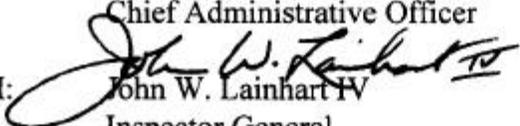


Office of Inspector General
U.S. House of Representatives
Washington, DC 20515-9990

MEMORANDUM

TO: James M. Eagen III
Chief Administrative Officer

FROM: 
John W. Lainhart IV
Inspector General

DATE: December 12, 1997

SUBJECT: Audit Report - Despite CHO And CAO Mandates, HIR Has Not Begun
Development Of A Mainframe Migration Plan (Report No. 97-CAO-15)

This is our final report containing the results of our audit of HIR's mainframe migration plan. The original objective of this audit was to evaluate the adequacy and effectiveness of HIR's mainframe migration planning process. However, preliminary survey work revealed that there was no mainframe to client/server migration plan, nor were there any known long-term planning efforts related to this issue. As a result, the original objective of this audit was revised to (1) identify the course of management actions that have led up to this condition, and (2) determine their effects. In this report, we noted inconsistencies with regard to mainframe migration that involve planning, budgeting, communications, and a general misconception regarding the Committee on House Oversight's (CHO) intentions with regard to mainframe migration. As a result, the House is now in a position of having to first implement costly Year 2000 solutions, and then readdress migration for these very same legacy systems, rather than accomplishing both tasks in unison, as originally envisioned.

In response to our July 18, 1997 draft report, your office fully concurred with our findings and recommendations. Your October 14, 1997 management response is incorporated in this final report and included in its entirety as an appendix. The corrective actions taken and planned by your office are appropriate and, when fully implemented, should adequately respond to the recommendations. Further, the milestone dates provided for implementing corrective actions appear reasonable.

We appreciate the courtesy and cooperation extended to us by your staff. If you have any questions or require additional information regarding this report, please call me or Robert B. Frey III at (202) 226-1250.

cc: Speaker of the House
Majority Leader of the House
Minority Leader of the House
Chairman, Committee on House Oversight
Ranking Minority Member, Committee on House Oversight
Members, Committee on House Oversight

DESPITE CHO AND CAO MANDATES, HIR HAS NOT BEGUN DEVELOPMENT OF A MAINFRAME MIGRATION PLAN

I. INTRODUCTION

The retirement of the U.S. House of Representatives' (House) legacy systems was identified as a high priority in the House Information Systems Program Plan (ISPP). This plan noted that the House legacy systems were outdated and no longer able to support critically important activities effectively. In the one and a half years since its endorsement by the Committee on House Oversight (CHO), migration planning attempts have experienced false starts, misleading direction, disagreement, and eventual inaction. In actuality, there is no mainframe to network-centric or client/server migration plan. As a result, the House is now in a position of having to first implement costly Year 2000 solutions, and then readdress migration for these very same legacy systems, rather than accomplishing both tasks in unison as originally envisioned. The omission of strategic planning by management resulted in reactive planning practices that limited management efforts to coordinate and implement timely and cost-effective solutions. Strategic planning and the lack of management direction, which were cited as internal control weaknesses in our review of House Information Resources (HIR) management¹, appear to be the basic problems with respect to the mainframe migration initiative as well.

Background

At the start of the 104th Congress, a vision was established by the Speaker for a CyberCongress. The vision involved transforming the House from its reliance on cumbersome, paper-based information, to an institution supported by universally available electronic information. Once implemented, it would remove restrictions of time and space for Members, Committees, and staff, allowing them the flexibility to perform their work at the best time and place. At the same time and using the same technologies, timely access to House information and activities would be available. At the request of the Speaker, a special group was formed by the CHO and named the Computer and Information Services Work Group (CISWG). This Group, which was comprised of three Members, concentrated its efforts primarily on computer technology and infrastructure issues and reported directly to the CHO. On November 15, 1995, the CHO approved, in concept, the House Information Systems Program Plan presented by the CISWG. The ISPP, and the accompanying resolution, were intended to provide HIR the impetus for translating the Speaker's CyberCongress vision into reality.

Through the ISPP, the CHO had requested HIR to identify the elements surrounding the retirement of, and migration from, the mainframe computer system. In response, HIR identified mission-critical applications that would be migrated to a client/server² architecture based on a network-centric³ approach to information

¹ HIR Management Practices Undermine The House's Ability To Keep Pace With Technological Changes (Report No. 97-CAO-09, May 9, 1997).

