CCA.
- Many agencies provided weak support for the premise that they are engaging in work process improvement or reengineering.
- Examples of IT investments often noted that work process improvements resulted from IT investments rather than as a precursor to funding the investment. For example, Justice, the Department of Labor, GSA, and NRC provided IT investment examples that appeared to show reengineered processes as a result of the IT investment.
- Other IT investment examples cited by some agencies included automation efforts with no mention of work process redesign.
- Several agencies pointed to their compliance with Raines Rules as evidence that they have performed mission analysis and work process redesign. However, compliance with Raines Rules only requires that the agency answer whether work redesign has begun—not whether the work redesign has been completed.
  - For example, Education reported that it has analyzed some of its missions and has begun to revise its mission-related and administrative processes. Interior reported that business process reengineering efforts are in various stages of development in several of its bureaus.

BUILDING LARGE IT SYSTEMS INCREMENTALLY THROUGH MODULAR CONTRACTING[15]

Background: The CCA authorizes Federal agencies to adopt modular approaches to building and acquiring information systems. This is expected to produce smaller, more manageable projects that

[14] Raines Rules refers to OMB Memo (M–97–02) sent on October 25, 1996, by then OMB Director Franklin D. Raines.

[15] Section 5202 of the CCA (see section 38 of the Office of Federal Procurement Policy Act (41 U.S.C. 434)).

can be examined in shorter time frames for expected cost and benefit results. It also encourages the use of pilots and prototyping before full scale development and implementation.

Finding 9: Modular contracting is still not applied consistently in major IT investments government-wide.

- Eight agencies reported still being in the process of implementing modular contracting.

RECOMMENDATIONS

In order for executive departments and agencies to fully comply with the CCA, the following recommendations should be implemented:

1. Departments and agencies should review the mechanisms in place for assuring that they are fully implementing the CCA through their policies, procedures, and practices.

2. Departments and agencies should articulate the roles, reporting relationships and boundaries of authority among all CIOs within an agency in ways that enhance the effective implementation of the CCA.

3. Departments and agencies must provide the appropriate authority to the CIO to ensure the CIO's control over IT capital planning and investment processes.

4. Departments and agencies need to increase quality control of their capital planning and investment control practices, including ensuring that any cost/benefit data used in investment decision-making is accurate and complete.

5. Departments and agencies need to provide clear procedures on how CIOs and program managers communicate to senior management the status and progress of major IT projects.

6. In order to avoid schedule slips and cost overruns on major IT investments, departments and agencies should develop and incorporate the use of decision milestones in IT project management.

7. Departments and agencies must develop an effective means of identifying IT projects that deviate significantly from cost, schedule and performance expectations.

8. Departments and agencies need to increase project management and capital planning skills within their IT workforce.

9. Departments and agencies must provide better data on how IT investments will benefit Federal programs.

10. Departments and agencies should develop IT management plans that include accomplishments, progress, and the identification of areas requiring attention.

11. Departments and agencies should clarify the requirements for process reengineering in their overall capital planning and investment control procedures.

12. Departments and agencies should increase their use of modular contracting for building and acquiring information systems.

APPENDIX

APPENDIX A

FRED THOMPSON, TENNESSEE, CHAIRMAN

WILLIAM V. ROTH, Jr., DELAWARE
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United States Senate
COMMITTEE ON
GOVERNMENTAL AFFAIRS
WASHINGTON, DC 20510–6250

April 6, 2000

Daniel R. Glickman
Secretary of Agriculture
Department of Agriculture
1400 Independence Ave., SW
Washington, DC 20250

Dear Secretary Glickman:

As you know, Congress is focused on ensuring that the government effectively and efficiently manages its information technology (IT) resources. The Clinger-Cohen Act of 1996 was enacted, in part, in response to concerns about how the federal government was acquiring IT. The Act mandates that, among other things, executive agencies design and implement processes for IT capital planning and investment control, implement specified IT-related actions to enhance performance and results-based management, and establish Chief Information Officers with certain defined duties and responsibilities. In addition, the Act requires the agencies to identify IT acquisition programs that have significantly deviated from their cost, performance, or schedule goals. The Act also requires the agencies to use, to the maximum extent practicable, modular contracting for major IT system acquisitions.

The Senate Committee on Governmental Affairs played a large role in the passage of the Clinger-Cohen Act, and we maintain a high level of interest in compliance with its provisions. As part of our oversight agenda, we have developed a series of questions to ascertain the status of Clinger-Cohen Act compliance in the agencies and departments subject to its mandates. Your response to these questions will serve as the basis for our further oversight on information technology management issues.

As you prepare your responses to the following questions, we ask that you provide sufficient documentation and examples to support the answers you are providing to the Committee.

Effectively Using Agency Chief Information Officers

1. Please provide the name and official title of the individual

currently serving as Chief Information Officer (CIO). If the individual is serving in an "acting" capacity, please explain the steps you are taking to finalize an appointment to this position.

(a) Since CCA enactment in February 1996, how many individuals have served in the CIO position for Department of Agriculture, and what were the periods of their service?

(b) Does the CIO have a direct reporting relationship to you? If not, to whom does the CIO directly report on a day-to-day basis?

(c) Is the CIO a member of formal executive-level strategic planning, budget, and program-area process re-design committees, groups, or councils established in Department of Agriculture? (1) What are the responsibilities of the CIO on these committees and groups? (2) Has the CIO made, or played a vital role in making, strategic business decisions for the department/agency? Please provide several noteworthy examples.

(d) What, if any, additional duties or responsibilities does the official designated as Department of Agriculture CIO have other than information resources management?

(e) Do the component organizations that comprise Department of Agriculture also have designated CIOs? If so, (1) how are they selected, (2) to whom do they report, and (3) how is their decisional authority defined by agency policy?

(f) In accordance with CCA, has your CIO provided annual reports to you on improvements in information resources and technology management capabilities? If so, please provide copies.

(g) What percentage of Department of Agriculture total information management and technology expenditures are controlled or approved by the Department of Agriculture CIO?

Achieving Benefits From Capital Planning and Investment Control Processes

2. Has Department of Agriculture implemented complete and comprehensive IT capital planning and investment management processes, as required by CCA section 5122(a) and (b)? If not, what remains to be done and what is the focus of current efforts?

(a) Please provide the Committee with Department of Agriculture definition for what constitutes an IT investment for purposes of this CCA section.

(b) Approximately how much, and what percentage, of Department of Agriculture total IT budget is subject to the IT capital planning and investment management processes established in your *department/agency* (including, as always, its major components)?

(c) Please identify Department of Agriculture top ten investment initiatives (in terms of total acquisition dollars) that were approved by the IT capital planning and investment approval process and are currently in development or acquisition. Also, for each of these initiatives, please (1) describe how Department of Agriculture assessed cost, risk, and return on investment in winning approval and (2) provide a 1-page exhibit that summarizes the cost, risk, and return-on-investment data that were used for the investment decision. (3) How confident are you in the quality of these data for decision-making?

(d) If uses an executive management level IT capital planning and investment control group (e.g., investment review board, IT investment committee, etc.), does this group recommend or does it make final IT funding decisions for the Department of Agriculture? If the group does not make the final decisions, who does?

(e) What means has your agency provided, in accordance with CCA section 5122(b)(6), for senior management personnel to obtain timely information on the progress of information system investments? (1) To what extent do these means include a system of milestones for measuring progress, on an independently verifiable basis, in terms of cost, capability of the system to meet specified requirements, timeliness, and quality? (2) How confident are you that the data being used for measuring progress are accurate, reliable, and up-to-date?

(f) Has Department of Agriculture, as required by CCA section 5127, identified in its strategic information resources management plan any and all major IT acquisition programs--or any phase or increment of such programs--that have significantly deviated from the cost, performance, or schedule goals established for the program? (1) If so, which major IT acquisition program(s)? If not, why not? (2)

Whether or not your agency has identified such significant deviations in its strategic IRM plans, how does your agency define, for purposes of CCA section 5127, (i) "major IT acquisition program" and (ii) "significant deviation"?

Managing IT for Overall Performance and Results

3. As you are aware, CCA requires that executive agencies measure how well IT is being used to support their programs. For each of the top ten investment initiatives (in terms of total acquisition dollars) currently in either development, acquisition, or operation in Department of Agriculture, please provide specific data on realized and expected benefits to major operational or programmatic goals outlined in your latest Government Performance and Results Act strategic plan or annual performance plan. Also include the same type of data for any other investments, currently in development, acquisition, or operation, that you consider critically important.

- As required by section 5123 of CCA, please provide the Committee with a copy of your last three annual reports on progress in achieving goals for improving the efficiency and effectiveness of Department of Agriculture operations and, as appropriate, its delivery of services through the effective use of information technology.

Improving Work Processes

4. Since enactment of CCA, has Department of Agriculture, in accordance with CCA section 5123, (1) analyzed its missions and (2) based on the analysis, revised its mission-related processes and administrative processes, as appropriate, before making significant investments in IT to be used in support of the performance of those missions?

- For the top ten investment initiatives identified in 2(c) above, briefly summarize these analysis efforts and the revisions made to your Department of Agriculture mission-related processes and administrative processes that are to be supported by these top ten IT investments.

Acquiring IT Incrementally (Modular Contracting)

5. What progress has Department of Agriculture made, and what obstacles still remain, in implementing modular contracting, in accordance with CCA section 5202?

(a) What criteria does Department of Agriculture use for determining whether a modular contracting approach is appropriate or not?

(b) Since CCA's enactment, what percentage of Department of Agriculture major IT systems investments have used modular contracting? Also, please indicate which systems and the dollar value of the contracts.

Contracting for IT

6. Approximately how much did Department of Agriculture obligate through contract actions for IT products or services during each of the following fiscal years: 1997, 1998, and 1999?

- For each of the three fiscal years, what percentage of the total dollars were obligated by (1) issuing orders under existing indefinite delivery, indefinite quantity (IDIQ) contracts (such as government-wide contracts (GWACs), federal supply schedule contracts, etc.) and (2) awarding new contracts or issuing modifications to those contracts?

Because of upcoming oversight hearings planned by the Committee in this area, it is critical that the Committee receive your response by May 18, 2000. After receiving your response, our staff may want to meet with your representatives to discuss the information provided. If you or your staff would like to discuss this request further, please contact Ellen B. Brown or Susan Marshall of the majority staff at (202) 224-4751 or Debbie Lehrich of the minority staff at (202) 224-2627.

Thank you in advance for your attention to this issue.

cerely,

Fred Thompson
Chairman

Joseph I. Lieberman
Ranking Minority Member

FT/sgm

Identical letter sent to:
Department of Commerce
Department of Defense
Department of Education
Department of Energy
Department of Health and Human Services
Department of Housing and Urban Development
Department of the Interior
Department of Justice
Department of Labor
Department of State
Department of Transportation
Department of the Treasury
Department of Veterans Affairs
Agency for International Development
Environmental Protection Agency
Federal Emergency Management Agency
General Services Administration
National Aeronautics and Space Administration
National Science Foundation
Nuclear Regulatory Commission
Office of Personnel Management
Small Business Administration
Social Security Adminsitration

APPENDIX B

GAO AUDITS AND REPORTS ON FEDERAL AGENCY INFORMATION TECHNOLOGY MANAGEMENT SINCE ENACTMENT OF THE CCA

Information Systems: The Status of Computer Security at the Department of Veterans Affairs, October 4, 1999, AIMD–00-5

Information Technology: VA Actions Needed to Implement Critical Reforms, August 16, 2000, AIMD-00-226

USDA Telecommunications: Strong Leadership Needed to Resolve Management Weaknesses, Achieve Savings, June 30, 1998, AIMD-98-131

Defense Networks: Management Information Shortfalls Hinder Defense Efforts to Meet DISN Goals, July 30, 1998, AIMD-98-202

DoD Personnel: Inadequate Personnel Security Investigations Pose National Security Risks, October 27, 1999, NSIAD-00-12

Land Management Systems: Status of BLM's Actions to Improve Information Technology Management, February 24, 2000, AIMD-00-67

Information Technology: INS Needs to Better manage the Development of Its Enterprise Architecture, August 1, 2000, AIMD-00-212

Indian Trust Funds: Improvements Made in Acquisition of New Asset and Accounting System But Significant Risks Remain, September 15, 2000, AIMD-00-259

Air Traffic Control: Improved Cost Information Needed to Make Billion Dollar Modernization Investment Decisions, January 1, 1997, AIMD-97-20

Air Traffic Control: Complete and Enforced Architecture Needed for FAA Systems Modernization, February 3, 1997, AIMD-97-30

Defense IRM: Investments at Risk for DoD Computer Centers, April 4, 1997, AIMD-97-39

Air Traffic Control: Immature Software Acquisition Processes Increase FAA System Acquisition Risks, March 21, 1997, AIMD-97-47

Small Business Administration: Better Planning and Controls Needed for Information Systems, June 27, 1997, AIMD -97-94

Defense IRM: Alternatives Should Be Considered in Developing the New Civilian Personnel System, January 27, 1999, AIMD-99-20

HUD Information Systems: Improved Management Practices Needed to Control Integration Cost and

Schedule, December 18, 1998, AIMD-99-25

Land Management Systems: Major Software Development Does Not Meet BLM's Business Needs, April 30, 1999, AIMD-99-135

Tax Systems Modernization: Blueprint Is a Good Start But Not Yet Sufficiently Complete to Build or Acquire Systems, February 24, 1998, AIMD/GGM-98-54

Social Security Administration: More Cost-Effective Approaches Exist to Further Improve 800-Number Service, June 11, 1997, HEHS-97-79

Defense Management: Electronic Commerce Implementation Strategy Can Be Improved, July 18, 2000, NSIAD-00-108

Forest Service: Weak Contracting Practices Increase Vulnerability to Fraud, Waste, and Abuse, May 6, 1998, RCED-98-88

Air Traffic Control: FAA's Modernization Investment Management Approach Could Be Strengthened, April 30, 1999, RCED/AIMD-99-88

Defense IRM: Poor Implementation of Management Controls Has Put Mitigation Strategy at Risk, October 20, 1997, AIMD-98-5

USDA Service Centers: Multibillion Dollar Effort to Modernize Processes and Technology Faces Significant Risks, August 31, 1998, AIMD-98-168

Social Security Administration: Year 2000 Readiness Efforts Helped Ensure Century Rollover and Leap Year Success, April 19, 2000, AIMD-00-125

VA Information Technology: Improvements Needed to Implement Legislative Reforms, July 7, 1998, AIMD-98-154

Customs Service Modernization: Serious Management and Technical Weaknesses Must Be Corrected, February 26, 1999, AIMD-99-41

Indian Trust Funds: Interior Lacks Assurance That Trust Improvement Plan Will Be Effective, April 28, 1999, AIMD-99-53

Social Security Administration: Technical and Performance Challenges Threaten Progress of Modernization, June 19, 1998, AIMD-98-136

Financial Management: Recommendations on Indian Trust Fund Strategic Plan Proposals, November 26, 1997, AIMD-98-37

Air Force Depot Maintenance: Management Changes Would Improve Implementation of Reform Initiatives, June, 25, 1999, NSIAD-99-63

U.S. Department of Agriculture: Administrative Streamlining Is Expected to Continue Through 2002, December 11, 1998, RCED-99-34

APPENDIX C

DEPARTMENT/AGENCY: AGRICULTURE

Name	Dates of Service	Number of Months
Anne F. Thomson Reed	8/96-1/00	41
Joseph Leo	2/1/2000--current	5

Current CIO: Joseph Leo
Official Title: Chief Information Officer, Standards Program Executive, Senior Privacy Policy Official, Privacy Act Official, Chief Information Assurance Officer
Dates of Service: February 1, 2000 -- current

Department/Component CIO Structure
Decentralized

Effective use of government Chief Information Officer:

- Reports directly to Secretary, also works closely with Deputy Secretary on day-to-day basis.
- CIO is a member of the Secretary's sub-cabinet and participates in all Department-level discussions concerning issues that affect USDA's agencies and programs.
- CIO is also the vice chair of USDA's Executive Information Technology Investment Review Board (EITIRB), which includes other sub-cabinet members and is chaired by the Deputy Secretary and makes final IT funding decisions.
- The EITRB was established pursuant to CCA and is charged with managing the Department's major information technology investments and setting priorities for these investments.
- The CIO is also a member of the Administrative Financial Management Executive Committee, which is chaired by the CFO and is charged with developing corporate wide approaches to financial management, human resources, and other administrative systems.
- The CIO has approval authority for all USDA major spending initiatives.

Agency special efforts: CIO is also charged with direct responsibility for managing the Information Technology investment portfolio for USDA's Service Center Modernization Initiative (SCMI). One of the highest priorities for USDA, SCMI's goal is to create one-stop service for customers of USDA's county-based agencies, the Farm Service Agency, the Natural Resources Conservation Service, and the Rural Development agencies. Directly managing the acquisition of this technical infrastructure enables the CIO to create the technology foundation for the re-design of the agencies' program area business processes.

Agency benefits from capital planning and investment control processes:
IT investments designated as major because of their size, scope, or strategic impact on the department, undergo an evaluation and review process relative to their capital planning phase (select, control or evaluate). This includes each of the Top Ten IT initiatives. The review criteria include impact on mission, risk, and ROI for new investments, and performance criteria (cost, schedule, and performance) for systems underway. As a result of these reviews, one system was discontinued, one was disapproved, and others deferred until the agency would be confident that the investments provided appropriate use of IT funds. Agency provided extensive details of evaluation procedures and information on individual system's evaluation. The agency recognizes continued need for improvement in data quality, especially for consistency in quality across the department. In an effort to improve the quality of decisions made, USDA has contracted support to help review major investments.

USDA's 19 major investments, approved and managed by the Executive Information Technology Investment Review Board, are:

1. Service Center Implementation (now called Service Center Modernization Initiative)
2. Foundation Financial Information System
3. Core Accounting System
4. Project 615
5. Multi-Family Integrated System (MFIS)
6. Community and Utility Business System (CUBS)
7. Guaranteed Loan System (GLS)
8. Combined Administrative Management Systems (CAMS)
9. Integrated Personnel System for the 21st Century (IPS21)
10. Research, Education, and Economics Information System (REEIS)
11. Processed Commodities Inventory System (PCIMS)
12. Agency Financial Management System (AFMS)
13. Field Automation and Information Management (FAIM)
14. Integrated System Acquisition Project (ISAP)
15. Integrated Personnel System (IPS)
16. Dedicated Loan Origination and Servicing System (DLOS)
17. Food Stamp Program Integrated Information System (FSPIIS)
18. International Trade Data System (ITDS)
19. Employment Complaints Tracking System

Managing Information technology for overall performance and results:
USDA's capital planning process provides senior management timely information on the progress of information systems investment in the control phase by requiring agencies to submit information about their systems relative cost, schedule, and performance issues. This information includes costs relative to the original baseline and any variance, schedule relative to the baseline and any variance, and performance against the original design goals and objectives, in order to determine how the system is measuring up to its original expectations. USDA has yet to receive and evaluate this information and thus reports it is unsure of its accuracy, reliability, or currency. USDA also intends to employ an outside contractor this year. The agency will evaluate the submission and make appropriate adjustments to its process and procedures as necessary. The agency has identified systems that have deviated significantly from expectations and expects the specific use of milestones for major investment portfolio will improve performance. The CIO has also required agencies with major IT investments in the "evaluate" phase to conduct post-implementation reviews (PIR) and to provide the results of those reviews to the CIO for use by the EITIRB.

Impact on business processes:
The OCIO requires business reviews as a necessary management tool, prior to design and deployment of major IT investments throughout USDA, in compliance with CCA. In particular, Service Center Implementation (SCI) has a team dedicated to several BPR projects.

Agency acquisition of information technology:
USDA follows FAR requirements that modular contracting should be used to acquire information technology systems to the maximum extent practicable. Requirements and guidance used in the FAR coverage (subparts 39.002 and 39.103) are the procurement regulatory guidelines used as the basis for determining whether a modular contracting approach is or is not appropriate.

USDA Table 1: Top Ten IT Initiatives

Initiative	Phase	Rank (H, M, L)	Investment Decision	Comments/Issues/ Conditions	Evaluation Data
Service Center Implementation (now called Service Center Modernization Initiative) (SCMI)	(Check with agency on correct system)				
Foundation Financial Information System (FFIS)	Control	High	Continue	Deputies are concerned with past as well as future costs; new ROI requested; continuous monitoring needed by deputies	NA (FFIS implementation is mandatory for USDA to become compliant with CFO and other external mandates.
Core Accounting System (CORE)	Control	High	Continue	Concern over cost figures	$174,498,000 (projected)
Project 615	Control	High	Continue	None	$1.14B
Multi-Family Integrated System (MFIS)	Select	High	Approve	None	(ROI estimate of 24% in cost savings)
Community and Utility Business System (CUBS)	Select	High	Approve	None	(B/C ratio of 1.53 for 5yr lc)
Guaranteed Loan System	Select	High	Approve	None	ROI: 419%
Combined Administrative Management System (CAMS)	Select	High	Approve	Relationship between CAMS and IPS21 systems needs to be addressed and coordinated with the deputies	121% return rate (2yr period)
Integrated Personnel System for the 21st Century (IPS21)	Select	High	Approve	Relationship between CAMS and IPS21 systems needs to be addressed and coordinated with the deputies	Benefits dependent on reductions in staffing
Research, Education, and Economics Information System (REEIS)	Select	Medium/high	Approve	Re-accomplish the ROI analysis	B/C ratio of 3.68 based on hypothetical comparison with purchasing service from private sector

DEPARTMENT/AGENCY: DEFENSE

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Mr. Emmet Paige, Jr.	3/96-5/97	14
Ms. Joan Dempsey (acting)	5/97-7/97	2
Mr. Anthony Valletta (acting)	7/97-3/98	8
Mr. Arthur L. Money	3/98-current	28

Current CIO: Arthur L. Money
Official Title: Assistant Secretary of Defense (C3I); Chief Information Officer
Dates of Service: March 1998 –current

Department/Component CIO Structure
Decentralized

Effective use of government Chief Information Officer:
The CIO participates on key forums for making information resource management decisions but has other duties as ASD C3I, C4ISR. The CIO sits on four major committees, groups, organizations: Defense Resources Board; Defense Acquisitions Board; DOD CIO Executive Board; and the Architecture Coordinating Board. The CIO has influence rather than approval of IT budget, and performs advisory roles including implementation of CCA and department's architectural activities. However, DOD CIO does not approve components' IT budgets and does not have direct funding authority. The department CIO does influence these budgets through the DOD information management strategic planning process, as well as through the CIO's participation in decision-making forums. Component defense agency CIOs are selected by and report to component heads. DOD considers the appointment of its component CIOs as an important part of CCA implementation.

DOD provided no noteworthy examples of CIO impact.

Agency benefits from capital planning and investment control processes:
As a first step in implementing the management requirements of CCA, DOD determined how best to integrate those requirements into [then] current DOD policy, with minimum disruption and maximum effectiveness. DOD identified four imperatives critical to successful implementation of CCA:
1. Orient IT investments towards strategic business and mission focus;
2. Manage IT investments based on performance and results;
3. Mandate performance measurements for all IT, including national security systems; and
4. Use business process re-engineering prior to IT acquisition.

DOD reports these imperatives cover the gamut from existing DOD processes concerning preparation of IT strategic guidance to the execution and evaluation of ongoing IT initiatives. DOD reports it has long had a capital planning and investment control Process, the 'Planning, Programming and Budgeting System' (PPBS) and reports it uses these existing management processes in lieu of creating a parallel process to manage IT investments. DOD reports that this ensures IT investments are included in the total DOD investment portfolio. However, DOD does not have a single executive management level IT capital planning and investment control group. The functions required by CCA are performed by a number of senior management groups within DOD. DOD says this is necessary because of the size and complexity of the department, which centrally develops department-wide policy, and looks to the DOD components for decentralized implementation decisions and program execution. The DOD CIO sits on three of the four boards cited by the department as part of this process.

DOD has successfully completed the pilot Information Technology Management Strategic Planning cycle, initiated by the publication of the DOD ITM Strategic Plan In March 1997. DOD components have used the DOD IT Strategic Plan and planning process to help structure their CIO organizations and roles. Seventeen component ITM strategic plans had been approved or were in final coordination by August, 1997, representing key ITM activities across functional areas and organizations. Components' strategic plan proposals and concepts are currently being used to update the DOD ITM Strategic Plan, making it a more effective tool for managing the department's information technology resources.

DOD defines "... any dollar spent, budgeted, planned or programmed for IT would constitute an IT investment." DOD reports the policies for its acquisition programs are contained in DOD Directive (DODD) 5000.1, "Defense Acquisition."

Managing Information technology for overall performance and results:
In 1997 the DOD CIO approved the Information Technology Investment Management Insight Policy for Acquisition. The policy simplifies and streamlines the way DOD components inform the DOD CIO about their major IT acquisitions. It is an important step in the development of an integrated IT investment review process for DOD that will allow the elimination of additional, separate acquisition reviews by OSD. Insight is used to break the image of past centralized IT oversight and to create an environment that fosters greater teamwork, open dialog and a sense of common purpose.

DOD reports stringent procedures for managing IT acquisition and development, including independent cost estimates, reviews, and milestone monitoring. The DOD directive provides broad management principles that are applicable to all DOD acquisition programs. It also authorizes DOD 5000.2-R, which provides "Mandatory Procedures for Major Defense Acquisition Programs and Major Automated Information Systems' (MAIS). MAIS Acquisition programs are required to follow procedures which include a structured phased process for life cycle, including milestone decision-making by 'milestone decision authority' (MDA). Each milestone requires a series of key documents, such as benefits, independent analysis of life cycle costs, component cost analysis, and other analyses. Monitoring is also constrained by Appropriations Act. DOD also notes very stringent rules for reporting deviations, e.g., the project manager must report deviations within 30 days. Cost and benefit data are reviewed by Cost Working Integrated Product Teams on which OSD Program Analysis & Evaluation (PA&E) plays an active role. Cost Analysis Improvement Group (CAIG) provides independent cost estimates, guidance, and reviews estimates for consistency of assumptions and reasonableness of methodology. In addition, Defense Acquisition Executive Summary (DAES) is required quarterly for each MAIS acquisition program for which DOD CIO is MDA and for national security systems (NSS) for which either the DOD CIO or the USD (AT&L) is the MDA. The Defense Acquisition Executive Summary (DAES) is one of the primary means of providing personnel at all levels of the department with timely information on the progress of major information systems investments. DAES reports are also required for such systems when the DOD CIO or the USD (AT&L) has delegated decision authority to a DOD component CIO or Acquisition Executive. Quarterly DAES reports are generated by the Program Manager (PM) and submitted through their Program Executive Officer (PEO) and Component Acquisition Executive (PAE), and forwarded to DOD CIO of USD (AT&L) staffs, as appropriate. Integrated Product Teams (IPT) -senior management- work together to resolve IT issues. The IPT process is another key way in which senior management obtains timely information on program process.

DOD also reports, that as required by Section 8121 of the DOD FY2000 Appropriations Act (P.L. 106-371), the DOD CIO certifies at milestones I, II, and III that each MAIS is being developed in accordance with the CCA. Among the areas the DOD CIO reports to Congress along with this certification are an Analysis of Alternatives, Economic Analysis, and performance measures --- all of which relate to cost, risk and ROI. DOD also reported that the data represent the best estimate of cost, risk and ROI at a given time.

Components' ITM strategic plans reflected a strong link to mission and defined comprehensive strategic planning and information technology investment processes. Linkage to other implementation plans, joint projects and programs, and performance indicators require additional work.

DOD does not report deviations above 10% as these are reported directly to Congress (agency cites OMB Circular A-11).

Impact on business processes:
DOD reports having initiatives underway to strengthen the linkage between IT investment decisions, and the military mission and business functions being supported. DOD further asserts that it continually analyzes its missions and revises its mission-related and administrative processes prior to making significant investments in material solutions to identified deficiencies, including IT. For example, DOD leaders at all levels are being

challenged to reinvent their work processes, and the department has undertaken over 250 business process reengineering (BPR) processes. The projects include: the United States Atlantic Command's Information Intranet, the Marine Corps Combat Development project, the United States Strategic Command's Strategic Warfare Planning initiative, and the DOD Travel Reengineering project. DOD reports that these four projects alone have produced documented savings in the billions of dollars. DOD's BPR support program provides training, methods, tools, hotline support, and online internet knowledge bases.

Agency acquisition of information technology:
DOD reports it fully embraces modular contracting for IT and non-IT systems; the agency reports 'standard use' of modular contracting.

Defense Table 2: Top Ten IT Investments*

Investment	Component	Total Acquisition Cost (TY $ In Millions)
Joint Computer Aided Acquisition and Logistics System	Army	1,256.6
High Performance Computing Modernization Program	OSD	1,149.5
Theater Battle Management Core Systems	Air Force	1,098.4
Global Command and Control System-Maritime (includes JMCIS)	Navy	614.0
Navy Tactical Command Support System	Navy	561.0
Reserve Component Automation System	Army National Guard	539.0
DLA Business System Modernization	DLA	516.1
Standard Procurement System	DLA	407.0
Composite Health Care System II	Health Affairs	406.2
Global Transportation Network	USTRANSCOM	371.4

* Projects overseen by DOD CIO

DEPARTMENT/AGENCY: EDUCATION

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Leo Kornfeld (acting)	9/96-3/97	6
Gloria Parker (acting)	4/97-6/97	2
Donald Rappaport (CFO)	6/97-4/99	22
Thomas Skelly (acting) (acting CFO)	4/99-9/99	5
Craig Luigart	9/99-current	10

Current CIO: Craig Luigart
Official Title: CIO
Dates of Service: 9/99-current

Department/Component CIO Structure
Decentralized. Student Financial Assistance (SFA), established by the Higher Education Amendments of 1998 (P.L. 105-244) as the Federal Government's first Performance-Based Organization, is the only component of the department with its own appointed CIO. SFA CIO reports to COO of SFA.

Effective use of government Chief Information Officer:
CIO's personal annual performance objectives are tied to the department's GPRA Strategic Plan. The CIO serves as the Executive Secretariat to the Investment Review Board (IRB). The IRB ensures that all major information system investments are mission-justified and approved for funding only after careful and systematic review. The IRB also reviews the progress of ongoing IT initiatives to evaluate performance and outcomes. The CIO is responsible for expanding and strengthening the role of the IRB by improving processes for selection, approval and monitoring the total life cycle of information resources projects. The CIO is also a member of the Executive Management Council that provides overall management direction to the department.

Conversion to electronic commerce, particularly in the grants area, is one of the greatest opportunities to simplify, speed up, and improve the quality of service to the education community. The CIO chairs the electronic government work group in the department and is taking the lead to integrate and coordinate intra-departmental initiatives to assure a smooth transition to electronic government.

In addition, Education's CIO has made or played a vital role in making strategic business decisions for the department in four areas:

Information Security and Critical Infrastructure Assurance
The incumbent CIO has raised security to the highest level of importance with departmental leadership. He appointed a Deputy CIO for Information Assurance and has charted an Information and Critical Infrastructure Assurance Steering Committee to advise the department on department-wide information security and critical asset assurance policies and to coordinate and help implement the department's information security and critical infrastructure assurance program. The CIO will co-chair the steering committee with the Deputy Secretary.

Assistive and Accessible Technology Leadership
The CIO has assumed leadership in implementing Section 508 of the Rehabilitation Act, specifically representing the federal presence with the information technology industry. He has secured the support of the industry cooperative known as Highway 1 and maintains relationships with executives of companies that are electronic industry leaders to assure technology products are accessible to the disabled.

Constructing the Classroom of the Future
The CIO is building partnerships with other governmental agencies, quasi-governmental agencies and industry to design and eventually build a publicly accessible Classroom of the Future, to demonstrate the role technology will play in transforming the learning and teaching processes.

Consolidated Data Collection
The department collects a vast amount of information from multiple public and private sources. The CIO has initiated a massive reengineering effort in the department to consolidate, simplify, and integrate data collections so the burdens imposed on the public and private bodies from whom we collect the data will be minimized. The CIO directed that electronic collections will be used and that the web will be the preferred vehicle for data collection.

The CIO reports to the Secretary and to the Chief Operating Officer.

Agency benefits from capital planning and investment control processes:
The Department of Education has not yet implemented a complete and comprehensive department-wide IT capital planning and investment control process, as required by CCA section 5122 (a) and (b). Last year the department piloted the IT capital planning and investment management process and incorporated many changes based on lessons learned in the pilot experience. The department will implement the full IT capital planning and investment management process as part of FY 2002 budget formulation. Education has developed a new initiative to build investment management review boards within each of the principal offices, thereby assuring that CCA cultural changes are incorporated at the working levels of the department. In a reorganization of the OCIO, five newly established Associate CIOs are to be assigned to sets of principal offices to assist with CCA implementation on a daily basis.

The department has an executive level Investment Review Board that makes recommendations on IT funding decisions. The IRB is co-chaired by the Deputy Secretary and the Acting Under Secretary, and the members include select Senior Officers, including the CIO. IRB decisions, including comments from the CIO, are provided to the Secretary for final decision.

To date, and due to the pilot process discussed above that is only a year old, the Education had only one major project "approved by the IT capital planning and investment approval process that is currently in development or acquisition" and meets the full intent of the CCA. The Education Central Automated Processing System (EDCAPS) is a general ledger replacement system. The IRB plans to review four additional major and fourteen significant, but not major, information management and information technology projects by the end of the fiscal year.

Education Table 1: IT Management Decision Making Process Participants

Acronym	Group	Description
PM	Project Manager	Manages and is ultimately responsible/ accountable for the IT project. Prepares all IT project documentation for and participates in, select, control, and evaluate decisions.
POIRB	Principal Office Investment Review Board	Composed of both program directors and technical staff. Implements an IT investment management process within the Principal Office for managing all of its IT projects. Responsible for managing the PO's significant IT projects through the department IT investment management process. Prioritizes IT projects against criteria and requests funding, reviews and assesses proposed IT projects during the budget formulation, and monitors IT projects selected during budget execution.
ITIRB	Information Technology Investment Review Board	Charted group consisting of Assistant Secretaries from the Principal Offices and other key personnel. Reviews IT projects deemed major; is the executive decision-making body, not a working group; sets priorities and objectives used to assess IT projects; responsible for overseeing the entire department IT portfolio; advises the CIO and the Secretary on IT investments. Convenes monthly and as needed.
SES TAB	Senior Executive Service Technical Advisory Board	SES members representing the Principal Offices. Reviews IT projects deemed significant but not major. Is a decision-making body, not a working group. Convenes monthly and as needed.
IRWG	Investment Review Working Group	An intra-departmental body composed of senior financial, technical, and program managers with specialized knowledge and skills in the various disciplines that comprise investment management. IRWG is the working body of the ITIRB and the SES TAB, coordinating IT investment management process. Makes recommendations to the ITIRB and SES TAB for select, control, and evaluated decisions. Convenes weekly and as needed.

Managing Information technology for overall performance and results:
The department provides information regarding actions and recommendation by the IRB through decision memoranda from the Deputy Secretary to Senior Officers. The department also posts minutes, which record IRB discussions as well as decisions, on the department's Intranet. The department reports on progress in monitoring investments through milestones in the GPRA Annual Plan, Objective 4.4. The Annual Plan is disseminated to all Senior Officers and is available on the department's web site. The department has not fully implemented a series of milestones, against which progress will be measured on an independently verifiable basis in terms of cost, capability of the system to meet specified requirements, timeliness, and quality. In its GPRA Strategic Plan, the department established FY2000 as the baseline year for future monitoring of progress toward milestone achievement. The

department is installing and implementing the *de facto* government standard IT investment management information system, I-TIPS, which will provide the capability to monitor all of its systems efficiently.

The department has not prepared annual reports on the impact of IT on its operations but did supply a copy of its GPRA Report for 1999.

Impact on business processes:
Since enactment of CCA, the department has analyzed some of its missions, and based on those analyses, has begun revision of those mission-related processes and administrative processes. This is being done, and will continue to be done, through an enterprise architecture initiative. The department is in the middle of a department-wide conversion to web technologies to interact with its wide and varied constituency. The department is also developing the capability to conduct its business electronically, such as, electronic student financial assistance from application to payment, a PBO initiative. The department is also moving to web-based enterprise data collections, and receiving grant applications and processing grant actions via the Internet. All of these efforts entail major business reengineering.

Major business reengineering was done for the EDCAPS project. It was done again when planning the replacement of the general ledger system. Education expects EDCAPS improvements to help the department achieve its Goal 4, Objective 4.6, of its GPRA strategic and annual plan, "management of our programs and services ensures financial integrity." As indicated in the department's performance report, the department did not achieve its goal of a clean audit, but is making changes to assure clean audits in the future. The acquisition and implementation of the new general ledger system is a major component of the department's corrective actions. By replacing the general ledger system and concurrently reengineering the work processes, the department expects:

- Accurate and auditable system-generated financial statements;
- Improved financial management controls and processes in the department;
- System-generated reports in support of external reporting requirements; and
- Turnaround of all hot-line customer service inquiries within 48 hours.

Moreover, Education has determined a series of department-wide objectives with plans to achieve these objectives. These are included in Education Table 3 below.

Education Table 3: Department-wide IT Objectives

Department-wide IT Objectives (and indicators where appropriate)	Means to Achieve Objectives
• Objective 4.4: IT investments are sound and used to improve impact and efficiency; • Indicator 4.4.a IT investment assessments indicate that major information systems are mission-driven, cost-effective, consistent with our information technology architecture, and supported by performance-based management systems. • Indicator 4.4.b: Employees will assess productivity as "significantly improved" as a result of available technology, as shown by the employee survey in 2000. • Indicator 4.4.c: Data reporting burden on public will be reduced annually. • Indicator 4.4.d: All major information systems needing repair will be converted to Year 2000 compliance by March 1999 (giving time for testing during 1999) and validated through operation into March 2000. (Goal met.)	• Cost-effective services that deliver value for Education Department (ED) and its customers. • The CIO will implement a capital planning and investment control process as required by CCA. • The CIO will train, develop, and equip an expert information management liaison team to the program offices. • The CIO created the Learning Network, which provides computer and policy training at the desktop of all ED employees at HQ and the regions. • Information architecture/security • Maintain automated data processing systems, including network operations, and provide the latest technology to increase productivity and to provide better customer service, such as video-teleconferencing. • Continue to implement a Product Support Plan (PSP) that provides guidance of standard hardware and software products supported by ED. • Increase use of the internet as service delivery medium for the department and dictate an increase in security attention. • Continue the department's leadership in assistive technology. • Apply the lessons learned from the Y2K conversion and contingency planning to the continuity of operations/disaster recovery planning and to IT asset management procedures. • Expanded Internet/Intranet presence • The CIO plans to expand the department's role as portal to education information and services across hundreds of web sites

Education Table 3: Department-wide IT Objectives	
Department-wide IT Objectives (and indicators where appropriate)	**Means to Achieve Objectives**
	at department-funded contractors and grantees, other federal agencies, state agencies, and other partners (using cross-site indexing, meta-data/resource cataloging, and new finding tools), and a move to implement personalization technologies. • The OCIO plans to redesign the department's intranet, ConnectED, to improve usability and make it easier for content owners to publish information. • Data collection/information management • OCIO plans to provide support, coordination, and direction to these current data improvement efforts to promote enterprise-wide information management. • OCIO plans to initiate an enterprise data quality project. Existing legacy databases within ED have never been audited for completeness and validity, structural integrity, or data conformance to business rules. This will be done in the next two years. • OCIO will also initiate an education information analysis project. This project will bring together experts in using education information and develop models of what the future national education information environment must provide to empower both parents and local groups in the improvement of their children's education.

Agency acquisition of information technology:
The department plans to implement modular contracting. The first effort has been undertaken by the department's PBO. SFA is using a modernization blueprint approach as a framework for meeting its performance-based objectives. The SFA Modernization Blueprint is the basis for integrating SFA modernization activities into a comprehensive architecture and ensuring that investments are in accordance with the PBO performance objectives.

DEPARTMENT/AGENCY: ENERGY

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
S.W. Hall, Jr.	11/95-5/98	30
Howard Lewis (acting)	5/98-10/98	5
John H. Gilligan	10/98-current	21

Current CIO: John M. Gilligan
Official Title: Chief Information Officer
Dates of Service: October 1998 – current

Department/Component CIO Structure
Decentralized

Effective use of government Chief Information Officer:

- Agency CIO reports to the Deputy Secretary and is responsible for implementation of CCA, serves as Executive Secretary of the Executive Committee for Information Management.
- Worked to develop several programs including (with CFO and Director of Management and Administration) department systems modernization program; and Total Cost of Ownership study to determine all costs associated with IT.
- In conjunction with CFO and Director of Management and Administration, the CIO has developed a plan for modernizing Departmental systems. This Corporate Management Information Program (CMIP) has produced an Information Architecture and a prioritized funding and implementation plan for modernization of corporate systems.
- Has initiated a Total Cost of Ownership (TCO) study to determine all costs associated with IT and identify ways to reduce IT costs to the department.
- Is currently finalizing a recommendation to the Deputy Secretary to establish a network of CIOs in the Lead Program Secretarial Offices responsible for implementing Headquarters' policy, guidance and CIO initiatives.
- Established several corporate strategic initiatives to achieve IT vision and objectives, including:
  - Ensure robust, reliable infrastructure that will support rapid evolution of business solutions;
  - Focus IT investments consistent with corporate information architecture;
  - Ensure proactive management and protection of information and IT resources;
  - Establish management processes and technical guidelines to ensure efficient use of IT resources;
  - Effectively use electronic information modes and knowledge management technologies; and
  - Recruit and retain top quality federal IT workforce.
- However, a significant portion of the department's IT expenditures are embedded in mission projects and are managed by the programs. Mission IT is not under the control or approval of the CIO, consequently these projects are NOT subject to:
  - The Strategic Information Management (SIM) program, which was established to formally assess project cost, risk, and return on investment;
  - The OMB Exhibit 300B process, required to provide cost, risk, and status data for major projects within the department; and
  - The high confidence the department has that major IT investment projects approved via the IT investment management process will be successfully implemented.

Agency benefits from capital planning and investment control processes:
DOE has taken three essential steps in response to CCA. First, the department established the DOE Capital Planning and IT Investment Process (CPIIP) in 1998. Second, DOE began developing an Information Architecture Project (IAP). Finally, the department has established a two-path (i.e., corporate and programmatic) approach for corporate IT investment planning and is currently extending implementation of capital planning and investment practices consistent with CCA department-wide to all program offices, field sites, national laboratories, and contractor organizations. According to DOE, the CPIIP provides an analytic framework for linking IT investment decisions to strategic objectives, mission achievement, and business plans. The process applies primarily to cross-cutting corporate administrative and infrastructure initiatives–program and field offices are responsible for similar

processes to link their IT investments to mission priorities as part of the third initiative. [Annual Report of the Chief Information Officer, Calendar Year 1999, prepared March 2000, U.S. Energy Department, p.3]. Current efforts also focus on ensuring effective IT oversight processes within each program and site organizational element. The IAP is being developed to provide a framework for strategic information technology planning, an initial IT strategic plan, and a standard against which to measure ongoing and proposed IT projects. According to DOE, this plan defines, at a high level, the totality of corporate business functions, the resultant information requirements to perform those functions, the applications needed to provide that information, and the approach for identifying the technology required to support the applications. These products are collectively referred to as the DOE Corporate Systems Information Architecture (CSIA). In addition, each DOE organization will be required to:

- Define and implement an IT investment management process that governs the selection, control, and evaluation of its IT projects;
- Integrate its IT investment management process with its strategic planning and budget processes so that IT investment decisions support organizational missions and priorities;
- Ensure its IT investment management process supports and addresses the requirements governing the ongoing development and maintenance of DOE's information architecture; and
- Regularly report to the CIO on the composition and evolution of its IT investment portfolio and the performance of its IT investment management process.

Managing Information technology for overall performance and results:
The DOE IT Capital Planning and Investment Process was established in 1998 for selecting, managing, and assessing corporate IT investments. Overall review of the corporate-level process includes:

- Establishment of the DOE Information Architecture Program which provides the framework to support department-wide information sharing and informed decision-making results in process improvement and efficiencies and reduced ownership costs.
- Existence of an IT investment oversight structure comprising the Executive Committee for Information Management (ECIM), the Information Management Steering Committee (IMSC), and Corporate Management Information Program Review Board ensures senior management attention and oversight.
- Use of Strategic Information Management (SIM) process to produce a business case for an IT investment provides a strong analytical basis for investment decision-making.
- IT project monitoring by the project sponsor and quarterly reviews by the CIO against planned schedules and budgets ensure proper project control or oversight.
- Development of the corporate IT Investment Portfolio, which is subjected to a yearly review and endorsement by the IMSC and the ECIM for decision-making, ensures alignment with budget priorities.
- Senior management decision-making on corporate initiatives by the ECIM and IMSC based on the IT investment process promotes mission alignment and program support.

Because the CIO has no control or authority over those initiatives embedded in projects, a significant portion of DOE IT, it is important to note the responsibility of project sponsors. In the screening stage, representatives of the organization that plan to sponsor and manage the initiative first determine whether it makes general business sense to consider the investment. A proposal must include the minimum set of information necessary to determine whether the initiative meets the department's corporate IT Capital Planning and Investment and Information Architecture screening criteria. This information includes but is not limited to:

- Core mission/business area(s) to be addressed
- Status of work process reengineering
- Assessment of private sector alternatives
- Expected returns
- Expected costs
- Expected risks
- Concept of operations
- High-level architectural profile
- Definition of performance measures

If an initiative is considered viable, the IMSC recommends to the ECIM that the initiative proposal be further developed under the department's SIM process. The department's SIM process is designed to ensure a clear and effective linkage between IT initiatives and mission and business requirements. The SIM process uses a

combination of analytical and collaborative methods. The proposal sponsor is responsible for executing the SIM process. The project sponsor provides the results of the SIM process to the OCIO for review and Information Architecture assessment. This begins the scoring stage of the IT Capital Planning and Investment process: the SIM information provides the basis to score the proposed initiative. The application of standard, uniform, and consistent IT decision criteria provides the OCIO and IMSC with the input to draw cross-comparisons and rank IT investments. The scoring criteria are divided into business case criteria, risk criteria, and benefit-cost criteria. Scoring is not intended as the sole basis for decision-making but one factor in the overall process. The weighting of criteria allows decision-makers to emphasize and prioritize the relative importance of selection factors. As presently weighted, the criteria model places greatest emphasis on investment's alignment to strategy and mission (approximately 55%); next greatest emphasis on risk and likelihood investment is carried out successfully (25%); and slightly lower emphasis on benefit-cost from investment as a result of government's role (20%).

Impact on business processes:
It would be difficult to determine the overall impact on business processes as the department currently distinguishes between initiatives at the individual project level, which are handled by their organizations, and department-wide strategies. This will be a critical area to watch with the two-pronged implementation approach to CCA. In the meantime, however, in response to the submitted questions, the agency appears to have provided information on only department-wide programs, nine in all. The agency provided insufficient information to link these initiatives to overall strategic missions and programmatic goals. The department provided copies of Exhibit 300Bs, as well as a copy of the Strategic Information Management Procedures and a copy of the business case for their Business Management Information System-Financial Management (BMIS-FM) dated 3/99. BMIS will link DOE's corporate business systems within an overall umbrella of system initiatives to modernize and bridge department's business processes. Although much detailed, submissions did not provide direct links between systems and either operational and programmatic goals or strategic mission. However, the department did stipulate that mission analysis and business case development is an integral part of the SIM analysis and business case development. The agency provided sample cases for two of its initiatives.

DOE Table 1: Top "Ten" IT Initiatives
Replacement Telecommunications System
PC Lease Program
Sitewide INEEL Information Network (SIINET) (Idaho National Engineering and Environment Laboratory (INEEL))
Architecture and Planning Initiative
Capital Planning and IT Investment Program
Strategic Information Management Program
Business Management Information System –Financial Management (BMIS-FM)
Infrastructure and Telecommunications Improvements to Support Corporate Systems
Corporate Human Resource Information System (CHRIS)
(Department provided information on only 9 systems)

Agency acquisition of information technology:
The department has not encountered any obstacles to implementing modular contracting. The department reviews specific IT investment requirements to determine if the functions required are logically separable as discussed in OMB guidance.

DEPARTMENT/AGENCY: HHS

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Dr. John J. Callahan	1996-current	53

Current CIO: Dr. John J. Callahan
Official Title: Assistant Secretary for Management & Budget; Chief Financial Officer; Chief Information Officer; Chief Information Architecture Officer
Dates of Service: 1996 (since CCA enactment)

Department/Component CIO Structure
Decentralized

Effective use of government Chief Information Officer:

- CIO reports directly to the Secretary.
- CIO makes final decision on IT funding, as advised by Information Technology Investment Review Board (ITIRB).
- CIO chairs ITIRB and reviews Budget Formulation Program proposals for IT.
- Chairs the HHS CIO council, which comprises the 13 Operating Divisions (OPDIV) CIOs.
  - Four OPDIV CIOs report to head of Operating Division; four report to a top deputy; five report to lower levels of management.
  - The CIO council:
    - Advises the HHS CIO on the development and promotion of Department-wide Information Resources Management (IRM) goals, strategies, policies, and initiatives and enhances communication among the OPDIVs;
    - Reviews proposed or existing department-wide strategies, policies and initiatives that concern IRM and recommends appropriate action;
    - Responds to proposed or existing legislation, or government-wide regulations or standards concerning IRM and recommends appropriate action;
    - Addresses IRM issues that cut across OPDIV organizational lines or affect the whole department, and recommends viable alternatives or action plans when necessary;
    - Pursues IRM initiatives through subgroups created to investigate issues and recommendations, new technology, new or revised standards, managerial innovations, or changes in legislation for Council adoption;
    - Endorses and recommends individual OPDIVs to take the lead on developing specific department-wide IRM initiatives;
    - Sponsors conferences and symposia to expand the understanding of IRM activities throughout the department; and
    - Reviews strategic IT investments, performance measures, security, and architecture.
- OPDIVs control their own respective IT expenditures and ITIRB processes.

Agency benefits from capital planning and investment control processes:
At the departmental level, the ITIRB is responsible for looking across HHS to define its IT strategies and assure that major IRM decisions are made in a manner that optimizes benefits while minimizing risk. HHS CIO reviews all recommendations of the ITIRB and takes appropriate actions to ensure that HHS' IT investment portfolio will maximize return on investment. However, since the passage of CCA, HHS has used a decentralized working model in which each OPDIV established a specific business IT capital planning and investment process, tailored to its own organization. This model allows each OPDIV to make its own internal working decisions while permitting the HHS CIO to oversee and approve these decisions. HHS ITIRB has responsibility and authority to review IT investments that:

- Are crosscutting -- investments that involve more than one OPDIV or component, without regard to resource level. Examples include systems with a database shared across OPDIVs (such as a HHS-wide payroll system or various programmatic databases); and/or

- Are major information systems –investments that meet the OMB A-130 definition of a "Major Information System". This definition includes a system that requires special management attention because of its important to a HHS or an OPDIV mission, its high developmental, operating, or maintenance cost; or its significant role in the administration of programs, finances, property, or other resources; and/or
- Meets the capital asset threshold – investments that equal or exceed the resource threshold established for HHS Capital Assets.

(HHS reports this policy is currently under revision.)

HHS recently terminated two 'significantly deviating' systems:

- HCFA Medicare Transaction System (MTS): a stop work order was issued to the contractor due to major cost overruns and schedule slippage.
- PSC Federal Human Resources for the 21st Century (Fed HR-21): ITIRB determined project should be terminated due to total cost, cost of federalization, absence of up-to-date technology, functionality, and timely processing.

Managing Information technology for overall performance and results:
HHS Policy Circular IRM-201, "Capital Planning and Investment Control," provides the emphasis for implementation for CCA in HHS. The ITIRB has the authority to require quarterly meetings, perform project reviews, and perform reviews of ongoing initiatives that it has already evaluated. Pertinent information and lessons learned from these reviews are distributed to HHS senior management personnel. OPDIV IT personnel are responsible for keeping their own senior management officials informed of progress on information system increments that have been approved at the OPDIV level. Data used for decision-making, including cost, risk, and return on investment, are developed by the OPDIVs to support the business case for mission-related IT needs. The department is highly confident in the quality of these data for decision-making. Investments are also reviewed both by the OPDIVs and by departmental ITIRBs. The department asserts these investments are receiving proper oversight and are both cost and benefit justified. HHS provided extensive information on its decision-making process, including cost/benefit analyses, business case analyses, as well as financial and performance analyses.

Impact on business processes:
HHS provided two approaches to the analysis of impact on business process. The agency provided information on its top ten IT initiatives as requested. This information is shown in HHS Table 5: Top Ten IT Initiatives. However, in addition, in November 1999, HHS conducted a survey of personnel in response to CCA, section 5125(c), which requires the CIO in each agency to identify the knowledge and skills needed by personnel in the agency to achieve performance goals related to information management. Results from this survey are useful in assessing HHS IT personnel capabilities with respect to CCA.

The department surveyed its personnel on ten core competencies that were included in four major groupings:

HHS Table 1: IT Management Core Competencies

1 **Policy and Organization**	2 **Capital Planning**	3 **Managerial**	4 **Technical**
Competency 1- Mapping IT to Mission: • Align IT activities with the business of the HHS; • Define strategies and goals that meet the requirements of IT business customer.	Competency 4- Investment Assessment: • Determine the relative benefit of various investments to provide the most cost effective, complete service to citizens and customers, determine and justify the best ways to spend scarce resources and achieve strategic goals.	Competency 7:-Leadership: • Provide overall direction for IT staff by fostering a positive work environment where groups or individuals can successfully complete complex tasks, develop and/or champion new ideas.	Competency 10:-Technical: • Overall knowledge of information technology
Competency 2- Budget Process: • Understand and participate in budget formulation processes to help obtain resources for IT projects; • Prioritize IT projects in light of overall DHHS priorities and objectives.	Competency 5- Acquisition: • Develop, maintain and continually improve the IT procurement process • Make all aspects of acquisition decisions in the light of HHS strategy, mission and goals, as well as investment assessment.	Competency 8- Process Management: • Continually monitor and improve IT operations through re-engineering and implementation of best practices.	
Competency 3- Organizational Process: • Participate in the development of organizational operations to increase the visibility of IT; and • Emphasize the role that IT can play in effectively supporting HHS operations.	Competency 6- Implementation and performance Measures: • Work towards assuring effective implementation of IT in all projects and initiatives; • Determine the most effective ways to assess IT performance in light of overall DHHS resources, goals, and mission.	Competency 9- People Management: • Effectively utilize teams and motivate individuals to perform successfully; • Allocate human resources to effectively achieve goals; • Successfully complete goals.	

Respondents were asked to identify the importance of each competency, the frequency with which each competency is required on the job, and the self-reported developmental need for each competency. HHS achieved a 87.5% response rate for the survey (n=113). Respondents were classified in three groups: CIOs/deputy CIOs; Direct Reports to CIOs or Deputy CIOs; and Executive/Managers with IT responsibilities, reporting to a functional leader, not a direct report to CIO or deputy CIO. Twenty-three percent of respondents were CIOs and deputy CIOs, 29 percent were direct reports, and 38 percent were executive/managers. Responses to questions were scaled 1 to 5, from low to high. HHS Table 2 below shows the importance of these competencies for CIO and deputy CIO respondents:

HHS Table 2: Survey Responses for CIOs and Deputy CIOs: Competency Importance

Policy and Organization	Mean	Capital Planning	Mean	Managerial	Mean	Technical	Mean
Mapping IT to Mission	4.7	Investment Assessment	4.5	Leadership	4.9*	Technical	4.4
Budget Process	4.6	Acquisition	4.1	Process Management	4.1		
Organizational Processes	4.7*	Implementation & Performance Measures	4.3	People Management	4.8		

* Indicates a statistically significant difference (at the .05 level) in CIO and deputy CIO response from other respondent categories.

Respondents were also surveyed on the frequency with which they encountered these competencies on the job and for their assessment of the developmental need for each of these competencies. For mapping IT to mission, response rates for CIO and deputy CIO respondents were 4.2 for frequency encountered on the job and 3.0 for developmental need. In an open-ended question, respondents were asked to identify the group with the greatest developmental need. There were 86 responses. HHS table 3 below shows the organizational levels identified as in most developmental need:

HHS Table 3: Development Need Summary Chart

Organizational Level in Developmental Need	Percent Total Identifying Level
CIOs/Deputy CIOs	15.1
Direct Reports	16.3
Executives/Managers	47.7
IT Staff	21.0

HHS Table 4 below compares the rankings of those areas in developmental need as identified by respondents. It is important to note that mapping IT to mission was the greatest area of need both for CIOs/deputy CIOs as well as for project managers.

HHS Table 4: Comparison of Developmental Needs Identified for Organizational Levels

Competency	Areas of Need			
	CIOs/Deputy CIOs	Direct Reports	Executive/Managers	IT Staff
	Percent of Respondents Identifying Need Area			
Mapping IT to Mission	69.2	35.7	63.4	16.7
Budget Process	15.4	0	31.7	0
Organizational Process	30.8	21.4	34.1	11.1
Investment Assessment	30.8	42.9	46.3	16.7
Acquisition	0	14.3	4.9	11.1
Implementation and performance Measures	15.4	42.9	39.0	33.3
Leadership	69.2	42.9	26.8	16.7
Process Management	7.7	57.2	9.8	50.0
People Management	30.8	28.6	19.5	16.7
Technical Competencies	61.5	28.6	24.4	88.9

Agency acquisition of information technology:

HHS uses modular contracting where appropriate but notes most of its systems began before the requirements for modular contracting. HHS sees no major problems in future use. For example, HCFA's Medicare Managed Care Systems Redesign Project has been structured in several phases, each of which will be a separate procurement effort. In general, HHS targets modular contracting at large scale, major systems. HHS follows CCA in determining its modular contracting practices as well as responding to the key questions posed by the "Raines Rules." However, HHS does not keep statistics on the use of modular contracting for major or high risk IT systems. The department does not currently track the number or percentage of IT investments using modular contracting of the dollar value of these contracts. [However, the department was able to provide data on the amount obligated through contract actions for IT products: FY1997-- $394,944,000; FY1998 -- $487,863,000; and FY1999 -- $668,726,000. HHS also provided data on contracts funded through IDIQ (GWACs & MACs) & GSA/FSS Orders, and regular new contracts and modifications.]

HHS Table 5: Top Ten IT Initiatives

Initiative	OPDIV	DHHS Strategic Goal (1-6)	System Function
1 Information for Management, Planning and Analysis and Coordination (IMPACII)	NIH	**6**: Strengthen the nation's health science research enterprise and enhance its productivity.	Changes grant application process from a paper-based to an electronic process
2 Medicare Managed Care System (MMCS) Redesign Project	HCFA	**3**: Improve access to health services and ensure integrity of the nation's health entitlement and safety net programs; **4**: Improve the quality of health care and human services.	A family of systems that supports the managed care business operations: beneficiary enrollment, beneficiary-level payment calculation, and managed care organization (MCO) monthly payment calculation.
3 Collection of Managed Care Encounter Data and Implementation of Risk Adjusters for Medicare	HCFA	**3**: Improve access to health services and ensure integrity of the nation's health entitlement and safety net programs; **4**: Improve the quality of health care and human services.	Meets Balanced Budget Amendment (BBA) mandate for the implementation of a risk adjustment system that more accurately reimburses managed care plans.
4 Telephone Customer Service Strategy (TCSS)	HCFA	**3**: Improve access to health services and ensure integrity of the nation's health entitlement and safety net programs; **4**: Improve the quality of health care and human services.	HCFA currently funds over 150 toll free lines designed to assist Medicare beneficiaries. HCFA has developed a Five Year Telephone Customer Service Strategy to optimize these services.
5 Quality Improvement and Evaluation System (QIES)	HCFA	**3**: Improve access to health services and ensure integrity of the nation's health entitlement and safety net programs; **4**: Improve the quality of health care and human services.	QUIES is designed to improve HCFA's two quality assurance mechanisms, State Survey Agencies and Peer Review Organizations, by integrating and expanding them through advanced information technology.
6 Reinvesting in Public Health through Science and Technology	CDC	**1**: Reduce major threats to the health and productivity of all Americans.	Initiative is designed to create an integrated public health information and surveillance system to implement significant changes in how public health surveillance is conducted in the U.S. The National Electronic Disease Surveillance System (NEDSS) is a key component of the initiative.
7 Payment Management System (PMS)	PSC	(PSC conducted a business analysis which revealed a reengineering effort was required and that focus should be on enhanced access to information and improved system accountability.)	Chief Financial Officers Council identified PMS as one of two civilian grant payment systems to serve the entire federal government.
8 Expanded Federal Parent Locator Service (EFPLS)	ACF	**2**: Improve the economic and social well-being of individuals and communities in the United States.	The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 mandates a EFPLS as the primary system for assisting States in locating parents, establishing paternity, establishing and enforcing support orders and collecting payments. ACF employed BPR concepts in the design and development of the expanded FPLS.
9 Adverse Event Reporting System (AERS)	FDA	**1**: Reduce the major threats to the health and productivity of all Americans	FDA evaluates data from AERS to identify any serious, rare, or unexpected adverse effects or an increased incidence of events from the use of drugs. The goal is to move to a real-time, on-line system that allows both drug companies and the FDA to get a better picture of what's happening with a particular drug product.
10 Electronic Regulatory and Submission Review (ERSR) Program	CBER	----------	ERSR focuses on the development and update of the IT infrastructure to allow paperless receipt and processing of applications, and supports implementation of the Electronic Record, Electronic Signature rule and Electronic Freedom of Information Act. As a result, the Center for Biological Evaluation and Research (CBER) has developed improved business processes, which are collectively called the Managed Review Process (MRP).

DEPARTMENT/AGENCY: HUD

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Steven M. Yohai	1996-1997	22
Gloria R. Parker	1998-current	31

Current CIO: Gloria R. Parker
Official Title: Chief Information Officer
Dates of Service: 1998 – current

Department/Component CIO Structure
Centralized

Effective use of government Chief Information Officer:
CIO is a member of 5 key strategic business committees and has advisory role in that capacity. Vital examples of key impact include managing HUD's IT Investment Portfolio and playing a key role in deciding to consolidate 3 major systems into one major data warehouse. IT expenditure approval is by a committee, the Technology Investment Board Executive Committee (TIBEC), of which CIO is one member. The Secretary, as Chair approves the IT investment portfolio and funding, to include changes to the portfolio and reprogramming or reprioritization of funds and makes final decision on issues when group consensus is not possible. [See HUD Table 1 below.] As a member of TIBEC, the CIO:

- Designates staff person to serve as secretary;
- Provides technical expertise on IT matters and the HUD IT investment management process;
- Provides feedback to the TIBEC on IT resource utilization;
- Tracks organizational compliance with TIBEC's decisions;
- Provides advice and guidance to the TIBEC regarding government-wide IT policies;
- Provides advice and guidance to the TIBEC regarding HUD IT investment management policy and processes; and
- Conducts periodic reviews of HUD's IT investment process and provides TIBEC with recommendations for improvements.