² Client/server is an architecture in which a system's functionality and its processing are divided between the client personal computer (the front end) and a database server (the back end). System functionality, such as programming logic, business rules, and data management, is segregated between the client and the server machines. The end user uses the front-end application to request information from the database server. The database server receives these requests, processes them, and sends the results back to the client to be displayed.

³ Network-centric, or what is now known as distributed client/server computing, can be defined as all clients, servers, and Local Area Networks (LAN) being connected and controlled through the network backbone.

creation, storage, access, and delivery. HIR further stipulated that a migration strategy had to be adopted prior to retirement of the mainframe. This migration plan would need to answer key questions and identify critical decision points relating to the establishment of a client/server network in order to ensure support for the new client/server systems.

The ISPP called for the House to begin planning for the retirement of the mainframe legacy systems several years in advance of actual replacement. The migration plan would thus need to outline the retirement of the mainframe processor as well as place a high priority on the retirement of legacy systems, and outdated desktop systems that would have otherwise continued to drain resources needed for new programs. This planning effort was especially needed for the IBM mainframe processor, since it was not expected that this processor would be required to run any mission critical applications once MIN (Member Integrated Network), ISIS (Integrated Systems and Information Services), LIMS (Legislative Information Management System), and FMS (Financial Management System) were replaced. In the case of the House, a well-conceived migration plan would be especially important since it had to include not only a plan to provide continued service for its mission-critical systems until they could be replaced, but also a plan for retiring formal agreements with outside clients, such as the General Accounting Office (GAO) and the Congressional Budget Office (CBO), as well as provide alternative services for those systems, such as the National Change Of Address (NCOA), that are not regarded as mission-critical.

Objective, Scope, And Methodology

The original objective of this audit was to evaluate the adequacy and effectiveness of HIR's mainframe migration planning process. However, preliminary discussions with the Directors of Integration and Enterprise Computing, as well as follow-up discussions with the Associate Administrator, HIR⁴ (hereinafter referred to as the Administrator), revealed that there was no mainframe to client/server migration plan, nor were there any known long-term planning efforts related to this issue. As a result, the original objective of this audit was revised to (1) identify the course of management actions that have led up to this condition, and (2) determine their effects. The audit was conducted from April 18, 1997 to July 3, 1997.

We interviewed staff members in the Clerk's Legislative Computer Systems Office; the Acting Associate Administrator, as well as the Director of Budgeting for the Office of Finance; the Acting Associate Administrator for Media and Support Services; and the Legal Counsel within the Office of the Chief Administrative Officer (CAO). We also interviewed the Administrator, Group Directors, and selected staff in HIR. We visited and conducted interviews with the Director, Information Systems Services and staff, for the Small Business Administration, as well as the Information Systems Audit Manager for the Federal Home Loan Mortgage Corporation - Freddie Mac.

We conducted this audit in accordance with the *Government Auditing Standards* prescribed by the Comptroller General of the United States and included such tests as we considered necessary under the circumstances. While we are aware that the House is not required to follow Executive Branch guidance, we applied this guidance, as well as standard industry practices, because we believe they establish a reasonable framework or reference for best management practices.

Internal Controls

During this review, we evaluated internal controls over management practices and the planning process involved in the development and implementation of HIR's mainframe migration plan. The internal control weaknesses we identified are discussed in the *Results of Review* section of this report.

⁴ It should be noted that the Associate Administrator at the time of this audit resigned on August 4, 1997.

Prior Audit Coverage

Improvements Are Needed In The Management And Operations Of The Office Of The Chief Administrative Officer (Report No. 96-CAO-15, dated December 31, 1996). One of the areas reviewed during this audit was the HIR mainframe migration project. This resulted in a determination that additional research in this migration project was required. The audit report recommended the CAO conduct a comprehensive needs and cost/benefit analysis to determine the best approach to mainframe migration, and adopt an implementation plan that balances the need for an aggressive timeline with user needs, hardware and software, personnel and budget requirements. The Acting CAO concurred with the recommendations and indicated that HIR will adopt an implementation plan based on the migration strategy and direction provided by the CHO using the analysis which HIR would provide by March 1, 1997. During follow-up discussions with the Administrator, we were told that HIR had not performed a needs and cost/benefit analysis and had no plans to do one in the future.