HUD Table 1: CIO Committee Presence		
Committee	**Committee Responsibilities**	**Committee Members**
Technology Investment Board Executive Committee (TIBEC)	TIBEC is responsible for oversight of the implementation and execution of the HUD IT investment management process. TIBEC makes all final funding decisions. Specific areas of responsibility include: a) direct and oversee departmental efforts to institutionalize a HUD-wide IT investment management process; b) take appropriate management actions to ensure process will endure, including recommendation, review, and approval of organizational IT policies and senior management sponsorship; c) make selection and funding decisions about IT projects and systems, based on comparisons and trade-offs between competing projects with an emphasis on meeting mission goals; d) conduct regular reviews to assess and improve the performance of HUD's IT investment portfolio	-Secretary, Chair; -Deputy Secretary, Co-Chair; -Assistant Secretary for Administration; -CFO; -CIO; -Assistant Secretary for Community Planning and Development; -Assistant Secretary for Fair Housing and Equal Opportunity; -General Counsel; -President, Government National Mortgage Association; -Assistant Secretary for Housing -- Federal Housing Commissioner; -Inspector General; -Assistant Secretary for Policy Development and Research; -Assistant Secretary for Public and Indian Housing
Senior Review Board (SRB)		Selected HUD Principal Staff, including CFO, CPO, CIO, and General Deputy Assistant Secretary for Administration
Project Management Review Board (PMRB)	Provides senior management oversight needed to address contingencies identified during project technical reviews.	Program area project managers and Office of Information Technology staff
Contract Management Review Board (CMRB)		Program area project managers and Office of the CPO staff
Management Committee		Deputy Secretary (Chair), HUD Principal Staff

Agency benefits from capital planning and investment control processes:

While the Department has utilized an IT Capital Planning and Investment Control Process, which pre-dated CCA requirements, and OMB and GAO guidance, the CIO has introduced enhancements to the Department's FY2000-2001 investment management practices (i.e., select and control). The current efforts of the CIO are focused on the development of a comprehensive maturity-based IT investment management (ITIM) process that will be fully compliant with CCA section 5122 (a) and (b) and GAO guidelines.

The department has no strategic information management plan that identifies any and all major IT acquisition programs that have significantly deviated from cost, performance, or schedule goals. The department has made progress in developing a framework and planning processes to complete a strategic information resources management plan for FY2001. However, as part of the development of a comprehensive information resources management strategy in FY 2000, the department reviewed the performance and status of over 200 IT initiatives which comprise the HUD IT investment portfolio. Performance deviations with a variance of greater than ten percent were identified and associated corrective actions/recommendations were provided for each project.

One hundred percent of the Department's total IT budget is subject to evaluation and assessment in the IT capital planning and investment processes. HUD's IT FY2000 budget is distributed as follows:

HUD Table 2: IT Budget Distribution FY2000	
Major Budget Components	**% of Total Budget**
Infrastructure	40 (112.9M)
Systems Development	37 (104.4M)
Non-systems Development	3 (10.1M)
Maintenance	18 (51.4M)
Y2K	6 (2M)

Managing Information technology for overall performance and results:
Prior to FY2000, the department was deficient in using OMB's 300B format to document major IT acquisitions. In 1999, as part of the FY2000 IT capital planning process, the OCIO, with OMB support and collaboration, developed and submitted documentation for eleven IT acquisition initiatives. Currently, the department uses the Information Technology Investment Portfolio System (I-TIPS), an IT investment management and capital planning support tool, and Microsoft Project Office, an automated time and project resource tracking utility, in tandem, to facilitate the performance of project cost and risk assessments. Further, the department has adopted a Work Breakdown Structure (WBS) which provides a standard cost allocation structure. Effective with FY 2000, the use of the HUD WBS is mandated in the submission of initiatives for approval through the IT Capital Planning and Investment Management process, and is, therefore, a pre-requisite for all projects. In addition, the department is in the initial phases of implementing an enhanced IT Capital Planning and Investment process (also referred to as ITIM). This comprehensive ITIM approach is imposing new and more stringent documentation and data requirements for the selection, control and evaluation of IT initiatives. With this in mind, the quality of the data submitted for decision-making, although the department feels that it is acceptable for its current level of maturity, needs improvement and is expected to continue to improve as the department's ITIM process matures.

The OCIO conducts formal reviews of the department's IT investment portfolio. These reviews are conducted in collaboration with the Office of Chief Financial Officer (OCFO), the Office of Chief Procurement Officer (OCPO), and the Office of Administration (OA). These senior management reviews, which are performed by the department's TIBEC consist of annual IT portfolio "Select" and quarterly "Control" reviews. The quarterly Control reviews of the HUD portfolio provide an opportunity for executive level management to assess the performance, progress and continued viability of the projects that comprise the IT portfolio of initiatives during the fiscal year. The department's comprehensive ITIM (currently being developed) provides for the incorporation of formalized milestone review cycles as part of the project management process. The department intends to use I-TIPS to enable real time updates of the status and performance of IT initiatives to a centralized database thereby making available to the CIO and senior management personnel timely information on the entire IT investment portfolio.

HUD provided extensive data, quantitative and qualitative, necessary to the capital planning process for its Top Ten IT initiatives.

Impact on business processes:
In 1997, HUD conducted a thorough review of its mission and the means used to achieve its business objectives. The result was a newly clarified mission and complete overhaul of the department's functions, organizations and processes. The 2020 Management Reform Plan envisions a "One HUD" and a cross-organizational, seamless access to information and services. This has resulted in the consolidation of operations, such as the creation of the Enforcement Center and Real Estate Assessment Center; the creation of new functions, such as the Community Builder position; and an internal restructuring and redefinition of processes.

In FY2000, HUD will be delivering an Enterprise Architecture Blueprint which will provide a critical framework for linking the department's information technology activities to its strategic plans. Once completed, the CIO will produce an IRM 5-Year plan showing how HUD will implement IT projects and Enterprise Architecture modernization efforts.

Agency acquisition of information technology:
HUD has recently begun to implement modular contracting; currently less than two percent of total IT effort uses modular contracting. The department is looking at all emerging IT requirements to make them modular and is in the process of inserting formal criteria into its IT and Procurement Planning Processes for FY2001 projects. The department's recent efforts have also focused on converting all of its IT requirements to outcome and performance based statements of work. HUD has also shifted its IT contracting away from cost-based, level of effort contracts and toward indefinite delivery contracts. The majority of its IT contract actions are now based on departmental task order contracts and GSA schedules.

HUD Table 3: Total IT Contract Obligations by Fiscal Year

Total IT Obligations	FY 1997	FY 1998	FY 1999
	$177,205,982	**$191,712,768**	**$294,080,502**
Percent by Orders	9%	35%	39%
Percent by Contract	91%	65%	61%

HUD Table 4: Mapping Top Ten IT Initiatives, Strategic Goals, and System Goals

Initiative	Sponsor	Supports Strategic Goal	System Goal
Department Grants Management System (DGMS)	CFO	• Increase availability of decent, safe, and affordable housing in American communities; • Promote self-sufficiency and asset development of families and individuals; • Improve community quality of life and economic vitality; and • Restore public trust	As identified in the Grants Management Business Process Redesign Study (1997), the purpose of DGMS is to • improve process efficiency through the streamlining and standardization of grants management processes, • increased consistency and effectiveness of grants records and information, • improved financial and internal management controls, • reduced staff requirements through automation, and • providing the department readily available information on its grants investments.
Executive Information System/Enterprise Data Warehouse/Geographical Information System (EIS/EDW/GIS) Cross-cutting Initiative	CFO	• Meeting Management challenges and restoring public trust	Combining of these three systems designed and implemented for HUD's enterprise business intelligence infrastructure based on best practices in decision support systems and data warehousing technologies.
Physical Assessment Subsystem	Real Estate Assessment Center (REAC)	• Increase availability of decent, safe, and affordable housing in American communities; • Improve community quality of life and economic vitality	In 1998, HUD launched comprehensive reforms of FHA home appraisal process through its homebuyer Protection Plan in response to the material weaknesses and reportable conditions outlined in HUD's OIG 1998 audit. That audit cited a need to: 1) place more emphasis on early warnings and loss prevention for FHA insured mortgages; and 2) improve FHA's information technology systems to support their business processes more effectively.
Single Family Appraisal Subsystem	Real Estate Assessment Center (REAC)	• Increase availability of decent, safe, and affordable housing in American communities	
Real Estate Management System	Housing	• Increase availability of decent, safe, and affordable housing in American communities	REMS provides data to the Real Estate Assessment Center and is the primary system for the Departmental Enforcement Center. REMS enables Multifamily Program Centers and Enforcement Center Staff to perform effective services and implement enforcement actions.
OCIO-Office of IT Reform (OITR)	CIO	• Improve community quality of life and economic vitality; • Meeting Management challenges and restoring public trust; • Improve service delivery to internal and external customers.	Introduced in response to provisions in CCA Section 5122 (a) and (b); supports specifically HUD 202 Management Reform. This initiative will respond to: • **Reform 4**: Train IT project managers to manage projects to cost, schedule and performance; • **Reform 5**: Develop, implement and institutionalize an efficient, repeatable IT investment proces to select HUD's IT portfolio, manage and control the initiatives to cost and schedule, and evaluate investments after implementation; • **Reform 6**: Improve service delivery to internal and external customers by identifying and leveraging technology to support HUD's core business processes.
Multifamily Tenant Characteristic System Consolidation (MTCS)	Public and Indian Housing	• Increase availability of decent, safe, and affordable housing in American communities; • Modernize and integrate outdated financial management systems; • Promote self-sufficiency and asset development of families and individuals; • Improve community quality of life and economic vitality	This initiative is in response to Public Housing Reform Act 1998. The system will enhance existing reporting capabilities and internet reports; add functionality for the Section 8 Customer Survey, historical data trend analysis, and the Moving to Work Programs; design and implement a data quality effort to review accuracy and completeness of MTCS data.

HUD Table 4: Mapping Top Ten IT Initiatives, Strategic Goals, and System Goals

Initiative	Sponsor	Supports Strategic Goal	System Goal
Public and Indian Housing (PIH) Phase II Consolidated Initiative	Public and Indian Housing	• Increase availability of decent, safe, and affordable housing in American communities; • Promote self-sufficiency and asset development of families and individuals; • Improve community quality of life and economic vitality; • Meeting Management challenges and restoring public trust	This initiative: • Establishes a data request facility for information from four major systems; • Standardizes and integrates reports on facilities, thereby reducing the need to generate ad hoc reports; • Establishes a centralized data request facility that replaces informal ad hoc data requests; and • Establishes a Reports Service Center to facilitate data requests and reporting requirements.
PIH-Other Non-Consolidated Initiative	Public and Indian Housing	• Increase availability of decent, safe, and affordable housing in American communities; • Modernize and integrate outdated financial management systems; • Promote self-sufficiency and asset development of families and individuals; • Improve community quality of life and economic vitality	This initiative: • Creates a formula database for allocating drug elimination program funds to eligible Housing Authorities throughout the nation, thereby providing more timely, predictable, and equitable allocation of funds; • Creates a system to collect the information for and compute scores for Public Housing Agencies (PHAs); and • Implements the Section 8 Management Program (SEMAP) to rate PHAs that administer Section 8 subsidized tenant-based rental programs.
Financial Systems Integration	CFO	• Meeting Management challenges and restoring public trust	This initiative will: • Reduce the number of manual steps needed to consolidate costs and bill customers; • Create process efficiency by integration and standardization by reducing the number of databases; • Eliminate reentry of transactions to separate systems and reconciliation between systems; • Provide an audit trail for financial transactions; and • Provide a more economical environment for the operations of the department's automated systems.

DEPARTMENT/AGENCY: INTERIOR

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Robert Lamb (acting)	8/96-6/97	11
Ronald Lasher	6/97-12/97	6
Daryl White (acting)	12/97-3/98	3
Daryl White	3/98-current	22

Current CIO: Daryl White
Official Title: Chief Information Officer
Dates of Service: December 1997 – March 1998, acting; March 1998 - current

Department/Component CIO Structure
Decentralized

Effective use of government Chief Information Officer:
CIO has direct reporting line to the Secretary; reports to Assistant Secretary – Policy, Management and Budget (AS/PMB) for operational activities. Each of Interior's eight bureaus has a designated CIO and deputy CIO. Some bureau CIOs also have additional duties such as CFO and Directors of Administration. Although it varies, each of the bureau CIOs usually reports to the head of that bureau. The department asserts its CIO has little direct control over the bureau CIOs' information management and technology expenditures since the bureaus and offices receive their funding directly from Congress. The department CIO does, however, generally have review and approval of about 30-60% of DOI's expenditures for information management and technology expenditures through the review committees in place within the department. With the implementation of an automated investment portfolio system within DOI, the CIO will gain greater insight into and influence over bureau expenditures. The percentage of information management and technology expenditures approved by the CIO varies from year to year as approvals are based on the estimated total life cycle costs for the system (which generally cover multiple years).

Interior Table 1: CIO Committee Memberships, Roles and Responsibilities				
Committee	**Committee's Function**	**CIO's Role**	**CIO's Responsibilities**	**Frequency**
Policy Group Meeting	Discuss key Interior policies and issues (not just IT issues)	Member	• Provides Interior Assistant Secretaries and Bureau Chiefs direction on IT policy as it pertains to the department as a whole. • Hears issues concerning core business lines and works to align IT systems and resources better to accomplish the department's missions. • Provides information exchange between IT and core business leadership.	Weekly
IT Steering Committee (ITSC)	Selecting, monitoring, and evaluating department-wide IT investments involving portfolio systems or systems with Total Life Cycle costs of over $100M. Designed to support departmental programs; chaired by Chief of Staff	Executive Secretary	Reviews and approves IT investments with a $100M or more TLC cost or the investment meets at least one of the following: • Is a department-wide system • Several bureaus affected by the system • System is of particular importance to the President, Congress, OMB, or the Secretary • Directly affects security or safety of financial resources, people or other valuable resources • Is critical to the department's ability to perform its mission	Quarterly or as required
Information Resources Management Review Council (IRMRC)	Similar to the ITSC with a lower threshold (over $25M but less than $100M); chaired by AS/PBM	Executive Director	• Similar to the ITSC except the dollar value is lower. Reviews and approves IT investments between $25M and $100M threshold. • Council also, based on characteristics of the investment, determines if ITSC review is appropriate and refers the investment with a recommended course of action.	As required
Interior CIO Council (formerly the Bureau IRM Coordinators Forum)	Determines direction of the department relative to IT, architecture and department wide systems	Council Chair	• Chairs the quarterly forum designed to encourage the exchange of ideas between the bureau CIOs and the department CIO to ensure the department is using IT	Quarterly

Interior Table 1: CIO Committee Memberships, Roles and Responsibilities				
Committee	**Committee's Function**	**CIO's Role**	**CIO's Responsibilities**	**Frequency**
			effectively to meet its missions. • Acts as the catalyst for keeping the dialogue open between department and individual bureaus. • Leads discussion on issues affecting the department's IT and disseminates policies designed to move the department and its bureaus forward meeting their program goals and the objectives of CCA.	
Interior Management Council (IMC)	Reviews/Approves significant department issues, including IT related; Co-chaired by the Deputy Chief of Staff and Asst. Sec./PMB	Voting member	[nothing specified]	Monthly
Capital Assets Executive Review Committee (ERC)	Reviews and approves capital planning strategies and projects for facilities and information systems	Voting member	• Reviews all IT capital Asset Plan and Justification submissions and tracks performance of key IT projects on a quarterly basis looking for early warning signs.	BiWeekly
Trust Management Improvement Steering Committee (TMIP)	Reviews progress of key Trust Management projects; Chaired by Asst. Sec./PMB	Voting member	• Provides departmental oversight on the systems and information resources management aspects of the trust management effort, including such activities as directing IV&V oversight of key trust systems.	BiWeekly
Capital Planning and IT Management Committee (Federal CIO Council)	Subcommittee of the Federal CIO Council working on capital planning issues throughout the government	Co-Chair	• Co-chairs the committee with the CIO from USDA.	Monthly

Agency benefits from capital planning and investment control processes:
Though not complete, DOI asserts it has made significant progress during FY 2000 in implementing its IT capital planning and investment management processes. For many years, the department has had an approval process for IT investments. That process still exists with thresholds for approval of projects by
(a) The department Office of Information Resources Management,
(b) The Information Resources Management Review Council, and
(c) The Information Technology Steering Committee.

However, this did not constitute a complete IT capital planning and investment management process. Table 2 below outlines actions accomplished to date and what remains to be done.

DOI Table 2: Current Status of Capital Planning and Investment Control	
Actions Accomplished to Date	**Remains to Be Done**
• Published overall departmental policy memoranda for capital planning • Established a department capital assets executive review council and quarterly meeting schedule • Prepared OMB Exhibits 300B for investments exceeding the thresholds, resulting in first-year submission to OMB of 14 major IT projects • Established portfolio systems • Began an outreach program to help the bureaus with their capital planning requirements • Worked diligently with the bureaus, issued interim guidance, and prepared revised Exhibits 300B,resulting in improved bureau understanding of the process and marked improvements in the 300B submissions to OMB • Established departmental working group consisting of bureau and HQ personnel to address development of a robust department-wide capital planning process for IT, implement an automated tool to assist in the capital planning process, and develop a training program to encompass capital planning, use of the automated tool, and earned value concepts • Embraced GAO's Information Technology Investment Management (ITIM) evaluation model for assessing capital planning program • Began development of departmental IT capital planning process. Scheduled draft issuance – July 2000. • Developed several bureau-level draft capital planning processes. • Acquired ITIPS software, including service-level agreement support. • Began development of training program for capital asset planning and management, use of ITIPS, and earned value concepts. Training tentatively planned for June and July 2000. • Established IT presence on the Performance Measurement Council (PMC). Council consists of representatives from each bureau and key departmental offices to develop and issue strategic plans, annual performance measures. This liaison will assist in refining and reporting of benefits to specific mission goals resulting from information technology initiatives.	• Clarify approval bodies/committees and define specific functions. Separation, functions, and authority of the each body already established need to be clarified and refined, as well as the groups' relationships to one another. • Clarify roles and responsibilities. Similarly, roles and responsibilities of the several bureau and department level stakeholders need to be clarified and documented. • Adopt evaluation criteria for use at each approval juncture. • Adopt scoring and selection criteria for projects. • Issue final written process for evaluating and approving all IT capital investments. • Educate non-IT players and enlist their buy-in. • Ensure they understand the requirements of CCA • Understand the importance of linking their IT projects and initiatives properly to support of their strategic missions, and • Work co-operatively all around toward effective development of an integrated, cohesive, and comprehensive single capital planning process for DOI • Tailor ITIPS to DOI • Conduct training

Managing Information technology for overall performance and results:
Department has begun to establish a process for consistently measuring progress. Milestones established previously varied from project to project. Because the ERC, established in February 2000, relies on OMB's 300B, DOI has a baseline for comparing cost, schedule, and performance. DOI is currently working to develop an overall IT investment review process that includes the 300B baseline, incorporates ITIPS processes for monitoring, and includes such techniques as earned valued, and performance-based project management. DOI expects to have a basic process defined and outlined by the beginning of the next budget cycle and operational by the end of the calendar year.

The department asserts that progress throughout the department is uneven; some bureaus have eagerly embraced these practices, while others are still struggling to capture appropriate measures and milestones. The department also says that it lacks trained project managers. The CIO is spearheading an effort to develop a cadre of trained and experienced PM's to hold increasingly responsible project management leadership positions in the department.

From a schedule and performance perspective, the use of DOI's Technology Investment Analysis (TIA) and its related processes has worked adequately for the department, though the department notes need for improvement is evident.

A major obstacle to instilling confidence in the cost data reported is that the federal budgeting and accounting systems used by DOI and other departments do not adequately support cost and accounting information related to IT costs. Unless such structures are implemented, the data are not likely to be accurate. As a result, unless each project maintains detailed records of its own, monitoring costs is difficult. Also, the department asserts that it is nearly impossible for reporting to OMB and Congress, as a department, on its IT expenditures. The DOI CIO and CFO are working together to establish accounting structures that will properly classify specific IT transactions in the financial system in order to track IT costs and obligations to meet the management needs of the department.

DOI identifies a five percent deviation from cost, schedule or performance as significant.

Impact on business processes:
Department was able to link IT initiatives with both program and strategic goals. On the administrative side, all bureaus and many departmental offices constitute a working group to re-examine and re-engineer how the department, as a whole, performs its administrative activities. The project is named the Financial Management Systems Migration Project (FMSMP). The project seeks to identify where processes are duplicative, conflicting, complementary, or should be shared. It also seeks to determine data sharing and exchange requirements. When the review is done, DOI will redesign the processes, and then develop automated systems.

Agency acquisition of information technology:
Modular contracting encouraged and used. Department is taking steps to improve current usage within IT community.

Interior Table 1: Top Ten IT Initiatives

#	System/Acquisition Name	Life Cycle Cost (M$)	Bureau
1	Photogrametric and Mapping Support Services (PMSS)	$250	U.S. Geological Survey (USGS)
2	Technical Support Services (TSS)	$98	Bureau of Land Management (BLM) Department wide contract
3	Land Records Information System (LRIS)	$73	Bureau of Land Management
4	Trust Asset and Accounting System (TAAMS)	$59	Bureau of Indian Affairs (BIA)
5	Technical Information Management System (TIMS)	$53	Mineral Management Services
6	Trust Funds Accounting System (TFAS)	$48	Office of the Special Trustee (OST)
7	Royalty Management Program Reengineering (RMP)	$37	Minerals Management Service (MMS)
8	National Biological Information Infrastructure	$32	USGS
9	Incident Qualification and Certification System (IQCS)	$16	Bureau of Land Mgt./U.S. Forest Service
10	DOINET (Department Wide Area Network)	$2.7/annual (reimbursable program)	Office of the Secretary, Departmentwide Contract

DEPARTMENT/AGENCY: JUSTICE

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Stephen R. Colgate	2/96-current	46

Current CIO: Stephen R. Colgate
Official Title: Assistant Attorney General for Administration, Head of the Justice Management Division, Chief Financial Officer, Chief Information Officer
Dates of Service: February 1996, since enactment

Department/Component CIO Structure
Decentralized

Effective use of government Chief Information Officer:
The Attorney General appointed the Assistant Attorney General for Administration to the position of CIO. The CIO also heads the Justice Management Division (JMD), as well as being the CFO. The Attorney General believes that the linkage between the roles of CFO and CIO is critical because of the size of the department and the diversity of its mission, as well as the clear legislated linkages between the budget process, strategic planning and performance management, and IT management. The department believes that the CIO's role as CFO and control of the broad resources of JMD have created a more effective CIO and have resulted in better management of DOJ IT resources and expenditures than if two people held the positions. The Attorney General requests frequent briefings from the CIO and bureau heads on how the department is improving operations using IT. However, the department recognizes that annual assessment of DOJ progress on the use of IT would be a useful report for formally tracking its efforts.

The CIO is a member of two formal executive level committees: the Attorney General's Senior Staff and the Department's Information Technology Investment Board (ITIB). The CIO recommends to the Attorney General the priority and proposed funding for all IT investments. The CIO develops these recommendations by working with the heads of the bureaus and divisions as well as with the Attorney General's other senior staff. The CIO is also responsible for monitoring progress of all major IT systems in the department and reporting to the Attorney General on the status. The Attorney General makes final decisions on all major IT projects that require specified funding in the DOJ budget.

When appropriate, the CIO will direct staff either to lead or assist in the development, implementation or operation of major department systems. Results of current CIO efforts are listed in DOJ table 1 below [three of these efforts were in the DOJ division headed by the CIO]:

DOJ Table 1:CIO Major Efforts		
Component	**Effort/System**	**Result**
Department-wide	Y2K	Y2K compliance
Department-wide	Security certification and accreditation	Security certification and accreditation for all mission critical systems by the end of 2000
FBI	National Criminal Information Center (NCIC)	Implementation of corrective action
FBI	Integrated Automated Fingerprint Identification System (IAFIS)	Implementation of corrective action for acquisitions
INS	Computer Linked Application Information Management System (CLAIMS)	Implementation of corrective action
JMD	Justice Consolidated Network (JCN)	Avoid millions of dollars in component telecommunications annually
JMD	Joint Automated Booking Station (JABS)	All DOJ law enforcement agencies can exchange criminal booking information electronically
JMD	Justice Consolidated Office Network (JCON)	All litigating and management divisions have access to a common office automation system

Each DOJ component (bureau, division, or office) has a senior official assigned primary responsibility for managing IT. This person reports directly to the component head or principal deputy.

Agency benefits from capital planning and investment control processes:
In 1997, in response to CCA, the department developed an IT investment management process to institute capital planning principles and practices in the selection, management, and evaluation of IT investments in selected major information systems. The department had employed a process prior to CCA to review IT acquisitions to determine whether IT projects were well conceived and likely to succeed. The Department continues to maintain this process. Under the more rigorous IT investment management process, the CIO focuses management attention on high risk, high cost, or mission critical investments. Since 1997, 26 IT investment initiatives have undergone this review:

- The DOJ component responsible for the project submits a formal, structured "investment proposal" that addresses defined criteria.
- The CIO convenes a panel of mid-level managers representing various components and selected to bring a balance or programmatic and technical expertise to the assessment of the project investment proposals.
- The "peer review" panel evaluates the proposal, provides feedback to the submitting component, and formulates a recommendation to the CIO.
- Relying on "peer review" input, the CIO raises key issues to an executive IT Investment Board chaired by the Deputy Attorney General and composed of component heads from the department's largest organizations.

In evaluating major IT proposals, DOJ assesses cost, risk, and ROI through a systematic assessment of eight investment areas:

1. Capital planning;
2. Benefits and costs;
3. Architecture compliance;
4. System security;
5. Risk management;
6. Project management;
7. Performance measurement; and
8. Acquisition methodology.

DOJ identified the following areas of future effort:

- Institutionalize the systematic evaluation of IT investments for performance;
- Develop a standard means of quantifying ROI;
- Formalize annual assessment of how its IT is improving the operations of the department;
- CIO mandate for each DOJ component to put in place a formal set of processes for evaluation of IT investment proposals and monitoring ongoing projects (the INS and FBI have already begun to do so)

Department confidence in the quality of the data varies because projects were at different stages of development life cycle when under review; ROI data is a weak point in general for the department.

Managing Information technology for overall performance and results:
The department's strategic information resources management (IRM) plan is not current but major IT projects are correlated to the core functions identified in the DOJ Strategic Plan prepared in accord with GPRA. The CIO intends to develop detailed plans for tying DOJ IT investments to core mission functions as part of the department's planned modifications to the overall IT investment program. However, in the meantime, DOJ lists making "effective use of information technology" as a strategic goal under the "Management" core function in the DOJ Strategic Plan. The department measures progress on this goal by assessing improvements in capital planning, use of architecture and infrastructure, security, and Y2K compliance. The department has not prepared annual reports on progress in achieving goals for improving the operations of the department through the use of IT. However, the department has produced an Annual Accountability report for the past two years in which the department describes progress toward goals laid out in the strategic plan.

The CIO and CIO senior staff conduct quarterly reviews with the larger components to monitor the progress of major IT initiatives. Component managers provide progress reports on cost, schedule, and status on technical or management issues. The CIO also uses "Red Teams" composed of independent experts in various facets of IT management to conduct 30 reviews of certain high profile programs. The "Red Teams" interview stakeholders,

apply their personal experience to the evaluation, and make recommendations to the CIO on project management or technical issues. Although the department believes its oversight practices have been effective, the department also recognizes the need for a formal documented system of milestones.

Impact on business processes:
DOJ has identified strategic goals that include reengineering of core operations using IT and DOJ's IT investment review processes emphasize the need to link IT projects to core missions and strategic goals. IT investment decisions are based on the extent to which the investment supports the core mission of the department and these decisions are integrated into the formal budget process. Each IT investment is evaluated in terms of the potential improvements it will provide in support of the core functions of the department and must include information on how work processes have been simplified or otherwise redesigned as part of the IT investment. DOJ's "Top Ten" initiatives, their expected benefits, and relation to strategic goals and re-engineering efforts are described in DOJ Table 2 below, along with the ROI method used in the evaluation of the initiative. DOJ notes that only five of its ten initiatives underwent the more rigorous IT investment evaluation process.

DOJ Table 2: "Top Ten" Initiatives

Initiative	Component	Strategic Goal /Expected Benefits	Re-engineering (when relevant)	ROI
Firebird	DEA	Dramatically improve timely access to investigative information on a standard desktop; Provide capability to search and share investigative case information; Support document management, including interfaces to legacy systems 1.1 Reduce violent crime, including organized crime and drug and gang related violence 1.2 Reduce availability and abuse of illegal drugs through traditional and innovative enforcement efforts	• Office automation infrastructure initiative. • Automates DEA's collection, dissemination, and management of investigative case records. • DEA has been able to decrease preparation time for investigative reports by 40 percent.	Qualitative assessment
Victim Notification System (VNS)	U.S. Attorneys	Will permit the department to improve its capability to provide victims of crime with timely notification of case events, to promote their participation in the criminal justice process, and to increase in data sharing between agencies reducing data entry effort and error 2.4 uphold the rights of, and improve services to America's crime victims 6.2 enhance the level of assistance provided to crime victims and witnesses in an effort to promote increased participation in the prosecution of criminals	• An initiative of the Executive Office of the United States Attorneys designed to improve data capture involving identity of victims and events which occur during the criminal justice process that require notice to victims of crime. • Currently, FBI is reviewing its work processes to standardize the capture of victim data and case events that will trigger notification.	Qualitative assessment
Casa de Web	FBI	Will provide a data warehouse of the electronic surveillance data collected by multiple legacy systems. The data will be converted into digital format, standardized, and stored centrally to facilitate data analysis and information sharing among field agents. 1.1 [see above] 1.2 [see above] 1.3 reduce espionage and terrorism	• Browser-based electronic surveillance collection management and playback system . • Will significantly increase productivity of FBI's investigative, translation, and transcription efforts, and will improve agent access to data collected by fellow agents across the country.	Qualitative assessment
Combined DNA Information System (CODIS)	FBI	**Strategic Goal /Expected Benefits** Will enable FBI to store and search many millions of DNA samples on behalf of federal, state, and local law enforcement agencies across the country. 1.1 [see above]		Qualitative assessment
Information Sharing System (eFBI)	FBI	**Strategic Goal /Expected Benefits** Will provide advanced analytical processing of investigative and intelligence information and document management to the agent in the field along with new enterprise wide database and infrastructure 1.1 [see above] 1.3 [see above] 1.4 reduce white collar crime, including public corruption and fraud		Qualitative assessment
IDENT	INS	**Strategic Goal /Expected Benefits** Biometric identification system using index finger from each hand to identify uniquely those who are detained at the border and individuals who apply for benefits 4.1 Enhance the integrity and integration of data and data systems operated by INS in order to establish fully integrated data systems supporting the enforcement and service function of the INS; enhance sharing of relevant data with other federal agencies, and supporting INS management and decision-making processes. 4.3 Secure the land border, ports of entry and coasts of the United States against illegal migration through effective use of technology and personnel focussed on enhancing the deterrence of entry and apprehending and removing those who attempt to enter illegally.		Qualitative assessment
Justice Consolidated Network (JCN)	JMD	**Strategic Goal /Expected Benefits** Will provide increased bandwidth across the department to support new technologies and, at the same time, decreased costs through consolidated and leveraged purchase of communications services. 7.4 Make effective use of information technology.		Qualitative assessment

DOJ Table 2: "Top Ten" Initiatives				
Initiative	**Component**	**Strategic Goal /Expected Benefits**	**Re-engineering (when relevant)**	**ROI**
Justice Consolidated Office Network (JCON)	JMD	Provides mission critical office automation tools in JMD, provides approximately 20% of DOJ staff with a single desktop interface, and supports email connectivity across DOJ and to external organizations. 3.1 Protect the Civil Rights of all Americans 3.2 Safeguard America's environment and natural resources 3.3 Promote competition in the U.S. economy through enforcement of, improvements to, and education about antitrust laws and principles 3.4 Promote the fair, correct, and uniform enforcement of the federal tax laws and the collection of tax debts. 7.4 [see above]	Provides modern office automation platform for litigating and management components within DOJ. JCON has dramatically increased range of electronic tools available to DOJ attorneys and managers. Several divisions have begun using these tools to integrate existing data and eliminate paper records better.	Qualitative assessment
Justice Wireless Network (JWN)	JMD	Will provide secure, accessible wireless services to law enforcement personnel across component organizations through centralized management and funding of land mobile radio systems and commercial services. 7.4 [see above]	Consolidate wireless communications within DOJ and its component organizations. Will provide centralized management control, interoperability among components, enhanced protection of information, and maximum use of commercial services	Qualitative assessment
Integrated Surveillance Information System (ISIS)	INS	Integrates sensor, camera, and Integrated Computer Aided Detection (ICAD) capabilities to provide border patrol agents with the capability to monitor the U.S. border continuously in all weather conditions, detect attempted border intrusion as they occur, and deploy border patrol agents who are prepared to take appropriate action. 4.3 [see above]	Implemented to collect data from component surveillance systems. Data is used to provide control responses, information distribution, mapping, and query results to support Border Patrol operations on southwest border.	Qualitative assessment

Agency acquisition of information technology:

The Department has made progress in implementing modular contracting approaches for its major IT investments. The department has stipulated that modular contracting should be used wherever possible. The contracting approach is evaluated for all IT project proposals and the need to consider a modular contracting approach is stressed through the IT investment proposal guidance as well as informally by senior managers of the JMD, in particular the Procurement Executive and the Deputy CIO. The department has stressed to the components that project contracts or task orders should be broken up consistent with the systems development cycle.