HIR Management Practices Undermine The House's Ability To Keep Pace With Technological Changes (Report No. 97-CAO-09, dated May 9, 1997). Among the significant points identified in this audit report, we noted that HIR had not fully implemented fundamental management practices or established a fully functional information systems planning process. The related audit recommendations directed the CAO to develop a detailed HIR strategic and operational plan based on the ISPP vision; adopt a more proactive leadership approach that requires formal communication and documentation of key decisions; develop and implement a mix of effective control mechanisms that ensure compliance with management-approved plans and policies; and formalize the process and improve the information and reports provided to upper management to facilitate more informed decision-making. With regard to the problems involving planning, we recommended the CAO establish a formal, integrated planning and budgeting policy that requires management involvement at all levels; and formulate a comprehensive HIR budget package that links individual Groups' budgets and operational plans according to the strategic objective(s). The Acting CAO fully concurred with these findings and the accompanying recommendations and indicated that corrective actions have been initiated for some areas and are planned for the remaining areas.

II. RESULTS OF REVIEW

Contrary to a key recommendation in the ISPP and a proviso of the CHO's November 1995 House Resolution that HIR develop a mainframe migration plan, no such plan exists today. Furthermore, our review disclosed that (1) neither HIR nor the CAO provided a response to the original CHO Resolution requesting a mainframe retirement issue report; (2) the CAO justified procurement of a smaller mainframe processor indicating it was an integral part of the House's mainframe migration plan; (3) HIR's FY98 budget request included an increase of \$323,000 to migrate services from the mainframe to a 3-tier client/server architecture in FY98, despite the fact that there is no migration plan; (4) HIR management ignored the CAO's agreement to prepare a comprehensive needs and cost/benefit analysis to document the agreed upon migration plan; and (5) HIR's Associate Administrator at the time of this audit considered the question of retiring the mainframe an open policy issue. As a result, the House is now in a position of having to first implement costly Year 2000 solutions, and then readdress migration for these very same legacy systems, rather than accomplishing both tasks in unison, as originally envisioned.

CHO Directives End In False Starts

HIR was directed by the CHO Resolution to submit a report on the specific issues that must be addressed in order to retire the IBM mainframe system following retirement of the major legacy systems (MIN, ISIS, LIMS, and FMS). The ensuing HIR draft report, dated September 5, 1996, was submitted to the CAO for review prior to submission to the CHO. In its report, HIR recommended that prior to the retirement of the mainframe, the House should adopt a client/server migration strategy that included applications on the mainframe, support for external customers, and pre-retirement maintenance issues for the mainframe. However, the then CAO's response to HIR, dated October 1, 1996, rejected the report noting that it lacked "... an objective cost and time-driven presentation of concrete alternatives." The then CAO noted that he would recommend to the CHO the retention of a reputable outside organization to provide a mainframe retirement plan to replace the mainframe applications with commercial off-the-shelf (COTS) client/server solutions in the shortest possible time-frame. Subsequent action on the part of the then CAO to formally request approval from the CHO to implement this recommendation was never carried out. These false starts and inactions indicate that the existing HIR and CAO management oversight process was inadequate to ensure that the goals and objectives were accomplished.

HIR Procurement And Budget Documents Misrepresent HIR's Mainframe Migration Position

In November 1996, a \$257,319 purchase order request from the CAO was approved by the CHO authorizing the replacement of the mainframe processor with a smaller and less expensive CMOS⁴ mainframe processor. The justification given by the CAO was that this proposal was an integral part of "... the mainframe migration plan to be forwarded by December 15, 1996." Though the purchase order was approved and the CMOS processor installed, we found no further correspondence between the CAO and the CHO regarding the mainframe migration plan.

During our HIR management review, the HIR Strategic Planning manager told us that HIR's position was that no formal decisions concerning whether or not to migrate from the mainframe had been made. This appears to be in conflict with the HIR FY98 budget proposal⁵ which states that a \$323,000 increase in the Integration Group's budget would be "... to migrate services from the mainframe to the 3-tier client/server architecture in FY98." When we pointed out this discrepancy, HIR officials indicated that the increase was primarily due to the request for contract services for the Year 2000 conversion effort. However, the Office of Finance's Budget Director told us that they thought the funds were earmarked for the client/server solution as documented in the budget request. When we informed the Budget Director of HIR's response to that question, he noted that other funds were clearly identified in the budget for Year 2000 purposes, and this was the first Budget had heard of this claim by HIR.

The justification provided for the \$257,319 purchase order for the CMOS server and the \$323,000 budget increase for a migration effort that does not exist, certainly brings into question the degree of reliability the House can place on prior HIR budget requests--the justifications were not what they appeared to be.

House Strategic Vision Of Retirement And Migration Of House Legacy Systems Disputed By HIR Management

The then Administrator stated that the Year 2000 plan was, in fact, a migration plan whose objective was to move toward a network-centric environment. He also told us that part of the Year 2000 plan was to conduct a cost/benefit analysis for each mainframe system and decide the best course of action to take, i.e., migrate to client/server platform, outsource to another agency, or remain on the HIR mainframe. There was some confusion, however, in that the Year 2000 project leader informed us that there were no resources available to carry out such an analysis. Furthermore, when asked his opinion as to whether a formal decision had been made to retire the mainframe, the then Administrator stated "that prior political

⁴ CMOS--Complementary Metal Oxide Semiconductor IBM Multiprise 2000 Model 135 enterprise server.

⁵ HIR Budget Justifications Fiscal Year 1998, Integration Group, Fiscal Year 1998 Non Personnel Budget Request, p.28.

decision makers called for a retirement of the mainframe and movement toward a client/server environment; this political decision was made prior to my tenure at HIR.” In his opinion, “the question of retiring the mainframe is still an open policy issue.”

When questioned about the short- and long-term direction of House application systems in relation to the client/server platform, the then Administrator responded by restating that the Year 2000 process would address the overall migration plan. He added that no one had been pushing him to get off the mainframe, but they had been pressing HIR on the Year 2000 issue. We reminded him that the directive to retire the legacy systems had been outstanding since November 1995. Even so, he commented that a significant client/server migration would not be considered by HIR before all systems are made Year 2000 compliant, since they were understaffed and facing an issue that could not be postponed. Ironically, the Year 2000 project and associated costs may have been avoided or mitigated somewhat if the migration issue had been addressed as originally directed.

In response to the audit report on the Office of the CAO,⁶ the Acting CAO directed HIR to prepare a comprehensive needs and cost/benefit analysis to document the mainframe migration plan to be presented to the CHO by March 1, 1997. The Acting CAO further stated that HIR will adopt an implementation plan based on the migration strategy and direction provided by the CHO using this analysis. During follow-up discussions with the Director of Integration, he acknowledged that he was unaware of these directives and that there were no resources available to work on such an analysis. During similar discussions with the then Administrator, it was noted that HIR had not performed a needs and cost/benefit analysis and had no plans to do one in the future.

Missed Migration Opportunity Leaves House With Limited And Costly Options

The most immediate consequence of the absence of a House migration plan is the limited options available to management regarding the Year 2000 problem. Instead of solving this issue with a proactive approach as originally envisioned, management is left with reactive, short-term solutions. As a result, the Year 2000 initiative will now have to be undertaken with a sense of urgency. In addition, management may be forced to implement systems that neither fully meet user needs nor are cost-effective.

The Year 2000 plan has identified the projected disposition of the mainframe legacy systems as either (1) remaining on the mainframe (Group A); (2) being replaced with a COTS client/server system, outsourced or retired (Group B); (3) migrating to a desktop system (Group C); or (4) those servicing outside client systems such as CBO, GAO and ProPAC⁷. Figure 1 on page 7 depicts each group's processing usage as a percent of total processing capacity. (See Exhibit A for a complete list of system names, descriptions and dispositions.)

The legacy systems in Group A, for example, will remain on the mainframe following Year 2000 modification efforts at an estimated cost of \$670,000. Using LIMS as an illustration, the Office of the Clerk had intended to replace its older system with a client/server system that was to contain improvements in both business design and operations. This objective, which the Clerk believed would solve the Year 2000 problem as well, was not achieved in time and the House found itself behind on the migration issue and looking into the face of a fast approaching Year 2000 deadline. As a result, LIMS migration has now been placed on hold awaiting

⁶ Improvements Are Needed In The Management And Operations of The Office Of The Chief Administrative Officer (Report No. 96-CAO-15, December 31, 1996).

⁷ The Prospective Payment Assessment Commission (ProPAC) is a Congressional Commission that provides recommendations to Congress for Medicare funding.

completion of the Year 2000 compliance efforts for the current system. Failure to take advantage of migration has burdened the House with both the cost of modification as well as requiring the continued support of the mainframe system⁸ until these legacy systems can eventually be replaced.