DEPARTMENT/AGENCY: LABOR

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Patricia Lattimore	8/96-current	47

Current CIO: Patricia Lattimore
Official Title: Assistant Secretary for Administration and Management, Chief Information Officer
Dates of Service: August 1996 -- current

Department/Component CIO Structure
Centralized
(However, DOL agencies have designated lead Information Resources Management (IRM) managers who report either to the agency head or to a level below the agency head level.)

Effective use of government Chief Information Officer:
Labor's CIO is a member of department's Management Review Council (MRC). The MRC is chaired by Deputy Secretary with the CIO positioned as a member equivalent to the heads of major departmental agencies. The MRC makes the final IT investment selection decision for major projects.

In addition, the CIO directly manages initiatives affecting systems used by all or most DOL agencies and is responsible for checking initiatives against cross-cutting exceptions. These initiatives are currently comprise about 18 percent of Labor's total IT budget. However, while the CIO (and the TRB) share many responsibilities, the DOL Management Review Council alone conducts cross-cutting strategic portfolio analysis. This type of review requires executive-level, hands-on attention and cannot be delegated.

The CIO has also led efforts to re-engineer IT strategic planning process to ensure closer alignment of information technologies to support department's mission, goals, and objectives.

Agency benefits from capital planning and investment control processes:

Capital Planning Structure and the Decision-Making Process

In November 1998, the DOL's Management Review Council approved the establishment of a two-tiered Information Technology (IT) Investment Review Board structure to conduct departmental IT investment management. The new structure replaces the Capital Planning and Investment Review Board (CPIB) with the Management Review Council and a Technical Review Board (TRB). The two-tiered Investment Review Board structure is designed to ensure compliance with CCA and the department's enhanced IT capital planning process.

The purpose of the TRB is to address the technical merits of major IT investments, and makes recommendations to the department's Management Review Council (MRC) on the appropriate disposition of above-threshold investments. The TRB bases these recommendations on standardized investment review criteria, with a focus on the technical feasibility of the investments. As such, the TRB serves (1) as the department's first-tier Investment Review Board for above-threshold IT investments and (2) as a forum to identify and resolve department-wide IT-related issues. To make these recommendations, the TRB relies on the IT Architecture Sub-Committee and the IT Capital Planning Sub-Committee.

In general, if an initiative is at the Technical Review Board (TRB)/MRC level, the OCIO--along with the project manager--is responsible for (1) providing initiative information to the TRB and (2) coordinating agency presentations to the TRB/MRC. If an initiative is at the CIO level, the OCIO is responsible for performing a due diligence review process and deciding the selection status of the initiative.

Since the MRC makes the final IT investment selection decision for major projects, the council may divide the portfolio into mission support segments and evaluate the elements of each against similar strategic performance measures. The department notes that evaluating portfolios by mission support factors increases the level of due

diligence applied to the investment mix, and presents substantial opportunity for the Management Review Council to add value to the IT investment review process. This type of review is designed to facilitate the Management Review Council's ability to apply its expertise across the department, by focussing on the varied missions of the DOL enterprise and by pursuing an optimum return on IT investment. The TRB also serves as a forum to conduct departmental IT strategic planning, IT architecture management, and IT capital planning process improvements.

In its response to the CCA survey, the department emphasized the role of senior management in the capital planning and investment control process. Much of this information, regarding the respective roles of the CIO, the Management Review Council and the Technical Review Board (TRB) are captured below in DOL Table 1.

DOL Table 1: IT Investment Management Review Structure

	CIO	Management Review Council	Technical Review Board
Membership	CIO	Chair: • Deputy Secretary Membership: • CIO Agency Heads	Chair: • Deputy CIO Membership: • IRM Managers; and • Agency Administrative Officers
Role	• Senior IT advisor to Management Review Council and Secretary • Develops IT strategic Guidance • Presents proposed IT portfolios • Provides final portfolio endorsements • Presents and recommends control and evaluate phase decisions	• Approves strategic guidance • Approves and monitors IT portfolios • Ensures IT's alignment with department mission and goals	• Conducts IT investment analysis • Recommends IT portfolios • Manages IT architecture and standards programs • Establishes forums for increased collaboration and inter-agency communication
Responsibilities	• Provide advice and other assistance to the Secretary of Labor and Management Review Council to ensure that IT is acquired and information resources are managed for the department consistent with CCA and the department's IT capital planning process; • Endorse and present TRB and CIO recommendations to the Management Review Council for final disposition (including opposing views); • Conduct IT strategic planning an d develop, maintain, and facilitate implementation of a sound and integrated IT architecture; • Promote the effective and efficient design and operation of all major information management processes for the Department; • Coordinate with the CFO for review of systems that impact the department's financial management programs or responsibilities; • Provide IT investment management staff support to the TRB and Management Council, including distribution of read-ahead materials, requested reports, and position papers as required.	Investment Level Responsibilities: • Acting on the recommendations developed by the Department's TRB; • Adjudicating divergent positions on TRB and CIO recommendations; • Verifying that the decisions reached by the council are implemented effectively and efficiently Portfolio Level (Strategic) Responsibilities: • Establishing IT strategic guidance; • Conducting strategic analysis of the department's IT investment portfolio; • Determine what R&D investments the department should make.	• Review above threshold IT initiatives to ensure risks and returns have been adequately and accurately assessed; • Develop and provide recommendations to the Management Review Council on the disposition of above threshold IT initiatives, including the selection of new initiatives or continuation of existing IT initiatives; • Develop and provide recommendations to the CIO and Management Review Council on IT strategic planning, department IT architecture management, and IT capital planning process improvements; • Evaluate the recommendations presented by the TRB standing sub-committees (IT Capital Planning and IT Architecture) and temporary working groups; • Address common IT issues and recommend the resolution of these issues to the CIO and/or Management Council.
Screening Factors		• Is the overall portfolio aligned with strategic plans and business continuity objectives? • Can the current IT infrastructure (including staff capabilities) support this portfolio? • Are there opportunities for elimination or consolidation of investments with the portfolio? • Does this portfolio support the strategic direction for IT as set forth by the Management Council?	

DOL Data Capture: Working in I-TIPS

The CIO has implemented Phase I of an enhanced IT Capital Planning and Investment Management Program, which has enabled the department to identify those new FY 2001 initiatives that were directly related to the needs identified in the FY 2000-FY 2004 Strategic Plan. Phase I is considered essential to improving the overall condition

of Labor's IT environment. Approximately sixty percent ($200M for FY2001) of the department's IT budget has been assessed during Phase I. Currently, the department is in the process of implementing Phase II of its Capital Investment Management Program, which will focus on a data capture strategy intended to manage the department's entire IT budget in I-TIPS. The IT budget for FY2001 and FY2002 will be fully captured in I-TIPS by November 2000.

Managing Information technology for overall performance and results:
DOL has incorporated two mechanisms for communicating IT initiative progress to senior management. First, using I-TIPS, senior managers can access major IT investments to view current status and progress. Second, MRC's responsibilities now include approval and control of major IT investments. This requires regular reports to the MRC on IT investment and portfolio performance. The MRC can make control decisions resulting from these reviews regarding the need to continue, modify approach, or to stop major projects.

Once a Labor component agency receives final selection approval, a control-level review is established that requires the IT initiative owner to report back to the TRB on the initiative's progress. These reviews vary depending on the size, scope, cost, and risk of the IT project. Higher risk projects are reviewed more frequently. Review schedules may be based on the completion of a major milestone or phase, regular time interval, or any other criteria that the TRB establishes. Major projects experiencing greater than ten percent variance on cost, schedule, or technical performance are required by the department's IT capital planning process to be reported to the TRB. The OCIO conducts independent in-progress reviews of selected systems to provide independent verification and validation that IT projects are operating within acceptable cost, schedule and technical performance parameters.

DOL Table 2: Annual IT Investment Responsibility Timeline Management Review Council				
October-November	**December-January**	**February-April**	**May-July**	**August-September**
Approve lessons learned from recently completed IT capital planning **Select Phase** process : • Receive CIO and TRB report on process strengths and weakness • Endorse recommendations for specific process revisions • Communicate recommendations for process improvement directly to CIO Receive report on **Control Phase** analysis: • Review TRB/CIO report to examine planned vs. actual cost, schedule, and performance (business benefit delivery) data for designated investments currently in implementation; • Determine disposition: continue, modify, accelerate, or terminate project. Endorse **Evaluate Phase** PIRs on TRB recommended/MRC designated IT investments.: • Determine scope of PIR to be performed; • Determine completion expectations and report-out timeframe; • Designate accountability chain.	Approve changes to **Select Phase** process: • Decisions made following adoption of recently completed lessons learned process; • Revisions to be implemented by the agencies, OCIO, TRB as required; Set strategic IT direction (Departmental Guidance): • IT Strategic Planning Guidance published for departmental distribution; • Guidance linked directly to DOL strategic plan; • Reflects findings and recommendations of TRB and MRC; • Structured to enable DOL managers to align their IT investments and planning programs with overall goals and objectives of Secretary and MRC. Review completed PIRs • Review major findings and lessons learned; • For operational investments, use PIR information to determine action options: continue, replace, eliminate, consolidate; • Incorporate findings into revisions for **Select Phase** process as appropriate.	Approve budget Year portfolio review procedures: • Ensure review procedures consistent with Strategic Planning guidance; • Determine near term review priorities; • Select portfolio focus or emphasis areas. Begin validation current year portfolio: • Endorse spending year portfolio revisions; • Validation should include verification that earlier selection and control decisions have been implemented as directed by MRC; • Endorsements must be timed to enable appropriate action by DOL procurement office.	Finalize approval of portfolio review procedures: • Designate reporting formats for TRB and CIO, including timeframes for MRC presentation • Agree on acceptance criteria. Complete current year portfolio validations: • Direct agency, TRB, and CIO revisions; • Capture lessons learned for **Select, Control, Evaluate** process modification. Begin budget year portfolio approvals: • Confirm final selections of above threshold investments by analyzing TRB recommendations and reports; • MRC decisions should be based on member analysis after hearing positions of TRB (majority and minority opinions), CIO (independent of TRB where appropriate), and sponsoring Agencies (in those cases where Agency position differs from TRB or CIO).	Analyze and complete approvals of budget year portfolios through conduct of strategic level analysis, using the following assumptions: • Individual investments and portfolios that have been forwarded by the TRB and CIO are acknowledged as having been scrutinized under a rigorous technical and business alignment review process. • MRC members, therefore, focus their analysis by looking across the spectrum of IT investments to ensure that the overall mix is consistent with the highest goals and expectations of the department's senior leadership. • The executive-level portfolio review expected by CCA address the assessment of the aggregate impact of IT investment, Endorse initiation of **Control Phase** activities on designated investments including the establishment of: • Milestone review schedules. • Cost, schedule, and performance variance tolerances; • Reporting formats and accountability chains.

Impact on business processes:

In 1996, Labor initiated several activities to improve its ability to identify and measure the role of IT in improved mission performance, including:

- re-engineering the IT strategic planning process,
- improving integration with the department's budget process, and
- establishing and implementing Phase I of its IT Capital Planning and Investment Management Program and IT Architecture programs.

These efforts resulted in the establishment of the following IT strategic focus areas:

1) service delivery,
2) IT architecture management, and
3) internal management.

Labor's top ten initiatives are mapped to mission support in DOL Table 3 below, including ROI information. For these initiatives, Work Process Reengineering, Business Case Analysis, and their Expected Benefits are mapped below in DOL Table 4.

DOL Table 3: Mapping Top Ten IT Initiatives—ROI, Mission Support, Modular Contracting		
Initiative	**ROI**	**Mission Support**
IT Architecture Implementation and Web Services	Umbrella project consisting of over 30 separate projects, therefore no one ROI was calculated for the initiative	Directly supports wide range of core mission activities as expressed in DOL Strategic Plan and IT Strategic Plan
Davis-Bacon and Related Acts (DBRA) Reengineering Effort	Life Cycle costs justified by measuring tangible benefits of converting from a predominantly manual process to automated process. [Quantified measures detailed in Appendix III, Agency Response.]	Directly supports Wage and Hour's mission "to achieve and promote compliance with labor standards through enforcement, administrative, and educational programs to protect and enhance the welfare of the nation's workers."
OWCP Automated System for Imaging Services (OASIS)	Full life-cycle costs from FY99 and FY05 projected at $30.8M. Total life-cycle return projected at $31.2M in cost avoidance. Additional FECA savings may exceed $2.7M annually. [Detail provided in Appendix III, Agency Response.]	Directly supports wide range of core mission activities as expressed in DOL Strategic Plan and IT Strategic Plan.
IT Security	Umbrella project consisting of over 10 separate projects, therefore no one ROI was calculated for the initiative	Directly supports wide range of core mission activities as expressed in the DOL Strategic Plan, IT Strategic Plan, and Critical Infrastructure Protection Plan by increasing the confidentiality, integrity and availability of IT systems critical to DOL mission.
Office Automation Implementation	Umbrella project consisting of over 7 separate projects, therefore no one ROI was calculated for the initiative	Directly supports wide range of core mission activities as expressed in the DOL Strategic Plan and the DOL IT Strategic Plan. Supports the core internal management needs of all agencies in the department.
DOLARS$ Modernization Initiative	Returns will include: • better serving internal customers through more robust user interfaces and data access; • providing better accountability information in order to comply with GPRA and managerial cost accountability standards; • greater compliance with new JFMIP requirements; and • reducing general administrative activities of financial personnel throughout the department.	Supports wide range of core mission activities as expressed in the DOL Strategic Plan and the DOL IT Strategic Plan.
The Employee Retirement Income Security Act (of 1974) Filing Acceptance System (EFAST)	Projected life cycle (7years) ROI: $70,800,000. [Detail provided in Appendix III, Agency Response.]	Directly supports one of three key missions critical to a *Secure Workforce* as expressed in the DOL Strategic Plan.
People Power 2000 Project	Life cycle costs justified by measuring tangible benefits of converting from a Y2K non-compliant personnel system to a Y2K compliant one, realize the data integrity benefits of integrating a new payroll system with the new personnel system, and moving the processing of core actions out through the use of web technology to managers and employees, thus eliminating the predominant paper administrative process. [Detail provided in Appendix III, Agency Response.]	The personnel and payroll system are core administrative functions of the OASAM and OCFO in the department. The legacy personnel system, PERMIS, was Y2K non-compliant, and support from the Air Force was going to be lost. Additionally, the legacy payroll system, IPS, is aged and requires a complicated interface with whatever personnel system is in place.
OSHA Telecommunications Upgrade	ROI will be calculated by 9/2000. A critical component of OSHA's information technology infrastructure is the telecommunications system and its ability to deliver operational requirements. The required content traffic for front line workers in federal and state offices and consultation projects has resulted in activity that is straining the current telecommunications line capacity. A recent traffic study of the agency's telecommunications system indicates that several sites are currently operating at 99 percent capacity. Therefore, OSHA has a major risk of system failure. More detailed analyses are scheduled to be completed by August 14, 2000.	
Support for ESA's Enhanced ADP Systems	ROI will be calculated by 9/2000. This initiative is designed to ensure effective and efficient automated data processing, network design, system design, and integration services to ESA's IT infrastructure. The continuing support for managing, operating, and maintaining ESA's IT resources effectively relies on obtaining the funding requested. Failure to do so will severely impact ESA's IT operations. More detailed risk analyses are scheduled to be completed by August 14, 2000.	

DOL Table 4: Mapping Top Ten IT Initiatives—Work Process Reengineering, Business Case Analysis, Expected Benefits			
Initiative	**Work Process Reengineering**	**Business Case Analysis**	**Expected Benefits**
IT Architecture Implementation and Web Services	The IT architecture and web services are components of work process reengineering efforts to integrate and simplify information exchanges of work products. The DOL IT Capital Investment Management process requires reengineering of work processes.	The business case analysis to include costs and benefits was reviewed as a part of the decision making process.	OASAM's PeoplePower, Departmental IT Security Cross-cut, Department Office Automation Cross-cut, and Department IT Architecture Cross-cut] The information technology goals in the department's Annual Performance Plans for FY2000 and 2001 are dependent on these four initiatives which will strengthen DOL's operational efficiency and effectiveness and improve service to our customers. One of the department's information technology goals for both FY2000 and FY2001 is to, *"Increase integration of DOL IT systems and extend access to automated services."* As part of the GPRA planning process, the department has prepared a five year strategy to develop and implement a DOL IT architecture plan for the department in accordance with the directives of CCA. DOL's IT security initiatives are an integral part of the IT architecture plan, and the plan will also encompass the office automation cross-cut initiative. Following the preparation and adoption of the architecture plan during FY2000, the department will begin the implementation of a common IT infrastructure as provided in the plan. The common office automation suite of software will be the first of the architecture to be implemented, and the department's IT performance goal indicators for this phase to be completed during FY2001.
Davis-Bacon and Related Acts (DBRA) Reengineering Effort	The intent of this initiative is to reengineer/reinvent the wage survey/determination process to produce more timely and accurate wage determination through the use of new technology and procedures and/or survey data developed by the Bureau of Labor Statistics.	The Secretary's Management Review Council reviewed and approved this DOL initiative. The business case to include costs and benefits was reviewed as a part of the decision making process.	ESA is currently assessing two approaches to improving the validity of the agency's determinations of prevailing wages under the Davis-Bacon Act. The information technology investments supporting the reengineering effort are critical to the accomplishment of ESA's short and longer-term objectives for this program, including the following FY200 performance goal: *"Each area of the country will be surveyed for all four types of construction at least every three years, and the resulting wage determinations validly represent locally prevailing wages/benefits. In FY2000, implement scanning technology and develop knowledge management technology; and complete analysis of BLS data and decide whether a reengineering or reinvention approach will be pursued in FY2001."*
OWCP Automated System for Imaging Services (OASIS)	The selected IT architecture will enable the simplification of workers' compensation case processing and information storage and retrieval.	The Secretary's Management Review Council reviewed and approved this DOL initiative. The business case to include costs and benefits was reviewed as a part of the decision making process.	The department's FY2000 Annual Performance Plan identifies the automated imaging hardware and software as key strategy supporting one of ESA's performance goals, i.e., *"Return federal employees to work following an injury as appropriate as indicated by a 9% reduction from the baseline in the average number of production days lost due to disability. Reduce number of lost production days to 173 days in Quality Case Management (QCM) cases only and establish baseline for all cases."* Scanning the information received from the paper claim forms, physician reports and other documents into the ESA's automated systems will enable the data to be available more rapidly to claims examiners and other staff responsible for facilitating return to work.

DOL Table 4: Mapping Top Ten IT Initiatives—Work Process Reengineering, Business Case Analysis, Expected Benefits			
Initiative	**Work Process Reengineering**	**Business Case Analysis**	**Expected Benefits**
IT Security	It systems security is being reengineered as the business systems they support are integrated and expanded to satisfy new regulatory and customer requirements. The DOL IT Capital Investment Management process includes reengineering or underlying work processes as a required step for all IT initiatives.	Increased IT security measures are mandated by PDD63, which builds on OMB Circular A-130. The Secretary's Management Review Council reviewed and approved this approach to the mandate. The business case, to include costs and intangible benefits, was reviewed as a part of the decision making process.	[See IT Architecture Implementation and Web Services above.]
Office Automation Implementation	The office automation initiative is a major product of work process reengineering efforts in the department. It represents a significant improvement in collaborative planning and information exchange. Expected benefits include reduced business and IT costs, improved employee productivity, the ability to achieve economics of scale through resource sharing, and improved service to the American public. The DOL IT Capital Investment Management process includes reengineering or underlying work processes as a required step for all IT initiatives.	The Secretary's Management Review Council reviewed and approved this DOL initiative. The business case to include costs and benefits was reviewed as a part of the decision making process.	[See IT Architecture Implementation and Web Services above.]
DOLARS$ Modernization Initiative	The core accounting system changes will ultimately decrease administrative workload, i.e., will allow more time for analysis rather than for data input and oversight. This will result in greater efficiency and cost savings.	The return on this initiative will include: better serving internal customers through more robust user interfaces and data access; providing better accountability information in order to comply with GPRA and managerial cost accounting standards; greater compliance with new JFMIP requirements; and reducing general administrative activities of financial personnel throughout the department.	The department has established the following two performance goals in the financial management area for FY2001: *The Majority of DOL financial systems meet the standards set in the Federal Financial Management Improvement Act (FFMIA) and the Government Management Reform Act (GMRA).* *DOL meets all new accounting standards issued by the Federal Accounting Systems Advisory Board (FASB) including the Managerial Cost Accounting Standard.* The efforts to modernize DOL's Central Accounting System (DOLARS) will continue to ensure ongoing compliance with regulations, conformance with technical standards, and the ability to provide accurate and timely financial management information to meet both internal and external demands.
The Employee Retirement Income Security Act (of 1974) Filing Acceptance System (EFAST)	The EFAST system's automated digital processing of pension plan returns and the electronic realtime dissemination of returns' records and data has been a full work process reengineering development effort. EFAST makes maximum use of COTS scanning, OCR processing and workflow hardware and software tools.	The Secretary's Management Review Council reviewed and approved this DOL initiative. The business case to include costs and benefits was reviewed as a part of the decision making process.	The EFAST initiative is critical to PWBA's[1] efforts to obtain more timely and accurate filings of financial information from plan administrators, which in turn will permit the agency to identify and correct potential violations of ERISA more rapidly. The EFAST initiative is referenced in the PWBA agency level plan for FY2001, in relationship to the agency's plan to establish a "Help Desk" to offer technical assistance to plan administrators encountering difficulties in using the electronic filing option, to improve the accuracy of financial data submissions.
People Power 2000 Project	Fundamental to the effort to bring in anew payroll and personnel system, integrate them, and move processing out through web technology to mangers and employees is the requirement to significantly reengineer work processes. In completing the first phase of the project, i.e., implementing the new personnel system, i.e., People Power, a start was made in this area.	The department's Capital Planning Board approved the project. An executive Steering Committee made up of the Administrative Officers of the nine largest agencies, and chaired by the OCFO and the Deputy of OASAM unanimously approved the decision to base this project on software developed by the PeopleSoft Corporation.	[See IT Architecture Implementation and Web Services above.] With respect to OASAM's PeoplePower initiative to enhance the department's automated personnel services, one of the FY2001 indicators targets electronically processing 80% of DOL manager-initiated personnel actions.

[1] PWBA - Pension and Welfare Benefits Administration

DOL Table 4: Mapping Top Ten IT Initiatives—Work Process Reengineering, Business Case Analysis, Expected Benefits			
Initiative	**Work Process Reengineering**	**Business Case Analysis**	**Expected Benefits**
OSHA Telecommunications Upgrade			While this initiative is not specifically referenced in OSHA's performance goals, the agency's plans do focus on improving customer service, and telecommunications systems in general play a significant role in providing effective service to the public.
Support for ESA's Enhanced ADP Systems			An additional example of the relationship of ESA's enhanced ADP systems to DOL's GPRA initiatives can be seen in the Wage and Hour programs. During the past several years, GAO has recommended that ESA collect additional information on violations involving individuals under 18 during various Wage and Hour program investigations, to support the enforcement of child labor regulations. ESA implemented its Wage and Hour Investigative Support and Reporting Database (WHISARD) System in April 1999, and this new system provides for the collection of the information recommended by GAO. Additional refinements are continuing to enhance the programmatic value of this system. Two of ESA's financial management systems, the Wage and Hour Monetary Penalties System and the Wage and Hour Backwage Collection and Disbursement System, do not currently meet the requirements of the Federal Financial Management Improvement Act. Our financial management performance goal provides for these systems to be in compliance by the end of FY2000.

In FY1999, the department conducted an intensive effort to reengineer its IT strategic planning process, culminating in the development of the FY 2000 – FY 2004 IT Strategic Plan. The planning process was designed to ensure that IT supports and enables the missions of the department. Moreover, before being approved, IT initiative owners must verify that work processes have been reengineered.

Agency acquisition of information technology:
Labor requires that a "Raines' Rules" analysis be done on initiatives exceeding $100,000. Initiatives that meet OMB A-11 definition of major systems are assessed to ensure modular contracting is implemented where appropriate. The department provided information on its modular contracting practices for each of its Top Ten initiatives. This information is provided below, in DOL Table 5.

DOL Table 5: Agency Acquisition of Information Technology	
Initiative	**Modular Contracting**
IT Architecture Implementation and Web Services	Decentralized (segmented) procurement accomplished through several agency-managed projects and contracts. Integrated project team reporting to TRB provides program oversight.
Davis-Bacon and Related Acts (DBRA) Reengineering Effort	Multidisciplinary team consisting of program, IT, and budget representatives assists the program manager. This initiative was implemented using a phased approach with identifiable process improvements that solve a specific process problem. A modeling system is used to simulate and evaluate proposed process changes.
OWCP Automated System for Imaging Services (OASIS)	Task orders will be implemented for each phase of the project, to provide the appropriate technical resources and define the phase deliverables. Project will be managed in discrete chunks throughout the life-cycle, and without obligation to continue with a particular contract vehicle.
IT Security	A decentralized (segmented) procurement accomplished through several agency-managed projects and contracts. An Integrated Project Team (IPT) reporting to the TRB provides program oversight.
Office Automation Implementation	A decentralized (segmented) procurement accomplished through several agency-managed projects and contracts. An Integrated Project Team (IPT) reporting to the TRB provides program oversight.
DOLARS$ Modernization Initiative	Implementation includes both near term and longer term enhancements. Specific short-term actions have been proposed, with subsequent long-term requirements phased in over a 3 to 5 year period, thus allowing the OCFO to spread out funding requirements and defer any major system acquisition costs.
The Employee Retirement Income Security Act (of 1974) Filing Acceptance System (EFAST)	This has been a competitively contracted dual source development effort with 5 one-year pre-priced production options. An IPT with a single responsible Program Manager reports to the TRB, which provides oversight.
People Power 2000 Project	A multidisciplinary team consisting of program, information technology, and budget representatives assists the program manager. This initiative was implemented using a phased approach with identifiable process improvements that solve a specific process problem.
OSHA Telecommunications Upgrade	[No information provided.]
Support for ESA's Enhanced ADP Systems	[No information provided.]

DEPARTMENT/AGENCY: STATE

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Harry Geisel (acting)	2/96-3/96	1
Eliza McClenahan	3/96-11/97	20
Glen Johnson (acting)	11/97-5/97	6
Fernando Burbano	5/98-current	26

Current CIO: Fernando Burbano
Official Title:
Dates of Service: May 1998 -- current

Department/Component CIO Structure
Centralized

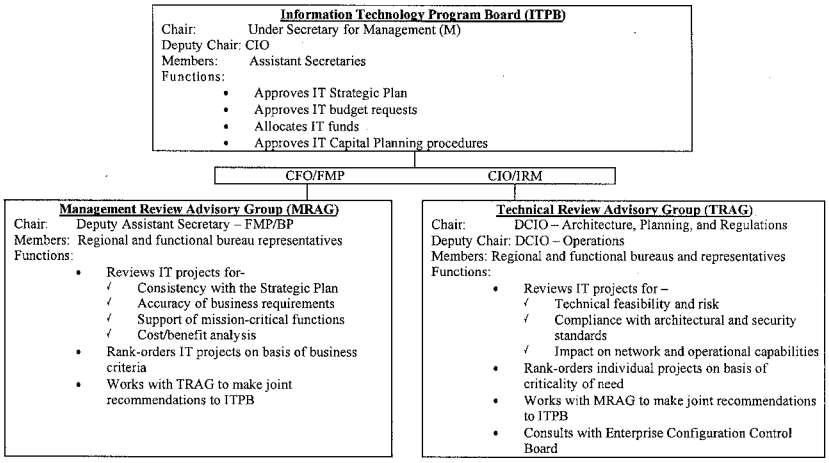
Effective use of government Chief Information Officer:
The CIO serves as the senior advisor to the Secretary of State for information technology matters, and reports directly to the Under Secretary for Management. The CIO is a member of the Information technology Program Board (ITPB), the executive-management level strategic and budget planning board for IT. The ITPB consists of Assistant Secretaries and is chaired by the Undersecretary for Management. The CIO serves as Deputy Chair and is a full voting, permanent member of the board. The CIO plays a lead role in presenting the IRM Bureau's investment requirements and projects to the board, and reviewing other presentations. His organization coordinates the work of the ITPB and provides staff to support it. The CIO plays an active leadership role in setting the Department's IT vision. In addition, the CIO closed three major Federal Manager's Financial Integrity Act (FMFIA) weaknesses in 1999 that had been opened as early as 1984: The 1984 *Information Management-Contingency Planning*, the 1987 *Information Management-Mainframe Security* and the 1992 *Information Management-Modernization.*

Agency benefits from capital planning and investment control processes:
DOS established an IT Capital Investment Fund (CIF) in 1996 to determine how best to apply CIF resources to meet the department's objectives. The department has restructured this mechanism in recent months to meet the requirements of OMB Circular A-11 for IT Capital Planning. State has begun implementing its IT CPICP based on GAO "Select/Control/Evaluate" model. The "Select" function has been fully implemented for all new projects since May 18, 1999. The department has a separate appropriations account for IT capital investment, which is 100 percent controlled by the capital planning process. The selection process is based on several factors, including:

- the project's degree of alignment with and support for the IT Strategic Plan and the Department's Strategic Plan;
- the use of commercial and government developed solutions rather than proprietary solutions developed in house;
- tangible and non-tangible return on investment; and
- risk factors.