Of the three legacy systems that make up Group B, the FMS payroll system and the OSM/OES system have been identified by management as either replacement or outsource candidates and are included in the CAO's FY98 budget request at \$2 million and \$800,000, respectively. The remaining system, MIN/ISIS is slated to be retired by the end of 1998 and current functionality replaced by Web browsers. With regard to the OSM/OES system, Media and Support Services officials have known since the early 1990's that their system was not Year 2000 compliant. Their solution to this Year 2000 problem, as well as how they intend to address overall system improvements, is replacement. However, at this late date, such fundamental SDLC practices as assigning responsibility for the project, conducting a current needs/requirements analysis, as well as the naming of a project manager and team has yet to be accomplished. This inactivity and the lack of direction may limit management's opportunities to choose the most effective course of action, thereby resulting in a potential stop-gap interim solution, where the new system selected does not adequately meet management's needs, and may need to be replaced. The Ad Hoc systems contained in Group C (see Exhibit A) are currently scheduled to be migrated to standalone Desktop systems. Since the type of systems contained in Group C are Ad-Hoc, and therefore by definition only are used on a periodic basis, they are not included in the mainframe processing measurement statistics. Also representing a significant percentage of mainframe processing usage is the current mainframe E-mail system, which is scheduled to be removed within the 1997 calendar year. The category identified as System Support Overhead, represents those executive systems such as the operating and communication systems for example, that support and maintain the application systems. Finally, the Unused Capacity category (currently 11 percent) represents that portion of the mainframe processor that is not being used.

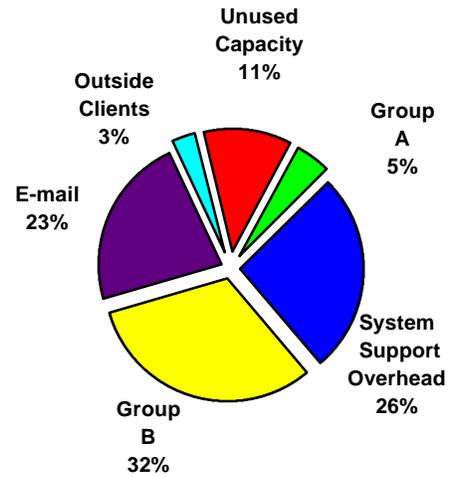


Figure 1 - Current Mainframe Processing Usage

Final Mainframe Disposition
Requires Careful Management Analysis

The Group A application systems depicted in Figure 2 are the only systems that will without question reside on the HIR mainframe after the Year 2000 project is completed, with the possible exception, albeit temporary, of the FMS payroll and OSM/OES systems if they are not replaced before the deadline. With the backdrop of such management directives as the House Resolution, and the CAO audit response to the OIG audit of the CAO, management needs to identify benefits to be derived from these systems with respect to future user needs and their continuing support costs. As an example, one might question the purpose for continuing to support such minor systems as the Photography or Recording Studio systems on a mainframe platform when there may well be other, less costly and more effective options available.

⁸The replacement of HIR's large scale mainframe with the CMOS server (which is actually a small mainframe) resulted in a change in processing capabilities from 114 mips (millions of instructions per second) to 77 mips. HIR has the option of reducing the CMOS' processing capacity even lower - to 55 mips - but (a) has not done so and (b) does not have a documented, short-term strategy for doing so.

The House's primary purpose for leasing computer resources is to supplement costs by maximizing excess capacity, not to provide computer services for outside clients. However, using FY92 as the baseline as noted in Figure 3, the benefit of the revenue generated by the House mainframe system has steadily declined from a high of \$12.7 million to a projected revenue of \$2.8 million in FY98. This declining revenue is in stark contrast to the increasing unused processing capacity of 65.7 percent⁹. Figure 4 on page 9 shows costs and revenues for continuing the support of the mainframe. These numbers were obtained from the CAO's proposed FY98 budget and costs/revenue estimates that were supplied by HIR officials. They show that the continued use of the mainframe will have an estimated annual cost of \$4.9 million for FY98. The downsizing of the mainframe processor to the current CMOS processor (with its associated system software), as well as the replacement of the direct access storage devices with new RAID (Redundant Array Of Inexpensive Disks)