A project's sponsoring organization provides cost, risk, and ROI data as part of the project's submittal and in support of the request. State summarizes its decision making process as follows:

IT CAPITAL PLANNING PROCESS



Major projects are subject to formal and informal management and technical reviews and IV&V oversight. The department has implemented a formal life cycle management process for IT projects, Managing State Projects (MSP), adapted from other agency best practices. MSP calls for numerous reviews or control gates at each phase of the life cycle. In addition, the CIO and other senior managers arrange for independent reviews of major projects that have department-wide impact. State has been monitoring its major projects for some time through the IT Capital and Tactical Planning Process and refining the data used with each iteration. The department has consistently applied the MSO project management methodology, regular multi-level project reviews, rigorous MSP training for project managers, effective contract management, and independent assessments of major projects in terms of strategic department-wide goals and objectives as a means of mitigating risk.

Managing Information Technology for overall performance and results:

The department is currently in a transition period and as such has only a limited number of IRM initiatives in the early development or acquisition phase. The department's IT Tactical Plan and new IT Strategic Plan both emphasize performance measures for all projects. The IRM bureau has issued guidance and consulting assistance to project managers in developing output and outcome measures that ensure each project is properly focussed on a small, appropriate set of measurable results. The department has several mechanisms in place through which senior management is advised of IT project status. These include:

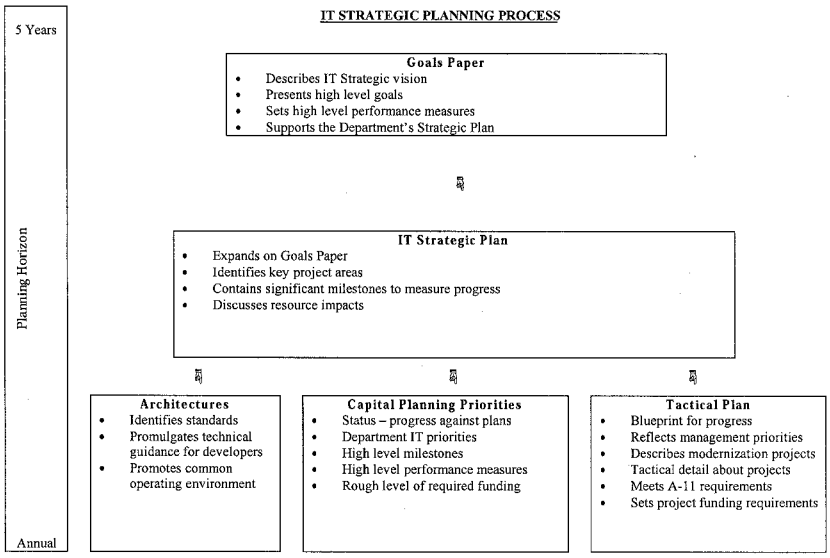
- IT tactical plan, a compendium of new and ongoing projects updated twice a year by the project managers and published by the IRM Planning Division. The document contains:
  - Cost and milestone information
  - Risk assessments
  - Goals, objectives, and performance measures aligned to the IT Strategic Plan and Architectures that can be evaluated to determine any changes in project status.
- IT Program Board (ITPB) which meets twice a year to review IT projects and major IT planning and monitoring documents, e.g., IT Strategic and Tactical Plans.
- The CIO convened meetings with program managers and other senior officials to monitor the progress of major projects on a regular basis in status meetings.
- CIO and Deputy CIOs initiate ad hoc and periodic in-process and post-implementation reviews of projects as neede.

The department reports that its confidence in the quality of the cost and risk data is high; confidence in the ROI data is lower for many projects. This is primarily because the returns are normally stated in intangible terms, which have proven very difficult to measure accurately. The department also notes that the data used to provide measures of progress are limited. However, the CIO is initiating processes to monitor and track the department's major IT investments at the milestone level more closely.

The department referred to action taken on four initiatives that had deviated from cost, schedule or performance expectations.

Impact on business processes:
The department asserts having begun reengineering its major administrative platforms and to be vigorously pursuing an IT modernization program that will produce a worldwide infrastructure to serve as the "jumping off point" for its Year 2005 vision. DOS also asserts having pursued a concerted and coordinated effort in the last two years to deploy modern office automation platforms and LANs at all overseas posts, a global network, and a central management and technology infrastructure to support the global user community. The State Department asserts that the new Information Technology Strategic Plan (ITSP) links IT requirements, goals, and objectives to departmental mission goals and strategies over a five-year planning horizon. The department further asserts its IT Strategic Plans (both 1997 and 2000 versions) call for bureaus to study and reengineer their underlying business processes before applying IT solutions. The department asserts its Goal 4, Objective 4A, of the new ITSP focuses entirely on streamlining business processes through re-engineering and subsequent applications of IT solutions.

DOS describes its IT Strategic Planning Process as follows:



Agency acquisition of information technology:
The Department asserts having made significant progress in implementing modular contracting. DOS has used modular contracting approaches to provide for incremental delivery/milestones and/or to foster competition among contractors for major IT acquisitions and notes that taking a modular approach to the entire IT acquisition lifecycle is part of it Managing State Projects methodology. However, the Department does not have criteria to determine whether a modular contract approach is appropriate or not. That determination has been delegated to the Program/Project Manager and Acquisition Specialist, following federal and departmental guidelines. The department also notes that because of the department's funding and approval cycle for such programs, it would be nearly impossible to sustain an approach that was not modular.

State Department Table 1: Top Ten Initiatives

Initiative	Risks/Risk Management Strategy/Approach	Return on Investment (ROI)	Expected/Realized Benefits to Major Operational or Program Goals	Analysis Efforts and Revisions Made to DOS Related Processes	Projected Full Life Cycle Cost
A Logical Modernization Approach (ALMA)	Without a sustained infusion of funds for its worldwide ALMA system DOS will not be able to: • Maintain open-architecture systems on a worldwide basis • Replace obsolete desktop and servers • Upgrade desktop software and operating system software	• ALMA was established to maintain modern unclassified infrastructure at overseas posts. • Lowers costs and risk s by enabling IRM to provide improved and integrated services in systems and network management, user and technical support, and security. • Enables DOS to access, produce, and transmit information required to sustain Public Diplomacy in a timely and reliable manner • Embassies, Consulates and Posts will be able to accomplish interagency operability. • Upgraded servers ensure DOS's standard of security and operations are met	• Enables DOS to meet Diplomatic Readiness/Information Resources (DR/IR) goals for unclassified data processing at Posts • Maintain standards-based ALMA platforms through rolling technical refreshes • Maintain Open Net connectivity and adequate circuits at all locations department-wide • Access new technologies such as internet, video teleconferencing and distance learning	• Conduct aggressive Desktop, Server, and Software upgrades and replacement focusing on common and integrated systems • Conduct commonality analysis for integration of Public Diplomacy within the ALMA systems and as antecedent preparation for proposed interagency operability platform • Provide uniform IT backbone configuration for New Office Buildings and other Foreign Building Operations	$120,000,000
Classified LAN Connectivity Program	• Continual funding limitations and mid-year funding cycles restrict the program's ability to reach performance goals [Approach provided] • A tight and qualified technical labor market and a DOS TS clearance process that requires 6-9 months accentuates concern over the program's capacity to estimate and meet accurate delivery schedules [Approach provided] • Lack of sufficient bandwidth at posts raises risk that posts cannot be implemented and DOD SIPRNET access cannot be accommodated [Approach provided]	Classified Connectivity Program executes upon the mission and classified business requirements by providing: • Classified e-mail connectivity, which is a basic and fundamental requirement that permits the department to conduct classified business internal and to some extent externally with other agencies through SIPRNET access • Reduction in maintenance and shipping costs • Classified Connectivity introduces a common unclassified and classified configuration and network architecture to overseas environments and strives to share unclassified routing to reduce costs • Reduction of training costs as both unclassified and classified systems employ similar methodologies • Replacement for Banyan classified systems at 82 posts	• Enhances ability to communicate classified information across DOS, overseas and with other agencies • Enhances diplomatic readiness – ability to conduct and facilitate international relations • Provides connectivity highway for access to DISA Secret Internet Protocol Router Network (SIPRNET) • Provides connectivity and capabilities to access classified Web sites for "G" information, Emergency Action Plans, and interagency contacts	• Classified Connectivity program introduces re-engineered business application for worldwide telegram processing that runs on an open architecture such as Microsoft NT • Re-engineered business application provides robust archive that allows customer to archive (limited only by storage hardware) and retrieve information through a search engine • Expanded scope of program to bring classified capabilities to a greater number of overseas posts with a focus on Banyan replacements • Standardized network templates that align with unclassified systems and to the extent possible share a common routing architecture • Provides approved configuration for robust dial-up services for posts otherwise not able to get bandwidth	$200,810,000

State Department Table 1: Top Ten Initiatives

Initiative	Risks/Risk Management Strategy/Approach	Return on Investment (ROI)	Expected/Realized Benefits to Major Operational or Program Goals	Analysis Efforts and Revisions Made to DOS Related Processes	Projected Full Life Cycle Cost
Consular Support and Visa Applications	• Dependent on worldwide ALMA installation schedule and provision of adequate circuit capacities through DTS-PO or other network service providers • Unknown and unanticipated contract award and performance problems or procurement-related issues • Hardware failure • Internal malfeasance • External system compromise Steps taken to reduce risk: • Program is subject to continuous monitoring and re-evaluation. Close co-ordination with Posts minimizes risk of unknown and unanticipated performance problems. • Program incorporates three-year hardware refresh cycle, spare parts on site, as well as 24-hour-a-day Support Desk assistance and travel-ready support teams • Consular applications specifically address possibility of internal malfeasance, incorporating password security, audit logs and remote data storage. • Consular systems are linked to Open Net system and comply with DS requirements to prevent external system compromise.	• Correction of Y2K system problems and replacement of older, unsupported systems, monitor progress against plans for major installation dates • Enhances consular processing capabilities; timely, worldwide installation of enhanced platform to support consular operations enables effective introduction of new technologies to support consular processes • Enhanced U.S. border security; Customs, Immigration and Naturalization and other services have rapid access to accurate data on foreign visitors	Consular support applications and the CA Corporate Database meet CA and DOS strategic goals to: • Improve effectiveness and efficiency of consular programs • Achieve greater economies from the use of IT resources. • Support strategic goals for American citizens traveling abroad • Ensure U.S. security by supporting legal migration • Provide improved diplomatic readiness with limited resources, by providing critical information systems • Assist efforts to combat international crime, illegal drugs, and international terrorism	Standard CSD practices, including the use of Managing State Projects (MSP) methodology, MS Project and clear performance-based metrics, are being used to track the status of this project	$447,300,000
Consular Lookout and Support System	• Dependent on the worldwide ALMA installation schedule and provision of adequate circuit capacities through DTS-PO and other network service providers • Unknown and unanticipated contract award and performance problems or procurement-related issues • Hardware failure • Internal malfeasance • External system compromise Steps taken to reduce risk: • Program is subject to continuous monitoring and re-evaluation. Close co-ordination with Posts minimizes risk of unknown and unanticipated performance problems. • Technological risks are largely mitigated by use of proven solutions	• Processing performance: response time for processing name checks meets performance goals • System availability and reliability: percentage of CLASS-E is available to consular officers • More accurate visa and passport issuance: more accurate adjudication based on more complete background information • Enhanced U.S. border security: perception of senior department officials regarding border security effectiveness and CLASS contribution	CLASS-E is a key security element in the visa and passport adjudication processes. CLASS consists of two separate databases. • The primary database includes biographic information on more than 5 million aliens who have been denied a U.S. visa or who may be excludable from the United States because of their ties to international terrorism, drug trafficking, crime or other national security reasons. This section of the CLASS database is checked for every visa that is issued to determine if there may be a name match. • The second portion of the database includes biographic information on over 2 million U.S. citizens currently ineligible for a U.S. passport. This	• CLASS-E handles sensitive but unclassified information. • Controls over accessing and altering the data have been built into the system Business Processes Supported: • Support visa and passport process • Improve border security • Complies with technology architecture guidance and standards	$82,700,000

State Department Table 1: Top Ten Initiatives					
Initiative	**Risks/Risk Management Strategy/Approach**	**Return on Investment (ROI)**	**Expected/Realized Benefits to Major Operational or Program Goals**	**Analysis Efforts and Revisions Made to DOS Related Processes**	**Projected Full Life Cycle Cost**
	based on widely available and tested commercial products and phasing in technology incrementally. • Consular Applications specifically address possibility of internal malfeasance, incorporating password security, audit logs and remote data storage. • Consular systems are linked to Open Net system and comply with DS requirements to prevent external system compromise.		portion of the database is checked as part of the passport adjudication process.		
Passport Modernization Project	• General systems failure • Internal malfeasance • External system compromise Steps taken to reduce risks: • As the system is deployed and operating at two sites, the risk of failure is minimal. It has been operational at NPC for over six months. • Consular applications specifically address the possibility of internal malfeasance, incorporating password security, audit logs and remote data storage. • Consular systems are linked to OpenNet system and comply with DS requirements to prevent external system compromise.	• Installation at 2 sites, NPC and New Orleans: 50% of passport production • Installation at 6 additional sites: 75% [capacity] of passport production • Improved security of passports: new process virtually eliminates risk of photo substitution and other common forgery techniques	• Photodigitization project has developed a new passport containing a digitally printed passport photograph as well as the integration of digital imaging and printing • Goals of this process are to increase document security and replace antiquated printers	• System has been tested and approved as implemented by the Y2K Office	$71,464,000

Enterprise Network Management	• Continual funding limitations restrict the program's ability to reach performance goals [risk mitigation efforts discussed]
	• Failure to strengthen network and systems management and to establish clear authority and accountability of the IT environment will lead to unmanageable network costs and unimagined security risks [risk mitigation discussed]
	• As connectivity increases to external environments, the protection of the department's enterprise becomes more difficult. The end result is an environment far more distributed, diverse, and complex than the legacy environment of the past. [risk mitigation discussed]
	• Security risks
		• Integrated network operations & management reduces total cost of ownership
		• ENM will provide increased customer satisfaction & increased network and systems reliability at lower costs per unit of technical effort
		• Aggregate network and systems availability, reliability, and throughput; reduction in security incidents
		• Reduced total cost of ownership when compared to a decentralized management
		• The department expects ENM to improve reliability, customer response times, and troubleshooting. ENM should also help contain costs of ownership (cost-avoidance), as the IT environment in the field becomes increasingly robust and complex
		• ENM should decrease downtime and
			• Enterprise-wide software and hardware asset management should provide overall savings comparable to those realized through ALMA
			• Enterprise-wide software licensing for increased savings
				• Capacity Planning provides benefits of:
				  • Regionalization
				  • Least cost routing
				  • Internet use with security tools to provide virtual circuits where none existed before or where bandwidth was very limited
				• ENM and DTS-PO working to complete security architecture to support multi-level security across common network infrastructure.
					$104,355,000

State Department Table 1: Top Ten Initiatives					
Initiative	**Risks/Risk Management Strategy/Approach**	**Return on Investment (ROI)**	**Expected/Realized Benefits to Major Operational or Program Goals**	**Analysis Efforts and Revisions Made to DOS Related Processes**	**Projected Full Life Cycle Cost**
		increase performance of the department's network infrastructure			
Foreign Posts Telephones	• Failure of DOSTEC vendor to perform as required by the contract • Challenges in managing and overseeing worldwide deployment • Ensuring adequate quality control • Installed base of 350 overseas systems are aging and becoming obsolete at a rate faster than they are being replaced	• Current initiative on replacing PBX systems significantly lowers costs through standardization and consolidation of equipment lines and models. • DOS has supportable structure to ensure embassies and consulates have internal and external capabilities to conduct voice operations in support of stated strategic goals with a modernized infrastructure kept current with the latest standards in wire management. • Current generation of PBX systems being installed adheres to 'evergreen' concept, which ensures that while the system is continually modernized, it will fully support older generation equipment	• Ensures Diplomatic Missions overseas adhere to readiness goals for unclassified voice operations • Achieves standardized platform configuration and feature translations through replacement of obsolete miscellaneous vendor hardware • Achieves standardization of wiring infrastructure through replacement with industry standard management plans • Reduced operations costs through exploitation of International Voice Gateway (IVG) circuits in conjunction with financial oversight of long distance charges • By keeping PBX technology current, program implementing new technologies such as ISDN, video conferencing, direct-inward-dialing (DID), and E-1 Multiplex connections with Local Exchange Carriers (LEC) • Reduced maintenance costs by moving to centralized management and monitoring of PBX systems. Take advantage of improved security enhancements remotely to ensure that no unauthorized access or unauthorized programming changes occur.	Not considered an IT project around which foreign post operations should be reengineered.	$200,000,000

Integrated Logistics Management System	• Customers are geographically dispersed and commodity oriented
	Risk mitigator: Use a program management approach and MSP methodology. Involve customers in each phase of the development process to incorporate their requirements and obtain buy in.
	• Corporate culture supports compartmentalized solutions for unique requirements
	Risk mitigator: Focus on process analysis, cross bureau reengineering and integrated COTS products. Partnerships established with key bureaus.
	• Entire logistics information infrastructure needs improvement, not just updating
	Risk mitigator: Fully utilize commercial best practices available in COTS products with minimal customized changes.
	• Security concerns may inhibit open
		(Assuming an 18 month full implementation)
		
		Weighted Average Cost of Capital: 12%
		
		Breakdown of projected $15M in yearly benefits:
		Procurement cost reduction: $2,897,514
		Property management cost reduction: $5,000,000
		Distribute goods cost reduction: $3,196,088
		Warehouse cost reduction: $1,079,675
		IT cost reduction: $3,000,000
		Total Benefit Projection: $15,173,277
		
		• 15 year NPV: $22,946, 647
		• 10 year NPV: $16,386,959
		• 5 year NPV: $4,826,546
			• ILMS will improve logistics performance
			• Improvements in administrative function support all initiatives that require DOS to purchase goods/services
			• Performance goals for diplomatic readiness most closely align with benefits provided by ILMS
			• ILMS supports specific performance goals:
			  • 18-19-20: DOS modernized integrated IT for all employees
			  • 26: improve interfaces Financial Systems interfaces
			  • 27: domestic and overseas customers must receive goods/services when needed
			• ILMS provides e-commerce capability that gives overseas & domestic
				• 1996, DOS launched project to reengineer and streamline world wide logistics function
				• Logistics Management (A/LM) established in 9/97 as DAS-level organization responsible for department-wide logistics activities including all procurement, transportation, supply, warehousing and associated logistics policy functions
				• 1998, DOS develops integrated architecture to support findings of re-engineered project. Architecture:
				  • identified requirements and processes to integrate end-to-end logistics supply chain
				  • addressed system-wide security requirements
				  • created technical and application blueprint
					$69,000,000

State Department Table 1: Top Ten Initiatives					
Initiative	**Risks/Risk Management Strategy/Approach**	**Return on Investment (ROI)**	**Expected/Realized Benefits to Major Operational or Program Goals**	**Analysis Efforts and Revisions Made to DOS Related Processes**	**Projected Full Life Cycle Cost**

	communication with the commercial sector.
	Partner with the CIO and DS organizations to develop an integration architecture jointly that incorporates security requirements into each phase of the development process
		• Payback (yrs): 3.25
		• 5 year Internal Rate/Return: 42%
		• 10 year Internal Rate/Return: 58%
		• 15 year Internal Rate/Return: 59%
		Benefits Realization:
		Year 1: 10%
		Year 2: 40%
		Year 3: 90%
		Year 4: 100%
		Year 5: 100%
			customers automated requisitioning system that manages and reconciles purchase card transactions
			• Closer integration between finance and logistics systems gives DOS capacity to significantly reduce payment to vendor cycle time
			• Potential performance opportunities provided by ILMS:
			  • 90% customer satisfaction
			  • 7x24 transaction status availability
			  • 30% overall cycle time reduction
			  • implement customer service teams
			  • develop flexible workforce
			  • replace aging DPM equipment
			  • reduce cost of logistics support by 15%
			  • implement performance based management
				• identified end-to-end performance measurements and high-level data distribution requirements
				• 1999, business case developed to provide cost/benefit analysis for ILMS and validate Release Plan approach
				• 1999, additional process reengineering occurring to move current system requirements into the ILMS to-be requirements. These will be used to select COTS for ILMS.	

Integrated Personnel Management System	• Risk: Leadership commitment Classification: very high Risk mitigation strategy: Consistently demonstrate tactical value by contribution to the agency's HR performance goals. • Risk: Organization risk Classification: high Risk mitigation strategy: Increase and closely manage stakeholder communications. • Risk: Operational support Classification: high Risk mitigation strategy: Grow the HR systems operations and development staff resources to meet organizational needs. • Risk: technology complexity Classification: moderate Risk mitigation strategy: employ modular contracting techniques to permit "just-in-time" resourcing of complex technology initiatives • Risk: Availability of funds Classification: moderate Risk mitigation strategy: Demonstrate return on investment to secure future funding.	• Improves core information management systems to facilitate allocation of appropriate human resources to policy priorities while meeting diverse needs of policy makers, operational managers and employees in the U.S. and overseas • Accomplishments since inception of IPMS program consistent with mission performance goals	Personnel Bureau's current IT portfolio positions bureau to realize business process redefinition and strategic efficiencies in dedicated human resource areas over next 4 years	Personnel's IT investments over past 4 years have complimented business process re-engineering and improvement initiatives in two of its five core business areas.	$105,000,000
Financial	• Risk: Organizational capacity: major	Expected cost avoidance (per year):	• FY2002 budget and FY2003 planning	• Where differences or gaps exist	$39,222,190

State Department Table 1: Top Ten Initiatives

Initiative	Risks/Risk Management Strategy/Approach	Return on Investment (ROI)	Expected/Realized Benefits to Major Operational or Program Goals	Analysis Efforts and Revisions Made to DOS Related Processes	Projected Full Life Cycle Cost
Management Systems	risk to fulfillment of program goals Risk mitigation: continually evaluate priorities to ensure small staffs are fully engaged in meeting highest priority requirements • Risk: Budget: Compliance with FMFIA, FFMIA, GPRA and DCIA in jeopardy without additional funding Risk mitigation: continually seek new and different sources of funding to accomplish project initiatives and continually ensure scarce budgetary resources are allocated to meeting highest priority objectives. • Risk: Technical infrastructure: Full program implementation highly dependent on platform and communication capabilities at posts and bureaus Risk mitigation: work in concert with DOS IRM to share information concerning financial management system technical requirements and continually seek more efficient technical solutions	Travel management upgrade: $428,000 Web-based T&A: $639,100 Central configuration mgmt. for FSN payroll $539,200 Total projected cost savings: $1,606,300	cycle will see 100% linkage between DOS strategic goals and DOS resources presentation • By the end of FY2000, 98% of all eligible domestic payments will be made electronically and overseas 60% of FSN payroll, 98% of temporary duty, and 40% of vendor payments • By the end of FY2000, significant improvements will have been made to real property accountability in DOS' SGL and to the ability of this information to automatically support production of auditable financial statements • By the end of FY2001, similar improvements as above will have been made to personal property accountability • By the end of FY2003, DOS will have implemented a standard overseas financial management system • By the end of FY2003, achieve compliance with FFMIA	between the capabilities of JFMIP-approved COTS financial systems and the business processes at DOS, the business process is re-engineered to be compatible with the COTS product rather than customizing the software. • Business process revisions are underway in: • TDY travel management, to streamline and standardize the domestic process • Budget planning and execution, to ensure appropriate linkage between DOS' strategic goals and national interests	

DEPARTMENT/AGENCY: TRANSPORTATION

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Michael Huerta (acting)	8/96-6/98	22
Eugene K. Taylor (acting)	6/98-6/99	12
George R. Molaski	6/99-current	13

Current CIO: George R. Molaski
Official Title: Chief Information Officer
Dates of Service: 6/99-current

Department/Component CIO Structure
Decentralized

Effective use of government Chief Information Officer:
The CIO reports directly to the Secretary on a day-to-day basis as well as serving in a number of forums, including the Secretary's Management Council, the Policy Council, and the Research and Technology Coordinating Council. Through collaborative efforts with other DOT senior executives, the CIO has provided input into a variety of IT organizational efforts, including the Y2K initiative; determining specific IT strategies for the DOT Strategic Plan and performance measures for the DOT Performance Plan. He is also responsible for determining departmental as well as communications and security "flagship initiatives;" leading efforts to effect a smooth migration of departmental systems as the Transportation Computer Center closes this fiscal year; and harmonizing DOT's infrastructure investments, applications, and websites to ease communications and information sharing.

Two DOT components, Federal Aviation Administration (FAA) and the U.S. Coast Guard (USCG) each have designated CIOs. The FAA CIO reports to the Administrator; the USCG CIO reports to the USCG commandant through the USCG Chief of Staff and the USCG Vice Commandant. In the smaller DOT organizations, IT management responsibilities are typically carried out under an IT Director or equivalent who commonly reports to the Associate Administrator for Administration or equivalent. The DOT CIO is sponsoring the formation of a DOT CIO Council for the purpose of sharing IT information and coordinating IT activities in support of the "ONE DOT" concept. The CIO will chair the DOT CIO Council and the council will include as members the CIOs and IT Directors from DOT's component organizations. A "tiger team" with representatives from DOT component organizations is working to resolve remaining key issues involving the respective decision-making roles and responsibilities of the DOT senior executive council vis-à-vis those of DOT's component organizations and the unique position of FAA in light of its applicable statutory acquisition-related provisions.

It is also anticipated that the CIO will participate in a senior executive council to be led by the Deputy Secretary, which will be responsible for ensuring the department's investment portfolio is wisely and efficiently managed. The CIO is also a member of the Federal CIO Council and actively participates in industry-wide IT councils, forums and associations. The CIO is also a frequent speaker regarding transportation IT developments and e-gov and identifies current trends and technology developments within industry that can be employed advantageously within DOT.

Agency benefits from capital planning and investment control processes:
DOT is in the final stages of issuing guidance establishing a capital planning and investment control process consistent with CCA requirements and with the Capital Programming Framework established by the Deputy Secretary in July 1999. The framework is applicable to IT as well as to other capital assets. This guidance will complement the capital planning and investment processes already in place in FAA and USCG. DOT Table 1 includes the information on FAA and USCG guidance, as provided by DOT.

[DOT provided no further information on department-wide guidance due for 'imminent' implementation.]

DOT Table 1: Component Organization Capital Planning Procedures	
FAA	**Coast Guard**
FAA's Joint Resource Council (chaired by the FAA Acquisition	Using a capital planning process comparable to FAA's, the USCG

DOT Table 1: Component Organization Capital Planning Procedures	
FAA	**Coast Guard**
Executive) validates mission need, requirements, investment analysis results, ROI, cost-benefit analysis, acquisition strategy, and business process reengineering as a prerequisite to including any IT program in its budget planning process. The current FAA Acquisition Management System (AMS) process was established in April 1996 and is consistent with CCA. An FAA guideline of $150.0M total life cycle cost is the threshold for major IT acquisition programs. Some of the major FAA programs on which funds are still being spent were approved prior to AMS and also prior to CCA. The current process relies on an investment analysis team to work collaboratively to identify potential marketplace solutions to identified mission needs. Costs are generally calculated at the 80% confidence level. The early studies did not explicitly identify risks or risk mitigation plans, but used the 80% estimates to cover the risks. More recent work (e.g., WAAS 9/99) includes risk assessment as part of the investment analysis report (IAR). ROI was also established as a formal selection criterion in 1996. It should be noted that not every study prior to that addressed ROI.	reviews its programs under consideration at its IT Pre-Screening Panel (peer group screening), IT Management Board (chaired by the USCG CIO), and the Coast Guard Acquisition Review Council (chaired by the USCG Vice Commandant). It is notable that USCG has received recognition for instituting a Government Best Practice based on its early work on its Strategic Information Resources Management Plan (SIRMP) which linked capital planning and IT planning, and employed considerable ROI analysis and mission gap analysis. The Coast Guard's analysis efforts in this area are now a permanent, widespread and integrated into its strategic planning processes, which greatly facilitate business process revision and choices appropriate to IT investment.

Managing Information technology for overall performance and results:
Close scrutiny of major DOT programs by OMB and Congress necessitates that the supporting data be accurate, reliable, and up-to-date. Additionally, to comply with federal reporting requirements and to support the DOT-wide capital programming guidance to be issued imminently, a database has been developed containing departmental IT investments with a total life cycle cost exceeding $1M. This database serves as a management tool to provide information about DOT's IT investment portfolio and contains general summaries by program initiative cost, schedule, and performance measures, milestones, and results. Generally speaking, information on the progress of IT investments is reported at the departmental level through the budget process, the database, and one-on-one meetings between senior executives and/or their staffs. Supporting details are available in DOT organizations and are supplied as requested to senior management.

Regarding FAA, all major acquisitions are reviewed by FAA and OST senior management at least quarterly. FAA's Acquisition Executive (AE) and other FAA senior managers receive monthly updates on the status of cost, schedule and performance for each of FAA's major system acquisitions. Major acquisition milestones are tracked using independently verifiable methods. The FAA Administrator meets periodically with the Deputy Secretary on major IT acquisitions that are part of the Administrator's performance agreement. The milestones in the agreement are tracked in a separate database.

Departmental organizations are required to establish cost, schedule, and performance goals for major IT investments and to report annually on significant deviations to them in accordance with the Federal Acquisition Streamlining ACT (FASA) of 1994 and Public Law 104-264, the Federal Aviation Reauthorization Act of 1996. DOT organizations are responsible for identifying deviations and reporting them to management in accordance with their internal procedures. At the department level, deviations are reported as outlined above. Information on an initiative's performance are included in DOT Table 2 below.

DOT Table 2: Top Ten IT Initiatives*				
Initiative	**Investment Analysis**	**Total Projected F&E Cost Variance**	**Total Projected Schedule Variance**	**Component**
Display System Replacement (DSR)	Approved prior to AMS implementation	5% underrun	On schedule	FAA
Standard Terminal Automation Replacement System (STARS)	Approved prior to AMS implementation	-49%	-43%	FAA
Oceanic Automation Program (OAP)	Approved prior to AMS implementation, Build 1[1]	11% underrun to the initial baseline	-16% to the re-baseline	FAA
Wide Area Augmentation System (WAAS)[2]	Revision completed: 9/99 NPV $2.4B	-196%	-100%	FAA
Terminal Radar Digitize, Replacement and Establish (TREDRE)	Approved 11/97 NPV $408M	-11%	-48%	FAA
Integrated Terminal Weather System (ITWS)	Approved prior to AMS implementation	Within cost	On schedule	FAA
Operational and Supportability Implementation System (OASIS)	Approved 12/96 and revised 3/00	-43%	-78%	FAA
Air Traffic Control Beacon Interrogator Replacement (ATCBI-R)[3]	Approved 8/97 NPV $13M	Within cost	-18.82%	FAA
Initiative	**Status**			**Component**
Port and Waterways Safety Systems (PAWSS)	Program baselined in 1/97. VALDEZ system operational in 10/99. NEW ORLEANS system remote site construction completed. SAULT STE. MARIE system conducting site surveys. Program proceeding without changes to baseline occurring or expected.			USCG
National Distress and Response System Modernization (NDRSM)	Program baselined in 12/99. This reflects a decision to change acquisition strategy from single cost-plus to phased fixed-price made on 7/16/99, and was formalized in an updated Acquisition Plan approved 11/16/99. Phase I (design demo. And evaluation) RFP released 12/99.			USCG

[*DOT provided information on the cost and investment analysis information on the top ten initiatives for FAA and only top two for USCG. The difference in information provided may reflect the differences in the two components' approaches to capital planning.]