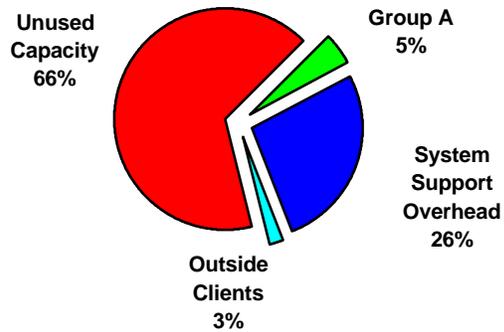


Figure 2 - Mainframe Processing Usage After Completion Of The Year 2000 Project

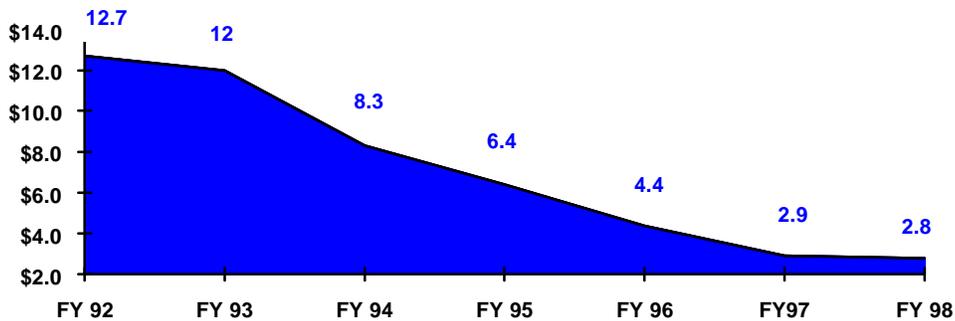


Figure 3 - Mainframe Revenues¹⁰ (\$000,000) for FY92 thru FY98

technology, has resulted in an estimated overall decrease in system support costs of \$516,000 (see total support costs in Figure 2). Therefore, the projected net expense for continuing the support of the mainframe and the remaining systems for FY98 will be approximately \$2.1 million.

⁹ It should be noted that the total capacity of the HIR CMOS processor is based on the current 1997 configuration of 77 MIPS (million instructions per second). HIR has anticipated that the future configuration of the CMOS processor will allow for a decrease in total MIPS, thereby lessening support costs.

¹⁰ Source: Legislative Branch Appropriations for 1995, Hearings Before a Subcommittee of the Committee on Appropriations, House of Representatives; H.I.S. Funding History FY92 thru FY95; Enterprise Computer Group, estimated revenues for FY96 thru FY98.

Revenues Generated	FY97	FY98
GAO, Social Security Administration - NCOA, CBO, ProPAC	(\$2,900,000)	(\$2,800,000)
Total Revenue	(\$2,900,000)	(\$2,800,000)
Systems Support Costs		
System Hardware / Software ¹¹	2,528,000	2,012,000
VTAM ¹²	22,560	22,560
NCOA ¹³	120,000	120,000
MONIES	50,000	50,000
Total Support Costs	2,720,560	2,204,560
Personnel Costs (FTEs)		
Enterprise Computing	1,530,000	1,530,000
Integration	1,586,250 ¹⁴	1,163,250 ¹⁵
Total Personnel Costs	3,116,250	2,693,250
Total Costs	5,836,810	4,897,810
Net (Income)/Expense	2,936,810	2,097,810

Figure 4 - Estimated Mainframe Costs for Fiscal Years 1997 and 1998.

Although support costs have recently decreased, the Year 2000 project as now planned, will result in the House having to retain the mainframe system well into the first decade of the 21st century. Rather than having solved both these issues in one step, the House will now be forced to address the migration process in a costlier, multi-step approach later on. As an example, HIR management estimates that the LIMS system will need to continue to reside on the mainframe system to at least 2004, when it is anticipated to be migrated to a LIMS client/server system.

Conclusion

The issues discussed in this report demonstrate the negative consequences that the absence of a viable strategic plan has had on HIR. These events began with the still outstanding CHO request for analysis of the retirement of the mainframe; to the short-term and costly solutions contained in the Year 2000 project; and ended in HIR management's indecisiveness regarding the future direction of House information systems. As cited in our HIR management review, the underlying cause for these deficiencies implies a lack of strategic planning, as well as management direction and oversight that would be used to guide HIR's information management teams. As documented within this audit report, and culminating with the

¹¹ These figures have been reduced by the annual cost for the NCOA system, since this cost is displayed separately within the table.

¹² Virtual Telecommunication Access Method - A set of programs that maintain control of the communications between terminals and application programs running under certain operating systems.

¹³ As a result of the automated correction processes contained within the NCOA system (e.g., detection of duplicate addresses), Members of the House have experienced regular mail savings benefits, for example the House realized a cost avoidance of \$3.5 million in calendar 1996.

¹⁴ This figure represents an adjustment of budgeted/actual personnel costs of the authorized 61 staff for the Integration Group. HIR advised that they have actual staff of approximately 50, of which approximately 30 are designated as supporting mainframe systems.

¹⁵ This figure represents an adjustment of budgeted personnel costs of the documented 61 staff for the Integration Group. HIR advised that they are in the process of implementing a new reorganization of the Integration Group, pending formal CHO approved. The new Integration Group will then only consist of about 22 mainframe support staff.

then Administrator's comments that the retirement of the mainframe was still an open policy issue, the issue as to the future direction of the House mainframe migration appears very much undecided.

Recommendations:

We recommend that the Chief Administrative Officer:

1. Assign a project leader with sufficient resources and appropriate authority to determine what has been done and what still needs to be done with respect to the directive from the CHO regarding development of a mainframe migration plan.
2. Present the results of the assessment developed in recommendation 1 to the CHO with recommendations as to how to proceed.
3. Direct the Year 2000 project leader to incorporate specific mainframe migration issues for consideration into the current Year 2000 plan.
4. In concert with existing Year 2000 planning and implementation efforts, develop a mainframe migration plan and present it to the CHO for approval, supported by a comprehensive, in-depth needs analysis, that reflects the wishes of the House--as elaborated in the ISPP, the CHO November 1995 directive, and/or feedback from recommendation 2 above.

Management Response

On October 14, 1997, the CAO concurred with the recommendations in this finding (see Appendix).

The CAO agreed to implement the recommendations in collaboration with the OIG mainframe migration study pursuant to the House Report 105-196 (Legislative Branch Appropriations Bill for 1998) on behalf of the House community. An HIR study group has been appointed and participants have been identified to work with the OIG to provide a comprehensive data center inventory of all information systems hardware and software. The HIR study group will work closely with, and assist the OIG with study tasks involved in estimation of costs of viable technical alternatives for each mainframe system, as well as other tasks that may be required to complete the mainframe migration study.

An outside contractor has been retained to perform project leadership of the Year 2000 effort. Mainframe migration issues and recommendations from the OIG study will be taken into consideration, and incorporated in updates of the Year 2000 implementation plan. Scheduling and deliverables contained within the Year 2000 implementation plan will adhere to requirements set by the outcome of the mainframe migration study.

Office of Inspector General Comments

The CAO's current and planned actions are responsive to the issues we identified and, when fully implemented, should satisfy the intent of our recommendations.

EXHIBIT A

Legacy System Descriptions and Disposition

Legacy System	Functional Description	Year 2000 Disposition ¹⁶
Group A		
LIMS - Legislative Information Management System	A composite of mission critical systems that support House legislative data collection and processing functions.	Remain on mainframe until 2004, then replace with client/server system
NCOA - National Change of Address	Supports updates of Member office mailing lists.	Remain on mainframe, no planned replacement*
MONIES - Management of Network, Income, Expense, and Services	Supports the collection and pricing of individual call records from the House of Representatives System 85 Switch and the 1000 district offices.	Remain on mainframe, no planned replacement*
HIR Inventory	Maintains records of all hardware and software items acquired by the House offices.	Minor ADABAS system, to remain on mainframe, no planned replacement
Photography	Billing system for the Office of the Photographer which charges House offices for photography services.	Minor ADABAS system, to remain on mainframe, no planned replacement
Recording Studio	Automated scheduling, tracking and billing system for the House Recording System.	Minor ADABAS system, to remain on mainframe, no planned replacement
Lobby Act	Provides for tracking and logging of lobbyists and the quarterly reports they are required to file.	Minor ADABAS system, to remain on mainframe, no planned replacement
Parking	Tracks parking stickers issued by the Office of the Garage.	Minor ADABAS system, to remain on mainframe, no planned replacement
Group B		
FMS Payroll - Financial Management System Payroll	Supports the House Human Resources Office with the production of the House payroll.	Either replace with COTS client/server system or outsource
OSM/OES - Office Systems Management/ Office Equipment Systems	Supports and maintains the House-wide inventory system for office equipment.	Replace with COTS client/server system
MIN/ISIS - Member Information Network / Integrated Systems and Information Services	A composite of information and research sources especially designed for House Members, committees, and staff.	Retire and replace with Web browsers
Group C		
Ad Hoc Systems	These systems are only critical to small groups of users, e.g., Page Profiles, Franking Standards, and Press Gallery.	Migrate to desktop systems

*These applications are commercial off-the-shelf software (COTS) products.

¹⁶ Source of disposition comments is HIR's May 16, 1997 Year 2000 Plan (revised).