[1]Due to performance issues with the contractor, the program was descoped to stop Automatic Dependent Surveillance (ADS) development under the Raytheon contract. The program wasrebaselined by the Joint Resources Council on 9/17/98. Subsequent to thebaselining, a slip occurred to the last Operational Readiness Demonstration due to New York Center Site priorities for deployment of DSR and Host and Oceanic Computer System Replacement over Multi-Sector Oceanic Data Link.

[2]The program was rebaselined due to a number of factors including an increase in the life cycle cost baseline from 16 years to 20 years; the movement of satellite communications lease costs from O&M to F&E; a schedule extension due to budget reductions and technical difficulties, delays in acquiring new geo-stationary satellitesand , an overall restructuring of the program.

[3]Significant budget deferrals and contractor delays in completion of the first article testing have resulted in delays to the program's major milestones.

Impact on business processes:
DOT regards linkage of its investments to its strategic goals, corporate management strategies, and performance measures as a critical component of complying with GPRA. To that end, DOT requires that specific initiatives in the IT investment portfolio show how they are beneficial in the achievement of DOT's Strategic Plan goals. Moreover, DOT analyzes its missions and reviews its IT investments in terms of their contributions to those missions on an ongoing basis as part of its implementation of GPRA. DOT organizations are responsible for reengineering their processes prior to applying for IT. Moreover, all new, in-process and operational IT investments are analyzed to include consideration of whether the investment supports core/priority missions that need to be performed by the federal government. It also addresses whether there is a private sector or alternative government source that could efficiently support the function, whether work processes have been simplified or otherwise designed, etc. DOT's strategic goals and supporting initiatives are shown in DOT Table 3 below. The initiatives are essential to achieving the performance metrics established for each strategic goal contained in the DOT performance Plan. IT initiatives often contribute to successful accomplishment of multiple performance measures, and individual performance measures generally rely on multiple IT initiatives to realize intended benefits. For example, FAA IT initiatives supporting the safety goal are integral in accomplishing DOT's aviation performance measures for safety (i.e., air carrier fatal accident rate, general aviation fatal accidents, runway incursions, and reduced air traffic operational errors). FAA IT initiatives such as Display System Replacement (DSR) and the Integrated Terminal Weather System (ITWS) are the types of programs that will make significant safety contributions toward achieving the planned 6.1% reduction in fatal aviation accidents between FY 2000 and FY2001.

DOT Table 3: Strategic Goals and Supporting Top Ten IT Initiatives

Initiative	Safety	Mobility	Economic Growth and Trade	Human & Natural Environment	National Security
Display System Replacement (DSR)	X	X	X		
Standard Terminal Automation Replacement System (STARS)		X			
Oceanic Automation Program (OAP)		X	X		
Wide Area Augmentation System (WAAS)[2]	X	X	X		
Terminal Radar Digitize, Replacement and Establish (TREDRE)	X				
Integrated Terminal Weather System (ITWS)	X	X			
Operational and Supportability Implementation System (OASIS)	X				
Air Traffic Control Beacon Interrogator Replacement (ATCBI-R)[3]	X				
Port and Waterways Safety Systems (PAWSS)	X	X	X	X	X
National Distress and Response System Modernization (NDRSM)	X	X	X		X

Agency acquisition of information technology:
In accordance with FAR guidance 39.103, it is DOT's policy to emphasize the use of modular (or incremental) contracting for its major IT investments so that progress can be readily halted if programs, or portions of programs, have not demonstrated the potential to meet cost, schedule and performance expectations. This approach has been readily adopted by DOT organizations, is regarded as being successful, and will continue to be encouraged. Both FAA and USCG report no obstacles to implementing the modular contracting policy.

DEPARTMENT/AGENCY: TREASURY

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Dr. Wushow Chou	8/96-1/97	5
James J. Flyzik (acting)	2/97-8/98	18
James J. Flyzik	9/98-current	22

Current CIO: James J. Flyzik
Official Title: Deputy Assistant Secretary for Information Systems and Chief Information Officer
Dates of Service: February 1997 – September 1998, acting; September 1998 -- current

Department/Component CIO Structure
Decentralized

Effective use of government Chief Information Officer:
The CIO report directly to the Secretary on a day-to-day basis, but as Assistant Deputy Director for Information Services, the CIO reports to the Assistant Secretary for Management/Chief Financial Officer. The CIO chairs the CIO Council and sits as a member of the Treasury Capital Investment Board (CIRB). The CIO Council includes all CIOs from each Treasury bureau, the CIO Direct Reports, and representation from the General Counsel. The CIO Council determines the department's IT initiatives that support the department's 5-year strategic plan. The CIRB considers non-IT as well as IT investments. The CIO also sits as a member of the IRS Modernization Board, the IRS Executive Steering Committee and participates in the CFO Council. The CIO is also Vice Chair of Federal CIO Council. Each component of Treasury has a CIO who reports to component head. The CIRB oversees all capital investments with the exception of the IRS modernization initiatives, which are reviewed and approved by the IRSMB, chaired by the Deputy Secretary. The IRS has strengthened the oversight of systems modernization with the creation of the Core Business Executive Steering Committee, chaired by the Commissioner. It is important to not that even "final decisions" for initial approvals are subject to continuing scrutiny by the CIRB.

Agency benefits from capital planning and investment control processes:
The department is implementing a comprehensive IT capital planning and investment management process. The department has issued series of memoranda and other guidance. The department has established bureau-level and department-wide investment review boards that review and approve all major IT systems investments. Each bureau has been required to establish an IT capital planning and investment process. The current focus is on implementing a monitoring process for approved projects to ensure they are meeting established cost, schedule and performance targets and should continue to be funded. With respect to CCA, Section 5122, the department's capital planning process requires that any major or significant non-major IT investment be selected, funded, and controlled by either the bureaus' investment review boards or by the CIRB. For example, the IRS initiatives are within the oversight of the IRS modernization Management Board (IRSMB) and the IRS Core Business Executive Steering Committee. A business case is assessed for those projects considered by the CIRB.

The CIRB:
- Implements the department's performance based acquisition management model for managing major IT acquisition programs,
- Reviews and approves:
  - department-wide capital investments that affect all or most bureaus,
  - administrative systems or modifications to existing systems that have department-wide implications and
  - capital investments that have a significant impact on the operations of a single bureau, indicate high development, operating or maintenance cost or high visibility
- Regularly monitors all capital investments under development to ensure that cost, schedule and performance targets are met,
- May decide to cancel projects that face cost overruns, major schedule delays or performance shortfalls,
- Recommends final funding decisions to the Secretary.

Monitoring of IT projects is divided between responsible bureaus and the CIRB. The department is in the process of implementing I-TIPS. All major and significant non-major investments are to be part of the I-TIPS database and made available to department policy offices (CIO staff, budget, strategic planning) and the CIRB Executive Secretary by August 2000. I-TIPS operates along with other project management tools that the bureaus use. However, bureaus are expected to provide regular high-level updates via I-TIPS to the department on required projects. CIRB will monitor quality and timeliness of data submissions for projects under its review. Individual bureaus are responsible for projects under their own review.

Managing Information technology for overall performance and results:
One of the department's performance goals is to ensure that IT investments improve program performance and facilitate mission goals. Currently, the overall IRS modernization effort is the most complex and significant IT investment at the department. Bureaus and program offices responsible for IT investments are required to document major milestones, as well as scheduled costs. Primary responsibility for data reliability is at the bureau level. Data is reviewed prior to submission and verified by bureau IRB and CFO/budget officer and is also reviewed by agency staff again after submission. Department provided acquisition data is used in decision-making. In addition, the department relies on I-TIPS to provide agency-wide data analysis capability.

The department identified the following areas as in need of additional work and training:

- Application of rigorous project management techniques
- Application of disciplined systems development life cycle methodology
- Linking business outcome measures to strategic plans and IT performance management

Projects reviewed by the CIRB are outlined in Treasury Table 1 below.

Treasury Table 1: Major IT Projects Considered by CIRB			
Project	Strategic Goals		Expected Benefits
	Department	Bureau	

Customs Automated Commercial Enterprise (ACE)	Facilitate legitimate trade and collect revenue due to federal government	Maximize trade compliance through a balanced program of informed compliance, targeted enforcement actions, and the facilitation of compliance cargo	• Reduces transaction costs to the trade community
			• Enhances narcotic interdiction
			• Enhances compliance with legislation:
			  • Customs modernization and Informed Compliance Act
			  • Bank Secrecy Act,
			  • Trade Secrets Act,
			  • Shipper's Export Act
			  • Privacy Act
			• Increases processing, data accuracy, system reliability, interoperability and user friendliness
			• Increases revenue recovery

Government-wide Accounting System	Manage the federal government's accounts	Produce accurate, accessible, and timely government-wide financial information and reports which contribute to improved quality of the nation's financial decision-making	• Captures data and information once for multiple applications • Significantly reduce reporting burden and resulting administrative costs for agencies providing accounting data to FMS and other central agencies • Eliminates burdensome reporting reconciliations • Provides more timely information to agencies • Improves reporting accuracy and timeliness to central accounting system • Will identify data needed by central agencies • Develops front-end processes to maximize data accuracy
Treasury Human Resource Initiative	Improve management operations	Improve capacity to recruit, develop, and retain high-caliber employees	[IT component unclear]
Treasury Telecommunications System	Improve management operations • Promote prosperous and stable American and world economics • Manage government's finances • Protect our financial system and our nation's leaders • Fosters a drug-free America • Continues to build a strong institution	Make wise information technology investments	• Facilitates Treasury's leadership role in electronic government [see NPR]
Department Offices Wireless Program	Improve management operations	NA	• Land Mobile Radios (LMR) to provide command, control, and communications capability for law enforcement and protective service missions • Secure agent life and safety with timely and secure communications capability • PDD62 requirements regarding 2002 winter olympics • Replaces outdated technology along borders

Impact on business processes:
The CIRB analyzes the business case for each new project in the framework of: 1) alignment with strategic objectives; 2) assessment of costs, benefits and risks; and sequencing of the project with other business priorities. For approved capital projects, the board regularly monitors progress against performance goals and milestones for the purpose of involving the board in resolving issues or barriers to success and re-assessing the long range potential for beneficial results.

The department identified re-engineering efforts associated with four of its major IT investments. These are included above in Treasury Table 1, listed under expected benefits.

Agency acquisition of information technology:
Treasury has made significant progress in implementing modular contracting in its bureaus. The concept of undertaking large projects in phases/discrete increments is part of virtually all major system acquisitions and their associated business cases and/or requirements analyses. ATF has several large projects underway using these precepts, IRS' PRIME contract for its modernization is a modular contract, and Customs has had two awarded contracts and two planned acquisitions that are or will be modular.

DEPARTMENT/AGENCY: VA

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
D. Mark Catlett	2/96-6/98	28
Harold F. Gracey, Jr.	7/98-5/2000	25
Robert P. Bubniak	6/2000-current	1

Current CIO: Robert P. Bubniak
Official Title: Acting, Principal Deputy Assistant Secretary for Information Technology (agency created this title and its office as the CIO)
Dates of Service: 6/2/00 -- current

Department/Component CIO Structure
Decentralized

Effective use of government Chief Information Officer:
The agency created a new Assistant Secretary of Veterans Affairs to assume the duties of CIO. Agency CIO does not have any other duties or responsibilities other than information resources management and reports directly to the Secretary of Veterans' Affairs. Two components comprising VA, Veterans Benefits Administration (VBA) and Veterans Health Administration (VHA) each have component level CIOs, selected by respective administrative heads and approved by agency CIO. The CIO chairs the CIO council and is a member of the VA Capital Investment Board, VA Franchise Board, and the Veterans Benefits Administration (VBA) Resources Board. Approximately 91% of the VA total information management and technology expenditures were controlled or approved by the VA CIO during FY1999 either through the Capital Investment Process of through direct CIO approval.

Agency benefits from capital planning and investment control processes:
Capital investment proposals are reviewed for the first time at the corporate level by the CIO investment panel. The panel assesses a variety of factors, including costs, risks –schedule, financial, technical—and benefits. Panel members' evaluations of the proposals are combined in software-based decision support tool, Expert Choice, which assigns relative value to a variety of criteria. Successful projects are forwarded to the VA Capital Investment Board (CIB) for strategic consideration to ensure that IT capital investments help the department meet its strategic goals. The CIB oversees the approval of and makes the final decisions for all capital investment proposals that exceed the established threshold requirements, represent a high risk or high visibility or are cross-cutting. The department noted its confidence in the data used in this process was high, however it provided no actual data used in analysis or IT assessments and decision-making.

Managing Information technology for overall performance and results:
VA intends to develop an annual report based on reviews of IT investments undertaken through the capital investment process. Currently, the CIO reports on improvements in information resources and technology management capabilities in the department's budget request. Execution Reviews provide quarterly updates of project progress and comparison against planned costs and schedule. In-Process Reviews independently assess progress of projects at discrete points during their development. Post-implementation Reviews determine how well projects actually did against what was intended. VA notes that its confidence in the tracking data continues to improve. Initiatives compete under diverse scrutiny from other component organizations and cost and schedule data can be corroborated by the reporting requirements associated with each approved acquisition request. VA also says that reporting compliance has improved considerably. Finally, VA attributes much improvement to its tracking system.

Impact on business processes:
VA was able to link investment initiatives with the review of mission-related and administrative processes. [See VA Table 2]

Agency acquisition of information technology:

VA uses modular contracting for those major IT projects where this acquisition method provides VA with the best business solutions. Otherwise, organizations are encouraged to consider modularity when determining their overall acquisition strategy for capital investments. VA uses Part 39 of the Federal Acquisition Regulations to determine the proper use of modular contracting.

VA Table 1: Top Ten VA IT Initiatives in Development or Acquisition

#	Initiative	Cost (in millions)
1	Government Computerized Patient Record (GCPR) (VA share)	184.0
2	Integrated Financial Management System (IFMS)	156.6
3	Microsoft License (MS License)	94.3
4	HR – LINK$	94.0
5	Information Security Program (ISP)	83.3
6	Training and Performance Support System	31.2
7	VBA Telephone Strategy (VBA Tel)	30.1
8	Compensation & Pension (C&P) Benefits Replacement System	8.9
9	Benefits Delivery Network (BDN)/Honeywell 9000	6.4
10	The Imaging Management System	4.4

VA Table 2: Top Ten IT Initiatives in Development or Acquisition: Expected Benefits

Initiative	Expected Benefits
Government Computerized Patient Record (GCPR) (VA share)	• Improved quality of care for 13.2 million VA, DOD, and HIS patients; • Greater access to care and care information for all 37 million total potential population; • Improved customer service; • Clinical savings; • Administrative savings.
Integrated Financial Management System (IFMS)	• Reductions in operating costs; • Improved interoperability between VA systems and those of other agencies; • Adapting quickly to Joint Financial Management Improvement Program regulation changes; • Avoiding risks associated with maintaining legacy system; • Increasing the accuracy of financial information; • Reducing redundant data entry.
Microsoft License (MS License)	• Elimination of license tracking overhead; • Improved support and network management tools; • Standardization and consistency in software versions; • No additional software costs for Microsoft products; • Modular, component architecture; • Elimination of internal auditing for software licensing; • Closer ties to COTS packages.
HR – LINK$	• Reduction in the number of FTE associated with the HR function; • Employee and management self-service online transactions for HR/Payroll functions; • Easy adaptations to changing legislative requirements.
Information Security Program (ISP)	• Resolution of "material weaknesses" status for information security; • Provision of "full operating capability" for protecting VA's critical infrastructure; • Reduction of VA information systems and assets to known risks; • Insurance of VA's considerable data assets from loss.
Training and Performance Support System	• Correction of an identified deficiency: absence of validated training and task assessment of critical job tasks for Veterans Service Representatives, Veterans Service Representatives --- Rating, and Decision Review Officer; • Improved employee development.
VBA Telephone Strategy (VBA Tel)	• Provide an average speed of call answer of less than 60 seconds; • Provide an abandoned call rate of less than 2 percent; • Provide a blocked call rate of less than 1 percent; • Improved allocation of resources to assist veterans; • Implementation of a National Automated Response System.

VA Table 2: Top Ten IT Initiatives in Development or Acquisition: Expected Benefits	
Initiative	Expected Benefits
Compensation & Pension (C&P) Benefits Replacement System	• Provide a standard general ledger compliant system; • Provide online reconciliation support; • Increase data integrity and system flexibility; • Provide increased data access to support an expanded VBA user base; • Provide online error correction and data processing (as opposed to batch); • Improve "user friendliness"; • Generate answers more quickly to veteran queries.
Benefits Delivery Network (BDN)/Honeywell 9000	• Consolidation of VBA data processing at the Austin Automation Center; • Cost savings associated with reduced FTE and hardware.
The Imaging Management System	• Reduction of dependency on paper; • Improvement in overall claims processing time; • Improved customer responses; • Increased quality of response; • Reduction in cost per claim.

VA Table 3: Additional Key Information Systems	
Veterans Health Information Systems and Technology Architecture (VistA)	• Automation of major clinical, management, and administrative functions throughout VHA; • Support for Computerized Patient Record System, imaging, pharmacy, clinical laboratory, radiology, nursing, surgery, mental health, dietary, medical records tracking, medical administration, medical care cost recovery, etc..
VHA Decision Support System	• Provide data on patterns of care, patient outcomes, resource consumption, and costs associated with the health care process; • Future enhancements will allow outside revenue to be tracked in the database.
Telemedicine	• Improved access to care and information, particularly in remote areas; • Improved timeliness of patient care delivery; • Cost effective delivery of patient and clinician education; • Increased patient satisfaction.
Enrollment	• Processing of new initial enrollments; • Processing of annual re-enrollments; • Providing information services to veterans through a toll-free national call center.

DEPARTMENT/AGENCY: AID

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
----------	2/96-6/97	16
Richard C. Nygard (acting)	6/97-10/98	16
Richard C. Nygard	10/98-current	21

Current CIO: Richard C. Nygard
Official Title: Deputy Assistant Administrator for Management, Chief Information Officer
Dates of Service: June 1997 – October 1998, acting; October 1998 -- current

Department/Component CIO Structure
Centralized

Effective use of government Chief Information Officer:
CIO chairs the Capital Investment Review Board (CIRB) which is responsible for the selection, control, monitoring and evaluation of IT resources. As Chair of the CIRB, the CIO controls or approves 25% of the agency's information management and technology expenditures. The CIO also serves concurrently as Deputy Assistant Administrator for Management. The CIO reports directly to the Administrator for AID and works closely with the CFO and Assistant Administrator for Management.

Agency benefits from capital planning and investment control processes:
The Administrator established the CIRB in response to CCA. CIRB provides agency-wide executive oversight for planning, management, and control of information resources investments; it monitors investments throughout their lifecycle to ensure that they are acquired or developed within planned cost and schedule objectives and that they achieve expected benefits. Current efforts focus on improving capital investment control. The CIRB makes recommendations regarding IT funding decisions in conjunction with the CIO, CFO, Chief Procurement Officer, Assistant Administrator for Management, and the directors of the Budget and Information Resources Management offices, based on the overall cost, risk, return, impact, complexity and linkage of environments.

The top ten investment initiatives (in terms of total acquisition dollars) reviewed/approved by the USAID CIRB are:

1. Financial Systems Integration
2. Network Operating System Replacement
3. Financial Management System
4. Procurement
5. Personnel/Payroll
6. Travel Manager
7. Global Bureau Performance Management & Control Information System (PMCIS)
8. Policy & Program Coordination Bureau Library System (Library)
9. Human Resources Position Management System (COHO)
10. Electronic Freedom of Information Act System (EFOIA)

Managing Information technology for overall performance and results:
CIRB assess the cost, risk, and return on investment for major investments by review and evaluation of investment proposals and presentations. CIRB sub-committees similarly assess smaller investments.

Impact on business processes:
The agency was able to provide capital investment summary demonstrating relation between IT initiatives; programmatic, operational, or mission-related benefits; and re-engineering and assessment efforts. However, the agency reported that it had analyzed its missions and based upon that analysis revised its mission and administrative processes before making related significant investments in IT. The agency said the analysis and revisions were summarized in the USAID "Reform Roadmap" but provided no such document.

Agency acquisition of information technology:
USAID reports that it has made significant progress in implementing modular contracting in accordance with CCA section 5202. It cites the PRIME contract with Computer Sciences Corporation (CSC) which integrates information technology while providing modular task-order-based support for multiple information resources initiatives. Another is the American Management Systems (AMS) contract that provides similar modular support for financial management systems. However, USAID says its principal obstacle in implementing modular contracting has been insufficient appropriately skilled staff.

For fiscal years 1997, 1998, and 1999, USAID obligated approximately $52.8, $72.3, and $61.3 million respectively. Of these funds, 50.2%, 73.4% and 90.9% were obligated under existing indefinite delivery, indefinite quantity (IDIQ) contracts, respectively. The remaining 49.8%, 26.6% and 9.1% comprised new contracts or modifications to existing contracts, respectively.

DEPARTMENT/AGENCY: EPA

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Jonathan Z. Cannon	2/95-10/95	7
Alvin M. Pesachowitz	10/95-3/2000	54
Ed Levine (interim)	4/2000-current	3

Current CIO: Edwin Levine
Official Title: Deputy Assistant Administrator for Environmental Information, Chief Information Officer, acting
Dates of Service: April 2000 – current

Department/Component CIO Structure
Centralized

Effective use of government Chief Information Officer:
The CIO heads the Office of Environmental Information (OEI) launched in October 1999. OEI chairs EPA's Quality and Information Council (QIC), which is the agency's leadership body for information programs and quality systems. QIC advises the OEI, the Administrator and the Deputy Administrator on decisions related to the agency's information policies, program implementation issues and information investments. The CIO is also a member of the EPA's Senior Leadership Council and participates fully in the planning and budgeting activities of the agency. There is currently one CIO at the agency-wide level and one CIO in the agency's Office of Research and Development. Other agency branches are considering establishing their own CIOs and future IT policy reviews will consider the need for CIOs at the component level. The CIO approves all major investments in the IT budget via the IT Investment Review process. This represented 45% of the agency total IT resources as reported in the agency's January 2000 Report on Information technology.

EPA is currently initiating a single integrated multi-media core of environmental data and tools in order to promote smarter ways of providing public health and environmental protection. This effort is supported by the agency's Integration Information Initiative. The agency is also encouraging the states and tribes to take similar initiatives.

Agency benefits from capital planning and investment control processes:
EPA has implemented a complete and comprehensive Capital Planning and Investment Control Process based on CCA. The first three years focussed on the selection and control phases of the review process. EPA is taking steps to incorporate the evaluation phase: projects have been asked to specifically describe any steady state work, in terms of deviations from expectations and benefits realized.

The agency provided detailed information on each of the top ten initiatives, much of this is duplicated in the tables following this summary of information. However, please note that EPA was unable to provide information on expected/realized benefits for three of the initiatives, including their major system, the Integration Information Initiative, as well as the General Enforcement Management System, and the Electronic Reporting, Data Collection system. The agency was also unable to provide information on their 'red-lighted' systems.

Managing Information technology for overall performance and results:
EPA investment proposal comprises three overall sections: A-Project Summary, B-Measurement Information, and C-Raines Rules and EPA Objective Areas (Risk and Value). Questions are assigned value or risk criteria and measured. The projects are then ranked based on their total value and risk scores. EPA relies on project status meetings and the individual proposals submitted by the Program Offices to track performance. IT initiatives selected for funding are moved to the control phase of review, including review of current to projected costs; current to initial project schedule; and current performance of deliverables and milestones to the projected schedule. The investment review board also identifies new requirements; considers project feasibility; and identifies any interdependencies with other projects.

However, in July 1999 EPA reviewed the 49 major IT investment proposals, representing approximately one half of the FY2001budget, and found:

- The milestones, as a whole, were too general, non-measurable, and not tied to key life cycle milestones;
- Many of the projects were planned, developed, and managed in a stovepipe fashion, which could lead to duplication, excessive costs, and even "reinventing the wheel;"
- The agency had not established agency-wide priorities for IT investments;
- The IRM Strategic Plan was done in 1995 and did not track with the more recent GPRA.

Impact on business processes:
EPA's annual IT Investment Review Process has resulted in the program offices providing an update of all major projects and their links to agency goals and the IRM strategic plan. The agency tracks costs, risks, rewards, performance and schedules for each major project. It cites two examples of using information effectively to manage environmental programs and enhance the public's access to the information it needs to make decisions that will help protect their health and the environment. The agency did not produce evidence of any specific mission-related review or assessments based on programmatic or operational goals. However, the agency did assert that the initiative committed the agency to adopt formal data standards, provide universal access to electronic reporting, re-engineer the agency's national systems, and to invite all 50 states to participate in the process.

Agency acquisition of information technology:
EPA has used modular contracting only for the computing infrastructure systems. At the present time, there are no obstacles preventing EPA from using modular contracting techniques to acquire major systems of information technology.

EPA Top Ten Investment Initiatives (in terms of total acquisition dollars)		
#	Initiative	Acquisition Dollars
1	Integration Information Initiative	$30
2	Integrated Financial Management System	$12
3	General Enforcement Management System	$11
4	Regional Geographic Information System Support	$11
5	National Centralized Computing & Information Processing	$8
6	Electronic Reporting, Data Collection	$8
7	One-Stop Reporting	$8
8	Superfund Document Management System	$7
9	Electronic Data Registry	$7
10	Integrated Grants Management System	$4

EPA Top Ten Investment Initiatives (in terms of total acquisition dollars)		
Initiative	GPRA Goal*	Realized/Expected Benefits
Integration Information Initiative	7	N/A/ - project is in the planning stage
Integrated Financial Management System	All	The system is currently operating as expected. Changes continue to be applied so that the system remains compliant and current with Federal and Congressional mandates.
General Enforcement Management System	7, 8, 9	N/A – project is in the planning stage
Regional Geographic Information System Support	All	Expanded core on non-GIS professional routinely doing geospatial analysis as part of their jobs. Geographical analysis is user-friendly, generally available and an assumed part of decision making.
National Centralized Computing & Information Processing	All	Provides agency's central information technology infrastructure.
Electronic Reporting, Data Collection	7	Many of the project's benefits are not yet measurable because of legal and business delays. However, central receiving and electronic reporting is [sic] available for 5 reports, with over 200 companies participating and 2 states receiving environmental reports using EDI and another two with infrastructure in place.
One-Stop Reporting	7	The program's grant goal is to "offer all States and tribes (who qualify) a One Stop grant by the year 2003. To date, 25 States have qualified and joined the program. There remains [sic] 25 states and perhaps 6 tribes, who may qualify by the year 2003.
Superfund Document Management System	5, 7, 9, 10	The initial projection of 5 million images online (nationwide) by the end of FY99 was eclipsed around January 1999, and exceeded by approximately 4 million images for a total of 9 million on September 30, 1999. CD-ROM production was over 500. These digitized records are enhancing the Agency's ability to meet their goals and objectives while providing their own version of environmental protection. Per recent information released by the American Information and Imaging Managers International, 10,000 pages of paper, roughly equivalent to the content of one CD-ROM, equates to a 50-foot Loblolly pine tree. As such, if each SDMS image and CD-ROM is considered to be a single photocoopy and is used only once (underestimated), SDMS has already "saved" a grove of 1,400 50-foot Loblolly pines (roughly 4 acres) through the end of FY99.
Electronic Data Registry	(Information not provided)	
Integrated Grants Management System	(No information was provided on this system. Instead, EPA provided information on their Enforcement Legacy Systems Support)	

*Although EPA provided information on which GPRA goals each of the initiatives met, the agency provided no specific information on their GPRA goals themselves nor on what these numbers mean.

EPA Control Projects: FY 2001 Systems Recommended to "Continue with Caution"

#	Acronym	System/Initiative Name	Life Cycle $$(000)	Cate-gory
1	AQS	Air Quality Subsystem (OAR)	13,785	1
2	CERCLIS	Comprehensive Environmental Response Compensation Liability Information System (OSWER)	69,460	1
3	OPPIN	Office of Pesticide Programs Systems Integration Project (OPPTS)	26,589	1
4	SDWISFED	Safe Drinking Water Information System Modernization Effort – Federal Subsystem (OW)	46,227	1
5	[SURF]/IWI	Index of Watershed Indicators (OW)	7,048	1
6	TM+	Travel Manager Plus (OCFO)	8,545	1
7	E-Forms	Electronic Forms (OARM)	19,746	2
8	EIMS	Environmental Information Management System (ORD)	17,360	2
9	HR-Pro	Human Resources Management System – PeopleSoft (OARM)	22,550	2
10	IGOR	Inspector General Operating and Reporting (OIG)	9,236	2
11	NCTIMS	National Correspondence Track and Info Mgt System (OARM)	10,323	2
12	One-Stop	One Stop Reporting (OR)	49,360	2
13	EDI/EC	Electronic Data Collection (OP)	55,313	3
14	ICMS	Integrated Contracts Mgt System (OARM)	35,782	3

Life Cycle $$ = pre-1998 through FY 2006; includes costs of personnel, contracts, and Working Capital Fund transfers. Projects listed in alphabetical order within category.

These projects are subject to increasing degrees of tracking:

Category 1

Restate the baseline (costs, performance, and milestones) to reflect current conditions resulting from external factors;

Category 2

Restate the baseline. **Provide an updated business case** analysis addressing the specific issues identified during the review.

Category 3

Restate the baseline. Provide an updated business case analysis. **Submit quarterly reports from the Senior Resource Official to the CIO.**

DEPARTMENT/AGENCY: FEMA

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
G. Clay Hollister	1996-current	53

Current CIO: G. Clay Hollister
Official Title: Executive Associate Director for Information Technology Service Directorate, Chief Information Officer
Dates of Service: 1996 -- current

Department/Component CIO Structure
Centralized

Effective use of government Chief Information Officer:
FEMA's CIO is a policy leader, a direct line manager, and a member of the Director's senior management group. CIO is the chairman of FEMA's Information Resources Board (IRB). FEMA established the IRB to review and makes recommendations on major IT investment plans and operations. As IRB chairman, the CIO makes final board decisions in concert with the Director of FEMA.

The CIO initiated, and currently oversees, implementation of the National Emergency Management Information System (NEMIS) and the Information Technology Architecture (ITA). NEMIS, the largest IT project undertaken in the agency's history, is designed to provide (1) emergency coordination of federal, state and local response operations, (2) disaster assistance for individual victims, and (3) support to public programs for state and local government recovery efforts. NEMIS is also designed to support administrative activities at both FEMA headquarters and field operations.

FEMA codified the definitions and processes for the development and integration of its enterprise-wide systems in its ITA. The purpose of the ITA is to achieve greater efficiency and higher levels of systems integration and interoperability with other federal agencies, agency partners, and the American public. FEMA expects the ITA will reduce overall IT enterprise life-cycle costs and enhance mission performance through standardization. The architecture also supports FEMA's IT investment management process.

Agency benefits from capital planning and investment control processes:
FEMA's CIO and CFO jointly published the *Agency-wide Information Technology (IT) Investment Policy, Procedure, and Process* memorandum on December 16, 1999. FEMA is now preparing to publish its *Information Technology (IT) Capital Planning and Investment Guide.* FEMA provided no further specific information on its capital planning and investment process nor on its implementation of CCA.

FEMA's CIO or the CIO staff reviews all procurements over $10,000 for conformance to FEMA and federal standards. More than 90% of the total IT budget is subject to some level of capital planning and investment management. More than 30% of FEMA's appropriated funds are subject to FEMA's IT capital planning and investment management processes, but due to the 'vagaries of nature', expenditures from the Disaster Relief Fund cannot be predicted. About 20% of Disaster Support Activity--which provides for ongoing operations that are not readily attributable to specific declared disasters--is subject to its IT management processes.

Managing Information technology for overall performance and results:
With only a small number of major investments, the CIO has instituted a less formal process than that found in larger agencies. Briefings by IT system managers to the IRB provide detailed information on the progress of information systems management. FEMA also established Information Systems Policy Advisory Group (ISPAG), whose members represent the IT professionals and system managers from FEMA offices. Additionally, the agency reports that that, as a small agency with many informal and reporting venues, it can maintain working groups comprising technical staff and managers for most major IT investments. These groups meet regularly and the CIO can also request meetings or special updates.

Impact on business processes:
FEMA provided specific data on realized and expected benefits to major operations or programmatic goals as outlined in the agency's latest GPRA strategic or annual performance plan for seven of the ten initiatives. [See FEMA: Table 2]

Agency acquisition of information technology:
Modular contracting is built into every major IT investment.

Table 1: FEMA Top Ten IT Initiatives

#	Acronym	Initiative
1	NEMIS	National Emergency Management Information System
2	LIMS	Logistics Information Management System
3	NFIP/WYO	National Flood Insurance Program/Write Your Own
4	NFIP/AIS	National Flood Insurance Program/Actuarial Information System
5	MERS	Mobile Emergency Response System
6	MSCIMS	Map Service Center Inventory Management System
7	SIMLAB	NFA Simulation and Training Network Project
8	FSN	FEMA Switched Network
9	HAZUS	Hazards United States
10	NAWAS	National Warning System

Table 2: FEMA Impact on Business Processes

Acronym	Business Impact
NEMIS	**Critical operational objective in FEMA's Strategic Plan** • Provides faster response to individual disaster victims' needs; • Improves the efficiency of assistance processes; • Promotes high degree of integration with FEMA's Office of Financial Management and other partners in disaster response. [In addition, agency provided 17 specific changes in support of the strategic goals.]
LIMS	• Operate a logistics program that supports the all hazards emergency management mission of the agency with an improvement in baseline readiness. The objectives include a 5% reduction in lost or damaged Disaster Information System Clearinghouse (DISC) and territorial logistics center (TLC) assets as well as a 5% improvement in the delivery of the assets to disaster locations. • Continue enhancement of logistics operation and support services accounts (maintenance schedules) to ensure that services are provided in a timely and cost effective manner.
NFIP/WYO	• Achieve new involvement by insurers in the National Flood Insurance Program (NFIP) • Increase the flood insurance policy base as well as the geographic distribution of policyholders; • Improve service to policyholders and insurance agents through the infusion of industry knowledge and through access to existing insurance company communication capabilities that have been design to meet their client's needs; and • Provide insurance companies with operating experience under the NFIP, particularly in ways that greatly increase the Program's ability to settle claims promptly in post catastrophe situations.
NFIP/AIS	• Analyze NFIP experience and project historic trends. • Provide sound loss projections for items under NFIP. • Establish rates to generate sufficient premium so that the Program is financially sound. • Present market data in ways that suggest how to increase market penetration. • Model various rating structures. • Analyze past and present distributions of business.
MERS	• Upgrade obsolete radio system with a new and modern one to meet expanding mission and geographic coverage requirements.

MSCIMS	**Critical operational objective in FEMA's Strategic Plan**
	• Consistent with Mitigation Directorate's performance goals:
	  • Implement standards and procedures to reduce losses from all hazards, including supporting adoption of seismic codes and the modernization of the floodplain mapping program, so as to increase the use and effectiveness of mitigation information tools provided to communities so that they may become more disaster resistant.
	• Also being developed with specific functional and capability requirements that are consistent with Flood Insurance Administration's GPRA goals:
	  • Complete measurement systems; confirm savings exceed estimate of $850 million.
	• Overall goals:
	  • Transition "physical warehouse" into fully automated, fully integrated "digital warehouse";
	  • Provide highest levels of customer service;
	  • Improve Map Service Center distribution turn around, reducing distribution costs;
	  • Improve accountability;
	  • Implement digital products and digital distribution;
	  • Establish and maintain the infrastructure for delivery and accountability of future NFIP products;
	  • Coordinate new map product development for Internet delivery and integrated acceptability.

SIMLAB	• Protect lives and prevent property loss from all hazards. • Enhance professionalism of the nation's fire service and allied professionals through comprehensive training and education.

FSN	• Impacts and supports nearly all of FEMA's GPRA goals:
	  • Provides enabling technology to implement mitigation efforts, reduce loss and reduce cost of service delivery.
	  • Increase business efficiency through improved communications and access to information, including ability to share information with other government offices and the public.
	  • Expected to improve the timely, reliable, and cost effective delivery of telecommunications and data infrastructure to any FEMA location by 20% by 2002.

HAZUS	• Protects lives and prevents property loss from all hazards. • Increase availability and effectiveness of natural hazards information • Develop or improve assessment tools for evaluating the nation's vulnerability to natural hazards • State hazard mitigation standards and performance measures are developed and voluntarily adopted into the operations of a majority of FEMA's principal state partners.
NAWAS	• Reduce likelihood of losses of life or property through the provision of emergency alerts and emergency response communications nationwide or regionally

DEPARTMENT/AGENCY: GSA

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Mr. Joe M. Thompson	12/22/95-12/28/97	25
Dr. Shereen Remez	12/29/97-6/14/99	18
Mr. William C. Piatt	6/15/99-current	13

Current CIO: William C. Piatt
Official Title: Chief Information Officer
Dates of Service: June 15 1999 -- current

Department/Component CIO Structure
Decentralized

Effective use of government Chief Information Officer:
GSA's CIO reports directly to head of the agency. The CIO serves as principal advisor on all technology issues and works closely with the GSA Administrator on all IT matters, issues, and initiatives. As a result, the Administrator meets and consults at least weekly with the GSA CIO. The Administrator is continuously informed of the status and progress of the broad spectrum of IT initiatives and improvements in support of GSA's business objectives. GSA's CIO has direct control and approval authority over 15 percent of the total information management and technology expenditures for the agency.

GSA wants to leverage electronic commerce (EC) opportunities available on the Internet. The GSA CIO has been heavily involved in promoting this issue to executive-level managers in GSA's business areas. For example, the CIO has arranged for briefings on the "Threats and Opportunities for Business Models Posed by the Internet". Though primarily an information technology manager, GSA's CIO also has an important role of aligning IT with the business goals and priorities of the agency. The CIO has developed and maintained awareness of operations in all of GSA's business areas and uses this knowledge to continuously identify opportunities for leveraging technology to maximize GSA's business advantage.

Major GSA components also have business line CIOs. GSA's agency-wide CIO plays a pivotal role in filling these positions and has assisted in the identification and recruitment of potential candidates. In many instances, the GSA CIO has interviewed candidates for these positions. GSA's CIO also has a consultation and concurrence role in the final selection of individuals for these positions. Business line CIOs report to their business line managers, but maintain a "dotted line" working relationship with the agency-wide CIO.

GSA Table 1: CIO Committee Membership

Committee	Membership	Committee Tasks	CIO Role
Leadership Council	Heads of all Services and Staff Offices (HSSO) and Regional Administrators	[not stated]	Participates in executive decisions regarding strategic planning, budget, and program-area matters
Business Technology Council	• Deputy Administrator – Chair • GSA Administrator • Chief of Staff for GSA • CIO • CFO • Chief People Officer • Commissioners of Public Buildings Services • Federal Supply Service • Federal Technology Service • And three Regional Administrators who serve on a rotating membership basis	**Strategic Review and IT Portfolio Approval** • Determines the vision, direction, interface and impact of IT on achieving GSA's business objectives. • Reviews IT investment for overall business alignment with investment goals. Review has strategic business focus. • GSA administrator has attended all the meetings of this council.	Brings IT expertise and business line knowledge to the discussion of business matters and initiatives that can be enabled by technology. CIO also participates in making decisions resulting from these discussions.
Information Technology Council	• CIO- Chair • Deputy CIO • Major business line CIOs • Three senior regional executives who serve on a rotating basis • Regional IG for Auditing (non-voting member)	**Technical Review** • Establishes the IT Strategic Plan for the agency; • Monitors IT policies and ensures that GSA's internal organizations implement these policies and procedures; and • Reviews, through the agency's IT Capital Planning and Investment process, the selection, control and evaluation of all major IT investments for GSA	Leads and actively participates in the discussions and any decisions made by the ITC.
Council of Governors	• CIO – Chair • CFO • Business line CIOs • Business line Controllers • Four Assistant Regional Administrators	**Cross-cutting Review** Reviews, approves, and actively monitors the implementation of agency-wide IT initiatives that are expected to have a substantial cross-cutting impact on more than one GSA organization. Criteria Council considers in acting on initiatives includes: • Strategic alignment of the IT investments; • Designation of a committed senior management sponsor; • Impact on end users; • Soundness of the business case; • Reasonableness of the projected timelines; • Demonstrated competence of the project team; • And other issues deemed important by the CoG	[not stated]

Agency benefits from capital planning and investment control processes:
GSA has implemented a complete and comprehensive IT capital planning and investment management process. GSA began its efforts as a Federal CIO Council pilot project in 1996. As a result of this pilot project, GSA implemented the process agency-wide. In May 1997, GSA became the first agency in the federal government to develop and publish formally its *IT Capital Planning and Investment Guide* detailing its process.

Capital planning identifies the IT initiatives that implement strategies in terms of specific actions, schedules and resources. The overall objective of GSA's capital planning process is to deliver substantial business benefit to GSA or return on investment for the taxpayer. More specific objectives are to:

- Achieve GSA's mission and business objectives.
- Balance potential benefits against costs and risks.
- Align proposed systems investments with strategic and tactical goals.
- Measure performance and net benefit for dollars invested.
- Provide continuous feedback to help senior managers make decisions on new or ongoing investments.
- Ensure that taxpayer dollars are spent effectively.

Before planning a IT investment, GSA's business line managers, in consultation with the CIO, first consider the "three pesky questions." If the answers to the three questions indicate that an IT investment is warranted, then GSA takes the following steps:

- Planning for the IT project
- Creating preliminary market research
- Conducting a benefit-cost analysis
- Creating IT performance goals and measures
- Developing acquisition strategy
- Initiating the IT investment selection process
- A technical review by the IT Council
- A review by the CoG
- A business technology Council (BTC) strategy review and IT portfolio selection
- Preparation of the budget, performance plans and GSA strategic plan
- Execution of the IT project/system control and evaluation processes

Th quality of the data used for decision-making is always a priority. GSA uses ITIPS to ensure the quality of these data. GSA relies on system owners to provide accurate and complete data.

Managing Information technology for overall performance and results:
Strategic planning defines GSA's mission, goals and objectives, and strategies and provides a basis for aligning agency organization and budget structure with mission and objectives. The IT portion of strategic planning sets broad direction and goals for managing information and supporting delivery of services to customers and the public and identifies the major IT activities to be undertaken to accomplish the desired agency mission and goals. During the year, project managers meet with the CIO staff, various councils and committees to monitor IT investments and keep monthly status reports. In addition, when warranted, special reviews of approved projects and operational systems may be conducted and the results presented to the ITC, CoG, and BTC.

Post-implementation reviews are conducted on new systems within six months after they become operational. As part of the monthly and quarterly review, as well as the annual selection phase review, the project status and post-implementation information is used to update ITIPS. Milestones are developed for each major initiative as part of the capital planning process. The Integrated Project Team (IPT) develops or updates detailed milestones, cost and schedule information, monthly or quarterly, depending on the project phase, and provides them to the ITC and CoG.

There have been three agency-wide initiatives that GSA has put in a time-out status for a designated period of time in order to reassess the initiative and take corrective actions:

- **PEGASYS** –although initial estimates for resources needed to complete the project were less than the revised estimates, the project can be completed successfully. On the basis of the risk assessment, it was determined GSA continue the development and deployment of this project.
- **CHRIS** –(Comprehensive Human Resource Integrated System) after thorough review, the project was allowed to continue, but with increased management oversight. A senior management steering committee was created to provide oversight to project.
- **Seat Management** –as a result of the review, GSA determined that further implementation of Seat Management within the agency would be delayed until a greater degree of standardization at the desktop is accomplished. Greater standardization would better ensure a smooth transition to the Seat environment.

Impact on business processes:
GSA has had several opportunities to revise its mission-related and administrative processes. These are detailed in table 2 below.

GSA Table 2: IT Initiatives Resulting in Improved Processes

Initiative	Seat Management	GSA Advantage!	CHRIS	Pegasys	STAR*
Improvements	• Enables the government to acquire desktop computing services as a utility and pay for it by the number of workstations, regardless of type of government function being performed at that workstation • Eliminates LAN managers • Reduces number of maintenance contracts	• Improves Automated Call Center Distribution, One-to-One personalization • Enables customers to place orders and select payment method electronically without having to maintain paper copies of GSA schedules or catalogs	• Provides comprehensive, integrated HR services and information to GSA and customer agencies • Web-enabled • Reengineered the HR program and processes within GSA. Consolidated processing centers.	• Originally 90 enhancements reduced to 10, with nine enhancements contained in the vendor core package • Eliminated redundant data entry • Integrated financial management system that enables real-time business analysis and eliminates reconciliation	• Enables integrated access to four separate systems that support management of space and customer billing records • Enables PBS realty specialists and portfolio managers real-time access to critical business and customer data.

*System for Tracking and Administering Real Property

Acquisition of information technology:
GSA reports that to have made significant progress in implementing modular contracting with a number of major systems being implemented using modular contracting. GSA reports no major obstacles remain that would prevent the use of modular contracting. Thus, all IT projects must be evaluated for modular contracting as part of GSA's capital planning process.

GSA Table 3: Top Investment Initiatives			
Investment	**Total Life Cycle (thru FY 2004)**	**Risks**	**ROI**
Seat Management	$204,370	Poses no significant technical problems or risks over the current mode of operation.	The seat management program will provide totally integrated "information utility" which includes standardized hardware and software. In addition, the infrastructure takes advantage of standardization of software and hardware, site licenses, and simplified E-mail, work group applications, and other communications to enhance productivity of GSA's workforce.
Pegasys	$126,595	There are risks involving costs and legacy integration that could impact the schedule and deployment. Post award cost estimates are significantly higher than previous estimated that were based on the 1994 Financial Management Information Strategy Plan.	The new system will provide managers with a better mechanism for business analysis and eliminate manual reconciliation. It will also facilitate producing agency-wide reports and information for agency employees, managers and executives, external agencies, and the Congress.
Integrated Order Management System (ITOMS)	$49,500	Risks are high if not funded. ITOMS must stay on schedule in order to meet reductions taken at Fort Worth, finance center and meeting timelines with the roll-out and implementation of Pegasys. GSA is currently reviewing internal life-cycle management processes and a further defining of the contingency plans will be forthcoming.	ITOMS automates the financial management process, providing groupware tools to expedite the processing of funding documents and invoices and providing electronic reporting to GSA's government accounting system.
Comprehensive Human Resources Information System	$32,017	CHRIS is estimating a risk of approximately 5 percent cost overruns precipitated by contractor performance. In addition, ability to deliver per current schedule is dependent upon • (1) continued, active support and assistance from the COTS vendor; • (2) successful completion of the interface with GSA's payroll system (PAR); • (3) the results of functional and system testing; and • (4) the need to correlate the timing of CHRIS roll-out with stand-up of GSA's Consolidated HR Processing Center, and roll-out of other new systems (e.g., Pegasys).	CHRIS provides GSA with a self-service approach to personnel transactions and positions GSA as a leader in federal personnel/payroll system.
Monthly Online Records and Reports of Information Technology Service (MORRIS)	$19,187	MORRIS is in the development/ implementation state therefore costs and schedule estimates may change after the cost/ benefits analysis is completed. The risk of not doing the project is the inability to evaluate and validate telecommunications services provided under FTS2001 contract efficiently.	MORRIS will automate the billing process thereby minimizing paperwork and mailings, and ensuring timely availability of monthly billing statements.
Operational Data Store	$9,170	Risk for both technical and strategic factors is moderate. The risks include: • the development and maintenance of the Operational Data Store data model; • data administration; and • the development/ maintenance of the iterative business functional areas, i.e., STAR, CAD, Asset Business Management.	Operational Data Store will provide a single nationally accessible business source with links to the PBS operational business systems. The links will improve the consistency of data across the business, provide a reliable source for business information for timely and accurate reporting.

DEPARTMENT/AGENCY: NASA

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Mr. John C. Lynn	2/1/95-3/2/96	14
Mr. Ronald S. West	3/3/96-10/13/97	19
Mr. Donald J. Andreotta (acting)	10/14/97-10/21/97	1 week
Mr. Lee B. Holcomb	10/22/97-current	31

Current CIO: Lee B. Holcomb
Official Title: Chief Information Officer
Dates of Service: October 1997 -- current

Department/Component CIO Structure
Decentralized

Effective use of government Chief Information Officer:
NASA's CIO reports directly to the NASA Administrator. The NASA CIO is also a member of the three formal executive-level strategic planning, budget, and program-area process re-design councils. These three councils are the highest level decision-making boards in the agency: NASA Senior Management Council (SMC), NASA Program Management Council (PMC), and the NASA Capital Investment Council (CIC). The NASA CIO's roles and responsibilities in these councils are detailed in table 1 below. The NASA CIO, supported by the IT investment Council and CIO board, is responsible for developing or coordinating a complete analysis of the IT strategy, investment plans, and major planned management initiatives to improve the delivery of IT capabilities for the agency. The NASA CIO conducts annual reviews and provides recommendations for major new investments in IT within NASA's established management framework for programmatic and capital investments.

NASA's CIO has control over only .8 percent of the total NASA IT budget for FY2000. Most of NASA's IT budget is incorporated into the projects for which the IT resources provided direct support. Through the agency budget process and his role as a member of the NASA Capital Investment Council (CIC), the CIO examines agency-wide capital investments and policy issues, balancing program investments, cross-cutting technology investments and institutional investments and reviews, evaluates and provides recommendations on major IT investments to the NASA CIC. Through the IT POP process, the NASA CIO has insight into all IT management expenditures and through the IT Investment Council, makes overarching strategic and business decisions affecting the direction of the agency. Upon recommendation of the CIO Council, the CIC reviews proposed major investments in IT infrastructure, multi-Enterprise IT investments, and IT management initiatives and makes recommendations to the Administrator.

Program Management Councils (PMC) at the agency and Center levels oversee the formulation, approval, implementation and evaluation of agency programs and projects. The NASA CIO is a member of the agency-level PMC, and center CIO representatives support PMCs at their respective centers.

NASA has ten Centers, including headquarters. Each of NASA's these ten centers has a designated CIO, each of whom is appointed by the respective Center Director. Currently seven of the 10 CIOs report directly to their Center Director, the remaining three serve on senior staff and represent the Center Director in IT matters. Center CIOs are responsible for ensuring that Agency IT policy, plans, architectures, standards, procedures, practices, and guidance are implemented for their respective organizations. Center CIOs concur on all major IT investments to assure regulatory, policy and compliance with standards. Additionally, Center CIOs advise and counsel Center senior managers on IT investments and have the authority to represent and commit the Center at agency management meetings.

NASA Table 1: NASA High Level Decision Making Boards and CIO Roles and Responsibilities

Board	CIO Role	CIO Responsibilities
Senior Management Council (SMC)	Member	Chaired by NASA Administrator and consists of agency senior management. SMC advises the Administrator on the institutional health of the agency, the status of its programs and plans, and discusses all other issues affecting the agency management.
Program Management Council	Member	Evaluates the integrated planning, approval and implementation of agency programs to ensure that programs are consistent with agency strategic planning and available resources and are conducted in accordance with established commitments
Capital Investment Council (CIC)	Member	Examines agency-wide capital investments and policy issues, balancing program investments, cross-cutting technology investments and institutional investments. The CIC's advice to the Administrator is a significant element of the agency's detailed implementation planning process and during the budget development process. The NASA CIO reviews, evaluates, and provides recommendations on major IT investments to the CIC.
IT Investment Council	Chair	CIO leads in • Assessing and improving agency-level information technology policies, plans, standards and capabilities • Reviewing NASA's information technology plans and major IT investments required to accomplish these plans • Evaluating and providing recommendations on IT investments to the NASA CIC
CIO Board	Chair	CIO leads in • Evaluating and providing recommendations on agency-level IT architectures, policies, standards, and procedures • Reviewing agency IT investment plans, identifying unnecessary redundancies, and recommending strategies that optimize capabilities • Evaluating and providing recommendations on IT investments or initiatives that impact the agency IT architectures, infrastructure (such as IT standards), or multiple enterprises • Developing agency IT performance metrics and periodically evaluating progress in achieving agency objectives • Establishing priorities and providing support to the Principal Center Integration Team (PCIT) to facilitate coordination of agency IT architecture, standards, and related initiatives
IT Security Council	CIO as co-chair	CIO has responsibility for unclassified systems. CIO leads the board in • Coordinating communications security matters, such as policy and standards • Assessing resource planning and advising the CIC on resource issues for providing effective ITS • Providing comprehensive ITS support and advice to NASA's CIC
Engineering Management Council	Member	Council leads NASA in improvement and maintenance of its engineering capability to ensure engineering excellence, including the assessment and improvement of NASA's engineering policies, standards, practices, procedures and capabilities
Space Operations Council	Member	Establishes agency-level space operations policies, plans and standards
Science Council	Member	Provides advice, counsel and recommendations to the Administrator related to all aspects of science related to NASA's flight and ground programs.
Technology Leadership Council	Member	Advises NASA Administrator on all aspects of technology
Occupational Health and Safety Executive Board	Member	Reviews, coordinates, and implements the Occupational Health Programs policies and practices.
Internal Control Council	Member	Provides advice and recommendations to the NASA Administrator on current fiscal year significant areas of management concern and potential material weaknesses.

Agency benefits from capital planning and investment control processes:
NASA reports that to have a comprehensive IT capital planning and investment management process which is compliant with the requirements of CCA. The process is integrated with the budget process, includes minimum criteria to be applied in considering whether or not to undertake IT investments, evaluates alternatives, and provides management with milestones for measuring progress.

The NASA PMC management system governs the formulation, approval, implementation, and evaluation of all major agency programs and projects, including information systems investments. The key management documents used to plan and control programs and projects include--but are not limited to--the Program Commitment Agreement (PCA). For agency-wide IT investments, PCAs are established and concurred on by both the NASA CIO and the NASA Administrator. These document the agency's commitment to execute the program requirements within established constraints. Additional commitments are documented in Program and Project Plans, which detail the approach, and plans for formulating, approving, implementing, and evaluation program and projects. NASA's senior management tracks the status of these programs/projects through a formalized process and quarterly program status reports. NASA reports that to have a high degree of confidence in the quality of the data being used for measuring progress.

The agency evaluates IT investments in terms of mission requirements and takes steps to minimize the risk to the federal government in managing these programs by:

- Establishing milestones and minimum success criteria to ensure the validity of the investment,
- Setting-up partnerships and collaborations with other agencies who are doing similar work,
- Involving potential users of the product in the planning phase, and
- Evaluating accomplishments, yearly, by an independent review team against a relevant set of success criteria.

NASA also uses performance indicators and investment decision criteria to assess risk, cost and return on its new IT investments. The IT performance indicators used in NASA are designed to measure ROI, output, service level, and customer satisfaction. NASA's IT investment decision criteria are as described in table 2 below:

NASA Table 2: IT Investment Decision Criteria

Criteria	Definition
Mission support	The investment must support core or priority mission functions that need to be performed by the federal government.
Alternative sources	The investment must be undertaken because no alternative private sector or other government source can efficiently support the function.
Work process redesign	The investment must support work processes that have first been simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial, off-the-shelf technology.
ROI	When analyzing ROI, the cost of direct charges from agency consolidated services must be included in the total cost of the investment. Return may include: improved mission performance in accordance with GPRA measures, reduced cost, increased quality, speed, or flexibility; and customer and employee satisfaction.
Architectures	The investment must be consistent with federal and NASA architectures which: • Integrate NASA work process and information flows with technology to achieve NASA's strategic goals; • Reflect NASA's technology vision; and • Specify standards that enable interoperability, security, information exchange and/or resource sharing, while retaining flexibility in the choice of suppliers and in the design of local work processes.
Risk reduction	The investment must reduce risk by: • Avoiding or isolating custom-designed components to minimize the potential adverse consequences on the overall project; • Using fully tested pilots, simulations, or prototype implementations before going to production; • Establishing clear performance measures and accountability for project progress; and • Securing substantial involvement and buy-in throughout the project from the program officials who will use the system.
Phased development	The investment must be implemented in phased, successive modules as narrow in scope and brief in duration as

NASA Table 2: IT Investment Decision Criteria	
Criteria	**Definition**
	practicable, each of which solves a specific part of an overall mission problem and delivers a measurable net benefit independent of future modules.
Acquisition strategy	The investment must employ an acquisition strategy that appropriately allocates risk between government and contractor, effectively uses competition to obtain best value, ties contract payments to accomplishments, and takes maximum advantage of commercial technology.

NASA provided descriptions of the performance indicators used for each of the ten individual projects.

Managing Information technology for overall performance and results:
NASA includes agency-wide IT services in its GPRA strategic plan and annual performance plan. The goal of each of these agency-wide IT services is to improve IT infrastructure service delivery by providing increased capability and efficiency while satisfying customers and holding resource unit costs to FY98 baseline.

Impact on business processes:
NASA linked its top ten investments to mission-related processes and noted they are ISO9000 certified.

Agency acquisition of information technology:
NASA uses modular contracting whenever practicable.

NASA Table 1: Top Ten IT Initiatives	
System Name	**Center**
Earth Observing System Data Information System (EOSDIS)	GSFC & JSC
Desktop LAN & Voice Communications Services	All
Intelligent Systems*	ARC
Integrated Financial Management System (IFMS)	HQS
IT R&T Base*	ARC
Mission Control Center (MCC)	JSC
Intelligent Synthesis Environment (ISE)*	LaRC
High Performance Computing and Communication*	ARC
Integrated Planning System (IPS)	JSC
Space Station Training Facility (SSTF)	JSC

* Research and development initiative

DEPARTMENT/AGENCY: NSF

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Dr. Anne Petersen	5/96-10/96	5
Linda P. Massaro	10/96-current	45

Current CIO: Linda P. Massaro
Official Title: Chief Information Officer
Dates of Service: October 7 1996 -- current

Department/Component CIO Structure
Centralized

Effective use of government Chief Information Officer:
The CIO reports to the Deputy Director/Chief Operating Officer on a day-to-day basis but has access to NSF Director. CIO is a member of Director's Policy Group (DPG), a committee comprising NSF senior management officials who serve as policy advisors to the Director and Deputy Director. The DPG includes Assistant Directors for each NSF Directorate and senior managers of the Staff Offices. CIO is an equal member in advising, developing, and implementing program, financial, technological and administrative programs for the foundation. In addition, in March 1997 the CIO Advisory Group was created within NSF to provide advice and guidance to the CIO in the following areas:

- Implementation of appropriate policies and procedures in all aspects of the Information Technology Management Reform Act of 1996 (ITMRA);
- Monitoring and evaluating information technology programs throughout the agency;
- Implementation of a sound and integrated information technology platform architecture; and
- Communication of status of information technology projects to NSF management and staff.

Three major organizations report directly to the CIO, all of which have IRM components: Division of Information Systems, Division of Administrative Services, and Division of Human Resources. In FY 1999, the CIO controlled or approved all of NSF's information technology budget. Of the total information management and technology budget, 95 percent of funds are with the OCIO. All budget activities are coordinated with the CFO. The CIO coordinates with the CFO to help ensure that an effective financial accounting system is maintained in keeping with the Agency's Five Year Financial Plan. The CIO also works with the CFO to accomplish the budget submission requirements for IT capital assets as set forth in OMB circular A-11. The CIO, in consultation with the CIO Advisory Group and other appropriate internal and external organizations, provides final approval for all major information technology projects at NSF.

Agency benefits from capital planning and investment control processes:
NSF reports having implemented a complete and comprehensive IT capital planning and investment management process. NSF defines that process as "...a systematic approach to managing the risks and returns of information technology investments for a given program or project. It is an integrated management process which provides for the continuous selection, control, life-cycle management and evaluation of information technology investments and is focused on achieving a desired business outcome which can include knowledge gained from experimental projects." [NSF IT Capital Planning Guide, Appendix B to document submissions, p. 2] NSF's specific goals in implementing its capital planning process are:

- Achieve mission and business objectives.
- Balance potential benefits against costs and risks.
- Align proposed-systems investments with strategic goals.
- Measure performance and net benefit for dollars invested.

- In coordination with organizations throughout the agency, the CIO annually develops a strategic long-range information technology plan. This provides an overall framework for the major projects that are envisioned for the next three to five fiscal years. Each major organization responsible to the CIO submits an IT short-range plan for its organization to the CIO annually. The short-range plans provide an overall plan for all IT expenditures for the next fiscal year. For all "major" information technology projects or programs, a special report will be included in the short-range plan. The CIO long-range plan is reviewed by the CIO Advisory Group on an annual basis.

Managing Information technology for overall performance and results:
It will be the responsibility of each NSF organization, in coordination with the CIO, to ensure that processes have been reengineered as necessary and the alternatives of outsourcing (to private sector or another agency) have been considered and used where applicable before an IT investment is proposed, approved, and funded. The process of establishing goals must involve the agency's CIO and the agency's senior information technology managers and must include the following processes:

- Determine the baseline of existing agency functions, processes, and information systems,
- Determine if functions should be performed by the agency, another agency, or by the private sector,
- Using information technology as an enabler, perform business practice reengineering, to preclude obsolete or inefficient processes from being automated, and
- Identify information technology strategies and alternative solutions to support agency goals and facilitate the reengineering process.

[Although NSF did submit a copy of its GPRA Report for FY 1999, the report focussed on research programs the agency funds as opposed to its IT investment portfolio. However, the agency's IT capital planning guide did include the following guidance for IT investments.]

NSF Table 1: Capital Planning and Performance Plans – Roles of Performance Goals and Measures

Item	Action	Impact
Performance goals and measures for information technology investments/projects	MUST LINK	To general mission or program outcome goals and be supportive of Strategic Plan mission and vision
Organization's performance goals and measures for IT	MUST DESCRIBE	Benefits derived from IT investments in terms of increased effectiveness, efficiency or customer satisfaction
Organization's performance goals and measures for IT	MUST CLEARLY SUPPORT AND LINK	To the organization's business goals and measures in the organization's performance plan.
Multi-year IT investments/projects	WILL REQUIRE	Interim performance goals and measures that can be monitored, evaluated, and reported on annually.
Interim performance goals and measures	MUST INCLUDE	Projected and actual cost and schedule information to help ensure adherence to projected costs and schedules and early identification of problems

In its IT capital planning guide, NSF describes several mechanisms for senior management to obtain timely information on the progress of information system investments. These are described below in table 2.

NSF Table 2: Mechanisms of Provision of Timely Information

Committee	Membership	Frequency of Provision/Meeting	Function
CIO Advisory Group	[unspecified]	Periodically provided with status reports on progress underway	Reviews each of the CIO's IT capital plans, provides final approval for all major IT projects
Director's Policy Group (DPG)	Assistant Directors for each NSF Directorate and senior managers of the Staff Offices.	Meets weekly; CIO may interact daily with members on IT-related issues	Advises, develops, and implements program, financial, technological and administrative programs for the foundation
(various) Steering Committees	Staff from the organization for which the system is being developed	Weekly-monthly	Provides review/oversight of projects by using milestones for measuring progress

Since the implementation of CCA, NSF has had one major IT acquisition program–or any phase or increment of such a program--that could be considered to have significantly deviated from cost, performance, or schedule goals. NSF believes that implementing the processes and requirements of CCA have been of considerable benefit in avoiding significant deviations, but the agency asserts that the quality of IT project management has been a priority for NSF for some time.