Status Of Implementation Of Prior Audit Report Recommendations

Audit Report/Recommendations	Implementation Status	Comments on Corrective Actions Taken And/Or Planned	Scheduled Date of Completion
Improvements Are Needed In The Management And Operations Of The Office Of The Chief Administrative Officer (Report No. 96-CAO-15, dated December 31, 1996)			
1. Conduct a comprehensive needs and cost/benefit analysis to determine the best approach to mainframe migration.	No Action	Agreed upon March 1, 1997 delivery date was not met, nor needs or cost/benefit analysis performed.	March 1, 1997
2. Adopt an implementation plan that balances the need for an aggressive timeline with user needs, hardware and software, personnel and budget requirements.	No Action	Without a migration analysis supplied by HIR, the CHO was unable to provide a strategic direction for mainframe migration.	No date given. Action dependent on Rec. No. 1

Office of the
Chief Administrative Officer
U.S. House of Representatives
Washington, DC 20515-6860

MEMORANDUM

TO: John W. Lainhart, IV
Inspector General

FROM: Jay Eagen 
Chief Administrative Officer

DATE: OCT 14 1997

SUBJECT: Draft Audit Report - Inspector General Audit

Thank you for the opportunity to comment on your draft report. The draft audit report, "Despite CHO And CAO Mandates, HIR Has Not Begun Development Of A Mainframe Migration Plan" has been reviewed with consideration to the four recommendations contained therein. We appreciate the in-depth analysis provided in the document, and are supportive of the recommendations.

Our specific responses to the recommendations are as follows:

Recommendations:

1. Assign a project leader with sufficient resources and appropriate authority to determine what has been done and what still needs to be done with respect to the directive from the CHO regarding development of a mainframe migration plan.

CAO Response: Concur.

Subsequent to the publication of this draft audit report, House Report 105-196 (Legislative Branch Appropriations Bill for 1998) requested that the House Inspector General study this issue "to determine if the House could be better served in the future by either out-sourcing the operation of the mainframe computer to a vendor or relocating the final mainframe systems to another legislative branch agency."

We would like to collaborate with you on this study on behalf of the House community. In anticipation of our collaboration, an HIR study group has been appointed to work with the OIG's designated leader for the study. The internal HIR group is made up of the following participants: Dianne Jordan (staff sponsor), Jerry Boho (HIR project leader), Sander Zaben, Lea Fowlie, and Jim Daley.

The HIR study group will work with the designated OIG study leader to provide a comprehensive data center inventory of all information systems hardware and software. The HIR study group will work closely with, and assist the OIG study leader with study tasks involved in estimation of costs of viable technical alternatives for each mainframe system. The systems under consideration in the audit are:

<u>Group A</u>	<u>Group B</u>	<u>Group C</u>	<u>External Customers</u>
LIMS NCOA MONIES HIR inventory Photography Recording studio Lobby Act Parking	FMS Payroll OSM/OES MIN/ISIS	Ad Hoc Systems - Page Profiles, Franking Standards Press Gallery	Congressional Budget Office General Accounting Office Prospective Payment Assessment Commission NCOA - Executive Branch Agencies

Using the current Year 2000 Plan as a baseline consideration, the proposed migration paths for these systems are as follows:

- Group A will be modified to become Year 2000 compliant.
- Group B is scheduled for replacement by COTS, out-sourcing , or Web interface.
- Group C are small, custom systems that can be migrated to COTS desktop systems.
- External Customers is a list of Non-House users who purchase time on the HIR mainframe—this study will address the prognosis of these systems, and be incorporated into the Year 2000 planning effort.

2. Present the results of the assessment developed in recommendation 1 to the CHO with recommendations as to how to proceed.

CAO Response: Concur.

We will collaborate with the OIG study leader by performing background research and other tasks that may be required to complete the mainframe migration study requested in House Report 105-196.

3. Direct the Year 2000 project leader to incorporate specific mainframe migration issues for consideration into the current Year 2000 plan.

CAO Response: Concur.

An outside contractor has been retained to perform project leadership of the Year 2000 effort. Mainframe migration issues and recommendations from the OIG study will be taken into consideration, and incorporated in updates of the Year 2000 implementation plan.

4. In concert with existing Year 2000 planning and implementation efforts, develop a mainframe migration plan and present it to the CHO for approval, supported by a comprehensive, in-depth needs analysis, that reflects the wishes of the House— as elaborated in the ISPP, the CHO November 1995 directive, and/or feedback from recommendation 2 above.

CAO Response: Concur.

The efforts of the mainframe migration study group will be coordinated with all Year 2000 planning efforts for the development of an analysis of mainframe alternatives based on the data center inventory, and the technical alternatives (COTS, out-sourcing, client-server solutions) for Groups A, B, C and External Customers listed above. Scheduling and deliverables will adhere to requirements set by the outcome of the mainframe migration study.