NSF is confident that information being used for measuring progress is accurate, reliable, and up-to-date.

Impact on business processes:
Since the enactment of CCA, there have not been any changes in the NSF mission that affect the mission-related or administrative processes of the agency. Projects such as e-business were started prior to the enactment of CCA. In 1994, as part of the National Performance Review, NSF began the FastLane project with the intent of redefining and streamlining all business interactions between the agency and its external customers. FastLane is designed to re-engineer, improve, and automate the interactions that the research and educational communities have with NSF. The primary objectives of the FastLane project include reducing the administrative burden on NSF and its research community, lowering the cost of submitting proposals to NSF, providing direct and timely access to NSF funding and processing information, automating interactions with NSF customers, and leveraging information that is available electronically. FastLane is now in integral part of the way NSF does business. OIRM has developed a FastLane implementation plan to assist NSF staff in making full use of FastLane in their business practices. NSF anticipates the following projected returns on its investment in FastLane:

- Improved ability to report on GPRA goals as a result of FastLane: a number of NSF's GPRA goals for FY99 depend greatly on the information that was collected in FastLane.
- Reduced burden on researchers –one of FastLane's initial goals was to reduce significanlty the workload on science and engineering researchers and educators in preparing and submitting documents.
- Increased customer satisfaction –a primary purpose of FastLane is to streamline and redesign NSF's business interactions with its external customers.
- Improved infrastructure – full implementation of FastLane requires a significant upgrade in NSF's technological infrastructure.
- Increased efficiency of NSF staff – the streamlined process and technological improvements associated with FastLane implementation will enable NSF staff to work more efficiently.
- Increased employee satisfaction – by automating routine procedures, FastLane contributes to increased employee satisfaction.
- Improved mission performance in accordance with GPRA measures – as a pilot project, FastLane has a number of performance goals.

Agency acquisition of information technology:
NSF used the principles of modular contracting before passage of CCA. Almost all NSF contracts are incrementally funded with a period of performance of no more than one year.

[Please note: NSF provided incomplete CIO Annual Report for 1999.]

NSF Table 1: Top Ten IT Initiatives (FY99)

Project	FY99 Funding	Performance Goals and Measures
Mainframe Support	$2,621,100	• Percent of scheduled availability during which services are actually available • Goal of 99.5% availability and will track duration of system outages against schedule to determine actual percentage, and will report this weekly • Timeliness of applying software maintenance updates
FastLane (Funded by O/D)	2,500,000	GPRA goals: • Receive ten percent of proposals electronically • Receive seventy percent of all project reports • Assure that all NSF have received basic FastLane orientation • Ninety-five percent of program staff received hands-on training in key functions Additional goals: • Cost reduction • Overhead reduction • Increased information accessibility • Increased customer responsiveness and satisfaction • New opportunities
Phone Support	1,531,550	NSF has not yet implemented performance goals for the Phone Support Project with specific measures and consistent tracking of these measures, although NSF uses general targets such as distribution of long distance usage reports, closure of troubled calls. NSF plans to define performance goals in first quarter FY99.
Local Area Network Support	1,425,000	• LAN is available and responsive • (for office products and browser) new versions should be available in a timely fashion • percent of scheduled availability during which services are actually available (goal of 99.5% availability) • time between vendor release of new versions and agency's making them available to NSF staff (goal of 90 days)
E-mail Support	951,800	• percent of scheduled availability during which services are actually available (99.5% availability goal) • "round trip" arrival time for messages sent between cc:Mail and the NOTE1 system
Help Desk and Training Support	600,000	[Agency response provides greater detail] • number of calls received and answered • rate of response • quality of response • cost • number of courses and students (training) • responsiveness • quality of classroom teaching • cost
Financial Accounting System	800,000	NSF will use a phased migration in the development of FAS. **Stage** / **Milestone** Planning and research: Preliminary project planning, requirements definition and workshops, third party evaluations, planning Database architecture, design and installation: Data modeling, database design, replication protocol design, creation of scripts, creations and population of test FAS database and reporting database Application design: JAD session, application and interfaces design, prototype creation and demonstrations Application and interfaces development: Development environment set up, application and interfaces software development, stored procedures coded Data conversion: Data migration scripts creation, replication definitions and function string coding System testing: Test plan creation, test plan execution, bug fixing Documentation and training materials: User and system operator manuals, on line help creation, training guides

NSF Table 1: Top Ten IT Initiatives (FY99)			
Project	**FY99 Funding**	**Performance Goals and Measures**	
		Acceptance testing	Tester training, acceptance testing, bug fixing
		Implementation, training and cut over	Production environment set up, data converted, production software available, training sessions
		Operational support	On going training, bug tracking and resolution, version management, maintenance releases
Awards and ICR System	500,000	Specific performance goals and measures will be developed in conjunction with BFA after the procurement methodology and design have been completed.	
		Planning	Detailed project plan
		Database architecture design	Data modeling, replication architecture, operational Sybase database, replication server installed
		Application design	Application framework established, detailed design specifications and prototype completed
		Application development	Coding of system, interface software, stored procedures
		Data conversion	Conversion plan approved by NSF, data converted
		System testing	Test plan in place, testing accomplished
		Documentation and training materials	User guides, reporting guides, technical guide, and training materials all completed
		Acceptance testing and quality assurance	Acceptance testing plan and acceptance testing completed
		Implementation, training and cut over	Software loaded, data converted, training completed, production begins
Payroll System	300,000	Specific performance goals and measures will be developed in conjunction with BFA after the procurement methodology and system design are complete. Components of performance measures are: • requirements analysis resulting in detailed requirements document • design evaluation criteria • market survey into COTS and other federal government systems followed by an evaluation of the findings • detailed system design specifications • application development in a stage, modular approach • system test plans and system testing • documentation • training • implementation	
Macintosh Support Policy Changes	550,000	No objective performance goals have been established for this project.	

DEPARTMENT/AGENCY: NRC

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Mr. A.J. Galante	2/97-6/99	28
Stuart Reiter (acting)	6/99-current	13

Current CIO: Stuart Reiter
Official Title: Chief Information Officer, acting
Dates of Service: June 1999 -- current

Department/Component CIO Structure
Centralized.

Effective use of government Chief Information Officer:
NRC's CIO reports directly to head of the agency. The CIO is one of three members of the NRC's Executive Council (EC). The EC comprises the Executive Director for Operations (EDO), the CIO and the CFO. The EC:

- Makes corporate decisions or recommendations on matters that significantly affect agency strategic plans and related policies and programs and/or resources;
- Ensures that program and resource planning and implementation are closely coordinated and integrated;
- Facilitates the agency Strategic Planning Process; and
- Facilitates communications between the EDO, the CIO, and the CFO.

As delegated by the Chairman, and in coordination with the other members of the EC, the CIO:

- Develops and implements agency-wide IRM planning, budgeting, and investment control policies, processes, and procedures that support NRC's mission and meet the requirement of federal statutes and regulations;
- Develops and recommends goals, strategies, and performance measures for improving agency effectiveness and efficiency through the use of IT;
- Prepares integrated agency-wide IRM plans and related OMB and Congressional submittals, ensuring that such plans support the NRC Strategic Plan;
- Approves OMB and congressional submittals to IRM; and
- Reviews and approves the business case for all IT projects, referring those with a project cost equal to or greater than $500,000 to the EC for review and approval.

As a member of the EC, the CIO approves all information management and technology expenditures. The CIO directly controls 57 percent of the total IT budget for FY2000. In addition, the CIO reviews the agency's budget submission, provides direction and review on strategic planning activities, and reviews the status of all major programmatic initiatives.

Agency benefits from capital planning and investment control processes:
NRC reports that to have implemented a complete and comprehensive IT capital planning and investment management process. The objectives of this process are as follows:

- Ensure that NRC's IT investments are aligned with its mission and strategic goals and make measurable improvements to the performance of NRC's mission and supporting administrative functions.
- Ensure that NRC has an IT capital planning and investment control process that maximizes the value and assess and manages the risk if IT investments.
- Ensure that NRC's planning and budget process for information resources is integrated with the NRC's overall planning, budgeting, and performance management process.
- Ensure that NRC work processes are benchmarked against best practices and are redesigned, where appropriate, before making significant investments in applications or systems to automate those processes.

- Promote accountability of program officials for the information resource investments that support their programs.

Final decision-making authority rests with the five presidential-appointed Commissioners. Operationally, the Chairman approves project initiation for investments of $3M and above. The EC approves project initiation for investments over $500,000 and less than $3M. The CIO approves project initiation for investments less than $500,000. The Information Technology Business Council (ITBC), composed of SES managers from across the agency's major business offices, review investments and advise the CIO and the EC as a whole. The CIO may ask for EC review of investments of less than $500,000 that are otherwise critically important to the agency. The NRC capital planning and investment control (CPIC) process is outlined below in NRC table 1.

NRC Table 1: Capital Planning and Investment Control (CPIC) Structure	
CPIC Task	**Accountable Actor**
Review and approve the business case for IT projects with a project cost equal to or greater than $500,000	EC
Reviews *major* IT projects that are at risk for a significant variation from their approved cost, schedule, or performance goals. Decides whether or not to continue, modify, or terminate such projects.	EC
Coordinates financial systems plans, including Five-Year Financial Management Systems Plan, with CIO to ensure consistency with overall agency IT plans and architecture.	CFO
Seeks the advice of CIO on information resource planning and budget issues to ensure that proposed expenditures are compatible with agency IRM plans and architectures.	CFO
Obtains CIO approval of IRM-related portions of agency OMB and Congressional submittals	CFO
See above, under Effective use of CIO	CIO
Submit information on office or regional IT projects, needs, and plans to the CIO in accordance with Handbook 2.2 or as requested to support agency-wide IRM planning, budgeting, and investment control.	Office directors and regional administrators
Submit information on the progress and results of IT projects sponsored by their office or region to the CIO or EC as appropriate, in accordance with Handbook 2.2.	Office directors and regional administrators
Benchmark NRC mission-related processes and administrative processes against best practices, and revise them, where appropriate, before proposing investments in IT that support those processes.	Office directors and regional administrators
Coordinate proposed projects with the OCIO to ensure that such projects conform with agency IT architectures and standards, are compatible with the IT infrastructure, are integrated with related projects, and do not duplicate existing data and applications.	Office directors and regional administrators
Manage IT projects sponsored by their office or region to avoid significant deviations in the cost, schedule, and performance goals established for such projects.	Office directors and regional administrators
Participate in IT investment planning and oversight through representation on senior agency review or advisory bodies.	Office directors and regional administrators

Managing Information technology for overall performance and results:
NRC has built CCA section 5122 (b) requirements into its CPIC process. For a project to win approval, the sponsor must commit to detailed milestones for schedule, performance, and cost. Once an investment proposal has been approved and enters the "project" phase, OCIO staff continues to monitor the projects' status. Each project's spending plan is monitored on a quarterly basis and corrective action is recommended as warranted. The project is approved for a baseline budget. When the sponsor believes that the project may exceed that budget by five percent, he or she must return to the CIO and/or the EC to request additional approvals. The CIO and/or the EC may grant additional funding approval, request changes to the project, or terminate the project.

32 IT investments have been approved as part of the CPIC process. Of those, seven have reached completion on time and within budget (five-percent ceiling), and three ongoing projects have received EC approval to exceed the five-percent ceiling. None has reached the ten-percent cost overrun ceiling. In one case, where the contractor was unable to deliver a promised module, the contract was canceled in order to minimize the financial impact on the agency. NRC reports--based on its operation experience-- that its data are accurate and reliable.

Impact on business processes:
NRC has undertaken a comprehensive review of its mission, which has resulted in a new Strategic Plan. As part of the CPIC process, sponsors of each proposed investment are required to demonstrate how the investment supports the revised Strategic Plan and to explain how the project enables business process improvement. Results are included in table 2 below.

Agency acquisition of information technology:
NRC reports to have achieved limited success in implementing modular contracting. According to the NRC, project sponsors are directed to address procurement strategy in their CPIC analysis and the management review gives preference to modular approaches. The primary determinant of the viability of modular contracting is whether a development project can be broken into discrete functional elements for which benefits of implementation and operations will exceed costs.

Two of the three systems identified to OMB as major NRC systems--RPS and STARFIRE--use modular contracting. In the case of STARFIRE, when one contractor was unable to deliver a promised module, other components of the project can proceed and can continue to meet scheduled milestones due to the project's modular acquisition strategy. The third major system, ADAMS, did not lend itself to modular development and implementation.

NRC Table 2: Top Ten Initiatives

Investment	Linkage to Agency Strategic Plan	Process Improvement Accomplishments	Total Acquisition Cost ($M)

Agency Documents Access and Management System (ADAMS)	• **Reactor and materials safety** – increases the number of regulatory documents that are available electronically and that are electronically searchable, thereby improving the technical staff's access to safety information
	• **Public confidence** – improves the accessibility to documents available to the public and decreases the elapsed time between the creation of the document and its availability to the public
	• **Reduce unnecessary regulatory burden on** licensees – allows licensees the option of submitting regulatory documents electronically
	• **Efficiency and effectiveness** –
	  • reduces staff requirements for the file center,
	  • provides more efficient search techniques for the staff, and
	  • replaces as many as fifty duplicate document management and tracking systems.
		• Planned as an agency-wide process improvement tool.
		• Has vast process improvement potential through implementation of electronic workflow processing.
		• Will improve staff's access to information.
		• Administrative process of records management has been dramatically redesigned and improved.
		• Process of disseminating information to the public is expected to achieve significant gains as information becomes available on a more timely basis.
			13.40

STARFIRE Resource Management System	• **Efficiency and effectiveness** –
	  • improves linkage of budgeting and planning information,
	  • integrates performance management measurements into the financial system,
	  • implements cost accounting disciplines that should improve NRC's decision-making by tracking the total cost of activities and their relation to the agency's mission.
	• **Supports corporate management strategy** – employs innovative and sound business practices
		• Improves agency's practices across the board.
		• Makes possible knowing the full cost of activities and more informed decisions.
		• Implements "employee self-service" for many administrative processes.
			8.40

PC Refresh	Provides appropriate agency staff with personal computers that are capable of running ADAMS and STARFIRE. Its contribution to the agency goals is indirect but important.	• Provides appropriate agency staff with personal computers that are capable of running ADAMS and STARFIRE. • Changed "refresh" paradigm to tie upgrades directly to application requirements so that upgrades were targeted for specific business needs.	8.00

Reactor Program System (RPS)	• Supports Business Functions Reactor Inspection and Reactor Licensing → support agency's **Safety and Public Health** Strategic Goal –
	  • System collects information that can be correlated against facility characteristics with an analytical capability that permits the linking, trending, and analysis of plant performance data for better safety monitoring and to identify cause and effect relationships before they impact safety.
	• **Reactor Safety** (primary linkage)
	• **Public Confidence** –
	  • Facilitates consistency and availability of reactor safety data
	• **Efficiency and Effectiveness** –
	  • Combines ten separate, overlapping programs into a single, efficient, and easily maintainable system.
		• Key tool for implementing strategic change at NRC.
		• Enables execution of Revised Reactor Oversight Process (RROP), which measures licensee performance and prioritizes regulatory effort on issues having highest safety impact.
		• Used in conjunction with RROP, which has replaced Systematic Assessment of Licensee Performance process.
			2.70

General License Tracking System (GLTS)	• **Public health and safety, materials safety, public confidence** – • Implements a registration program that provides an efficient and effective method of providing contact with licensees of general devices that the Commission believes to pose a higher health and safety risk.	• Created to respond to an improved process for communicating with the agency's general licensees. • Implements new registration process that proves improved oversight of general licensees.	0.68
Enforcement Action Tracking System (EATS)	• **Materials and reactor safety** – • Obtains prompt correction of violations and conditions adverse to safety, deterring future violations, and encouraging improvement of licensee performance • **Manages major enforcement actions** • **Assesses effectiveness and uniformity** of all actions, ensuring cases are received, reviewed, and executed in a timely manner	[see linkage to agency strategic plan]	0.49

NRC Table 2: Top Ten Initiatives			
Investment	**Linkage to Agency Strategic Plan**	**Process Improvement Accomplishments**	**Total Acquisition Cost ($M)**
	• **Efficiency and effectiveness** – re-platforms enforcement computing from an expensive mainframe system to a component of an existing cost-effective PC-LAN based system		
Agency training System (ATS)	• Supports critical agency training requirements for staff through direct use of COTS functionality in PeopleSoft HR system • **Efficiency and effectiveness** – retires three legacy systems and avoids costs of planned interfaces to those systems • **Corporate management strategy** – to sustain high-performing, diverse workforce.	Provides logistical implementation of a process improvement that merges agency's Nuclear Technology Training programs with its other staff training programs. Resulting process efficiencies allowed agency to retire three automated custom systems and implement revised process on COTS software.	0.37
Performance Indicators (PI)	• **Reactor safety, public confidence** – A key strategic initiative in the NRC is to revise the Reactor Oversight Process in a manner that will continue to ensure safety but will decrease unnecessary regulatory burden on licensees. As part of this initiative, NRC, licensees, and stakeholders reached consensus on a number of Reactor Performance Indicators that have safety implications. Qualitative thresholds for concern were established and the level of regulatory oversight will be appropriately adjusted so that plants that operate safely may receive less oversight than those that are not operating within thresholds. This system accepts data from licensees and analyzes the data using publicly accepted algorithms to assess levels of concern. The data and the analysis are made publicly available to that the public will be informed of the operating experience of plants and will understand NRC's basis for regulatory oversight actions.	[see linkage to agency strategic plan]	0.30
Operator Licensing tracking System (OLTS)	• **Reactor safety** – NRC is charged in the **Atomic Energy Act of 1954** with the responsibility of issuing licenses to the operators of nuclear power plants and test/research reactors. OLTS is vital to managing the issuance of approximately 400 new licenses per year and the maintenance of 5,000 existing licenses. This project corrects a number of technical problems, improves the user interface, and integrates with RPS.	Designed to improve efficiency of operator licensing process by retiring a mainframe data system and incorporating the process into the RPS client/server framework for improved efficiency and data integrity.	0.28
Automated Performance Measures Project (APMP)	• **Efficiency and effectiveness** • **Improves ability to comply with GPRA** APMP mines data from the RPS and other databases to provide automated updates of operating plan and performance plan metrics, as well as program plans for licensing, inspection, performance assessment, and license renewal.	Automates parts of agency's new process of performance management for compliance with GPRA reporting requirements.	0.25

DEPARTMENT/AGENCY: OPM

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Janet L. Barnes	5/96-current	50

Current CIO: Janet L. Barnes
Official Title: Chief Information Officer
Dates of Service: May 1996 -- current

Department/Component CIO Structure
Centralized

Effective use of government Chief Information Officer:
CIO reports directly to the head of the agency. The CIO has primary responsibility for providing the Executive Board and the Director with a strategic IT perspective for agency-wide planning and budgeting. In addition, the CIO provides the Executive Board with IT advice and guidance on day-to-day operational issues. For the Retirement Systems Modernization (RSM) project, the agency's single, major project at this time, the CIO is responsible for executive-level technical oversight as a member of the project's Executive Steering Committee. The CIO has also been instrumental in bringing a strategic IT perspective to OPM and has championed the development of an IT architecture, which has had a key influence on OPM's IT-related business decisions. The CIO also:

- Prepares the IT portion of OPM's Strategic Plan, Annual Performance Plan and Annual Performance Report, as required by GPRA.
- Prepares an annual summary level report of accomplishments as part of the annual performance review process.

For FY 2000, the CIO controls or otherwise reviews and approves approximately 29 percent of OPM's planned expenditures. In addition, the CIO provides technical oversight of the RSM project, which accounts for another 11 percent of the agency's planned IT expenditure. Most of the remaining IT budget covers routine operational and maintenance activities. Even for these activities, the OCIO is involved in oversight activities to ensure standardization and compliance with the agency's IT architecture. The CIO provides technical oversight of all the agency's significant IT initiatives by assigning a CIO staff member as an IT project liaison.

Agency benefits from capital planning and investment control processes:
OPM has established an Executive Board, which includes senior program office managers, the CFO, and the CIO, as the primary executive-level body for its agency-wide strategic planning, budget deliberations, and operations co-ordination. The Executive Board performs the function of an executive management level IT capital planning and investment review group. The Board makes the recommendations to the Director concerning major IT-related initiatives and acquisitions. The Director makes the final decisions.

OPM has instituted a capital planning and investment control process but has tailored it to fit the agency's needs, and thus, it may be less structured than processes developed by other agency's in response to CCA. The CIO and CFO jointly developed OPM's initial implementation of its IT capital planning process to comply with essential requirements contained in the CCA and in OMB guidance on capital planning. This initial process will continue to evolve and may become more formalized as OPM gains experience with its application. OPM notes that historically the agency has had very few major IT acquisition efforts that would be candidates for the application of the IT capital planning process envisioned by CCA. As a result, OPM has not yet had to adopt a multi-layered technical review structure with project classifications that define various levels and detail of review and approval. The agency feels that, therefore, some of the requirements of CCA, particularly those provisions, relating to capital planning, investment control, and project tracking procedures, while important in concept, must be tailored to make them practical in the agency's environment. However, OPM has only one major IT acquisition initiative at this time, the Retirement Systems Modernization (RSM) project and recognizes that this project does require a more formalized and comprehensive justification and review process, which includes the development of the

OMB Capital Asset Plan (Circular A-11, Exhibit 300B). OPM has also established a more structured and tailored oversight process for the RSM project, which is still in the planning stages, including a senior-level Executive Steering committee with both the CIO and the CFO as members, to provide general project oversight.

OPM's agency-wide IT Vision Architecture is a key underpinning to the agency's approach. The architecture provides the technical reference model or standards that guide most of the agency's IT efforts. OPM screens all significant new IT initiatives, i.e., those requiring requests for additional funding, as part of the budget process. The CIO conducts the initial review and prioritization of new IT initiatives. To be considered for further review, IT projects must:

- Be clearly defined with appropriate performance measures;
- Support achieving the goals and objectives articulated in the agency's strategic and annual performance plans;
- Be reasonable in terms of scope, duration and resource estimates; and
- Comply with the agency's IT Architecture Vision.

Once a significant IT project is implemented, the CIO will participate in the program office led post-implementation review to ensure that the project is meeting its performance objectives.

Managing Information technology for overall performance and results:
OPM believes that less formalized control processes are more appropriate in its environment where the number and size of the IT efforts being considered are relatively small. [The agency notes that of the 24 departments/agencies to which CCA specifically applies, it ranks 23rd in IT expenditures, 88 percent of which is for maintenance of existing systems and infrastructure.] For example, OPM does not provide the director with annual reports on improvements in information resources and technology management capabilities. This is one of the provisions of CCA that OPM believes is appropriately met in a less formalized manner. The agency uses a variety of information dissemination means to ensure the key decision-makers, including the Director and senior managers, are fully aware of IT/IRM-related capabilities and issues. The CIO:

- Provides the Director and the executive staff with weekly reports of the IT/IRM activities, accomplishments and plans of the OCIO.
- Briefs senior staff on IT issues, as appropriate, at the weekly staff meetings and provides the Executive Board with updates on IT issues on an as needed basis.

Progress against the RSM project plan and milestones are reported to the Executive Steering committee by the project management staff. Progress against milestones is a required part of the annual update of the project Capital Asset Plan. OPM is confident the data used to measure progress on the RSM project are accurate, reliable and up-to-date.

Impact on business processes:
The agency asserts that as part of the GPRA strategic planning process, it has analyzed its overall mission and established specific goals and objectives to accomplish that mission and that its Annual Performance Plan links directly to these Strategic Plan goals and objectives. Business process re-engineering has been a key component of its major IT initiative, the Retirement Systems Modernization project. The agency asserts having devoted an extensive effort to review retirement-related business and administrative procedures prior to applying information technology. That process is still on-going as described in the agency's Capital Asset Plan for the project.

Agency acquisition of information technology:
OPM asserts using a modular contracting approach for the RSM project in accordance with CCA and OMB guidance. The agency is currently using two major contractors. One has defined requirements and is doing the business process re-engineering part of the project and the other will be doing the technical development. In both cases, increments have been defined and issued as specific fixed price tasks. OPM sees no obstacles to continuing to use this approach.

OPM Table 1: Top Initiative*
Retirement Systems Modernization Project

*OPM currently has only one major initiative, the Retirement Systems Modernization Project. The initiative has four phases.

DEPARTMENT/AGENCY: SBA

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
Lawrence E. Barrett	5/97-current	38

Current CIO: Lawrence E. Barrett
Official Title: Chief Information Officer
Dates of Service: May 15, 1997 -- current

Department/Component CIO Structure
Centralized

Effective use of government Chief Information Officer:
CIO reports on a day-to-day basis to the Associate Deputy Administrator for Management and Administration.

Currently, approximately 66 percent of SBA expenditures are controlled or approved by the CIO organization.

Agency benefits from capital planning and investment control processes:
At present, agency does not have a fully documented set of procedures covering the entire regimen of IT investment processes. During much of FY 1998 and FY 1999, SBA's IT resources were used largely to sustain routine operations and maintenance, with special resource emphasis on a successful Y2K migration. For the remainder of FY 2000, SBA will concentrate on developing comprehensive IT investment processes that will guide IT capital planning in the agency.

Managing Information technology for overall performance and results:
Data unavailable.

Impact on business processes:
New initiative linked to mission-related programs and strategic goals. Agency reviews missions.

Agency acquisition of information technology:
SBA is using modular-based contracting strategies in its current major initiative.

SBA Top Ten Initiatives
[SBA attachments not received]

DEPARTMENT/AGENCY: SSA

Total Number of CIOs since CCA Enactment		
Name	**Dates of Service**	**Number of Months**
John R. Dyer	8/96-current	47

Current CIO: John R. Dyer
Official Title: Executive Director to the Deputy Commissioner
Dates of Service: August 1996 -- current

Department/Component CIO Structure
Centralized

Effective use of government Chief Information Officer:
CIO reports directly to the Deputy Commissioner, who now leads the strategic planning and performance management sessions. SSA CIO chairs the CIO Advisory Council, composed of Executive Staff members and other selected participants. This council participates in IT resource investment decisions and ensures agency-wide awareness of and involvement in IT and information resources management issues. The CIO raises issues to the Commissioner and the Deputy Commissioner that require their involvement. The CIO makes the final decisions on IT investments, after considering recommendations from members of the Advisory Council and discussing issues with the Commissioner and Deputy Commissioner that require their involvement.

Agency benefits from capital planning and investment control processes:
SSA has had key elements of planning process in place for years. SSA is more fully implementing this process by designating major initiatives that will be subject to a more structured investment review process. The Office of Systems has produced the Information Systems Plan that addresses planned improvements in information resources and technology management capabilities. SSA's capital planning and investment control process applies to the total ITS budget. The level of review varies according to the cost and importance of each IT project. The CIO and Executive Staff receive a monthly ITS Budget Execution Report that provides the latest estimates on available ITS budget resources and the progress of systems investment obligations. The report also alerts senior officials to project cost and schedule deviations as they impact the ITS resources. The progress of major systems development projects is measured on a monthly basis by senior management; systems are also subject to a quarterly review by the SSA Executive Staff.

SSA Executive Staff has full confidence in the quality of the data available.

Managing Information technology for overall performance and results:
SSA's capital planning and investment process requires that major IT initiatives be monitored during development and implementation to determine if an initiative is proceeding within acceptable parameters, based on the last decision point approval. While SSA has not produced a strategic information resources management plan in recent years, the information on major IT acquisition programs is communicated through other means. These include the annual performance plans, identification and reporting of significant deviations as required by OMB, and through the agency's own capital planning and investment control process.

Executive staff had full confidence in the quality of the data available at the time the investment decisions were made.

Impact on business processes:
[See SSA Table 1]

Agency acquisition of information technology:
For larger IT projects, SSA uses a process that achieves the same goal as modular contracting. Projects are segmented into separate releases that may take from 12 to 18 months to complete. Thus, the requirements are satisfied in discrete, successive, interoperable increments that are not dependent on any subsequent increment in order to perform its principal functions.

SSA Table 1: Top Ten Initiatives and Expected Impacts and Outcomes

Initiative	Objective/Expected Outcome	Realized/Expected Benefits to GPRA Goals*	Work Process Improvements
Electronic Disability Insurance Benefits (eDIB)	Develop a fully electronic process that supports the planned improvements to the disability program.	• Promote valued, strong and responsive Social Security programs and conduct effective policy development, research and program evaluation • Deliver customer-responsive, world class service • Make SSA program management the best in business, with zero tolerance for fraud and abuse	• Ensure decisions are made as accurately as possible • Customers to be paid are paid as quickly as possible • Adjudication process is consistent throughout • Disability Claims Manager process that combines functions of claims representatives in field offices with functions of disability examiner • Reduce processing times • Increase productivity to the public • Reduction of pending workloads and processing times in the near term • Develop operational structure to continue delivery of high-quality, timely and efficient case processing for the long-term
Paperless Processing Center Initiative	Enables SSA to capture information received on paper through electronic imaging and make that information available for case processing on demand.	• Deliver customer-responsive, world class service • Make SSA program management the best in business, with zero tolerance for fraud and abuse • Be an employer that values and invests in each employee	• Enabler for process changes that streamline processing center operations • Enables paperless system that makes clients' records readily available • Eliminates cumbersome routing and maintenance of paper folders
National 800 Number Network	[Manage volume of SSA inquiries (72.7 million in FY99)]	• Deliver customer-responsive, world class service	• Improve ease of customer access to SSA services • Increase customer satisfaction
National 800 Number Call Center Solution	[Maintain capacity to manage volume of inquiries.]	• Deliver customer-responsive, world class service	
Title II Systems Redesign	Provides greater capability to process work at the customer's first point of contact, and an automated system that is easier and less costly to maintain and modify quickly.	• Deliver customer-responsive, world class service • Make SSA program management the best in business, with zero tolerance for fraud and abuse	• Increase automation and consolidate existing systems to provide single system capable of processing initial claims and client-initiated post-entitlement actions online/interactive • Greater capability to process work at customer's first point of contact
Intelligent Workstations/Local Area Networks (IWS/LAN) Phase 1/2	Provides all employees front-line access to expert, online "help" features, interactive training, online human resources management functions, and many other initiatives. Is also enabler for redesign of core business processes.	• Deliver customer-responsive, world class service • Make SSA program management the best in business, with zero tolerance for fraud and abuse • Be an employer that values and invests in each employee	• Puts networked personal computer on every front-line employee's desk • Establishes network of intelligent workstations • Supports technological enhancements toward cooperative processing in paperless environment
Non-800 Number Telephone Service	Satisfies SSA's mission-critical requirement for reliable voice communications.	• Deliver customer-responsive, world class service	• Reduce operating costs available through FTS2001
Data Communications Network	Includes infrastructure usage costs for the Enterprise Network Architecture. Is also critical for proper functioning of IWS/LAN and all applications, such as Paperless Processing Centers and eDIB.	• Deliver customer-responsive, world class service	
Hardware/Software Lease Maintenance	Ensures SSA's entire IT infrastructure is operating at optimum level to support SSA's mission-critical activities.	• Deliver customer-responsive, world class service • Make SSA program management the best in business, with zero tolerance for fraud and abuse	• Improve hardware/software maintenance processes • Improve system availability and reliability • Achieve economies of scale

*Table lists goal only. Documents include more detailed information on how goals are to be achieved and what this achievement will mean to the organization. The purpose of the table is only to show that initiatives and goals are linked. SSA also provided more detailed information the individual initiatives.