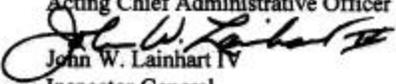


Office of Inspector General  
U.S. House of Representatives  
Washington, DC 20515-9990

MEMORANDUM

TO: Jeff Trandahl  
Acting Chief Administrative Officer

FROM:   
John W. Lainhart IV  
Inspector General

DATE: March 24, 1997

SUBJECT: Audit Report - Opportunities Exist For The House To Save Over \$1 Million  
Annually Through Better Telecommunications Cost Management  
(Report No. 97-CAO-05)

This is our final report on the audit of telecommunications costs within the U.S. House of Representatives (House). This audit is the second of five audits performed on the House telecommunications environment. The objective of this audit was to evaluate the costs of maintaining the telecommunications network, as well as to review the procedures and processes in place to ensure cost efficiency of the House telecommunications environment. In this report, we identified 8 findings and made 13 recommendations for corrective actions.

In response to our October 4, 1996 draft report, your office generally concurred with all the findings and recommendations. Your formal written response is incorporated in this 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. We consider the milestone dates provided for implementing the corrective actions reasonable. With respect to the resource constraints associated with selected actions indicated in your response, we trust that every effort will be made to obtain the necessary resources to implement those recommendations as expeditiously as possible.

We appreciate your office's positive attitude and cooperation throughout this audit. If you have any questions or require additional information regarding this report, please call me or Craig Silverthorne 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

**OPPORTUNITIES EXIST FOR THE HOUSE  
TO SAVE OVER \$1 MILLION ANNUALLY THROUGH BETTER TELECOMMUNICATIONS COST  
MANAGEMENT**  
*Report No. 97-CAO-05  
March 24, 1997*

---

**RESULTS IN BRIEF**

**CONCLUSIONS**

Within the House Information Resources (HIR) organization, the Communications Group is responsible for the data, voice, and video communications (telecommunications) needs of the U.S. House of Representatives (House). The Group manages and provides network connectivity, and telephone and voice mail services to Member, Committee, and other House offices. The Group oversees the Campus Data Network, which includes all House offices, is comprised of approximately 7,000 microcomputers on two backbones using Fiber Distributed Data Interface (FDDI<sup>1</sup>) and Ethernet<sup>2</sup> technologies. In July 1996, off campus networks total about 540, consisting of 288 telecommunications frame relay networks and 252 WAN private telecommunications lines to connect Members' Washington, D.C. and district offices. They also oversee the Washington, D.C. telephone system which has over 19,000 extensions operated from over 11,500 multi-button instruments (telephones and faxes). The district office telephone systems are comprised of about 900 locations. Voice mail facilities consist of over 5,600 mail boxes. Group and desktop video technology as well as computer telephony integration (CTI<sup>3</sup>) are in the early phases of deployment. By any standards, this environment would be considered one of the most diverse and complex telecommunications environments in use today.

The Communications Group has been very successful in accomplishing a number of initiatives and projects, which they can take pride in. To name a few, the Group has successfully implemented the frame relay services, which has resulted in a monthly savings of \$8,000 to the House since January 1996. Continuing efforts to migrate all Members offices will reap further savings to the House. Furthermore, based on our computer-assisted analysis of detailed call records of Member offices, we found that the House's long distance voice telecommunications rates for the Capitol Hill campus are less expensive in comparison to other government entities as well as private sector companies. The Member district office rates are comparable to other government entities as well as private sector companies. In addition, the House's contract with Lucent Technologies (formerly AT&T), which was negotiated by HIR, contains extremely rigid requirements for vendor performance, which has resulted in dependable and reliable voice services to the House. Other projects and initiatives are either planned or underway to improve data, voice, and video telecommunications in meeting the Speaker's CyberCongress vision. In general, considering the diverse and complex telecommunications environment at the House, the Communications Group has been very successful in negotiating the best possible rates and terms for the House.

In short, the Group has provided more than adequate operational support and services. This is consistent with the results compiled from the Customer Satisfaction Survey administered by the Office of Inspector General in conjunction with this comprehensive telecommunications audit. The results of that survey indicated that users were generally

---

<sup>1</sup>FDDI is a high speed fiber optic transmission technology that was first deployed with the start of the 103<sup>rd</sup> Congress. Within the House Campus Network, the House's FDDI Network is also known as BUDnet.

<sup>2</sup>Ethernet is a networking scheme that allows microcomputers to be connected to a network. It physically consists of cabling, which connects all the machines on a network.

<sup>3</sup>CTI is the merging of computers and telephones which makes possible fax-back systems, interactive voice response implementations, and a number of other specialized applications.

“satisfied” to “very satisfied” with the quality of telecommunications services provided by HIR (see OIG Report No. 97-CAO-03, entitled *Results of The House Telecommunications Customer Satisfaction Survey*, dated March 24, 1997).

Notwithstanding the above, other telecommunications service costs, such as local exchange, voice conferencing, and private lines, were reasonably priced when the services were initially contracted but, due to market competition, can be further reduced as discussed in this report. Our review indicated that while the processes for implementing and maintaining the voice and data networks are generally reliable, opportunities exist for the House to save over \$1 million annually by reducing telecommunications costs. The following is a synopsis of the findings in this report.

- HIR has encouraged the transition from private lines to frame relay service through the establishment of the district office “Flagship” service, which resulted in 38 Member offices transitioning to the frame relay service and a monthly savings of \$8,000 since January 1996. However, the current House wide area network (WAN) connectivity between Member and district offices is still not as economical as other available connectivity options. By pursuing other connectivity options and encouraging the remaining Members to upgrade their telecommunications systems to be compatible for frame relay services, the House can save in excess of \$900,000 annually and reduce the complexity of managing the WAN.
- Although the House local exchange and voice conferencing services may have been cost-effective during the audit period, we learned that the costs of these services may not be competitive in the near future considering the increasing competition in the telecommunications arena. Without re-evaluating the contract costs of these services, the House could unnecessarily be paying significantly more per year for local exchange services and teleconferencing services.

- The House needs to re-evaluate its maintenance services contract for moves, adds, and/or changes (hereinafter referred to as M/A/Cs) to networks. We estimate that the House can save \$92,000 by changing to a “per station” option in its current contract. In addition, HIR’s written operations policies and procedures are insufficient which can result in inefficient management of resources and other management problems.
- The ongoing House Private Branch Exchange (PBX<sup>4</sup>) switch upgrade plan is not supported by a formal, detailed user needs document or an adequate cost-benefit analysis. This switch upgrade, in turn, required HIR to set aside \$3 million in FY 1997 and another \$3 million in FY 1998 to upgrade the House’s telephone handsets in order to utilize the features associated with the implementation of the new PBX switches. As a result, the House may prematurely spend millions of dollars in the future for upgrading its voice telecommunications equipment, which is neither necessary nor cost-justified.
- The current implementation of the charge back system does not fairly or completely distribute costs for telecommunications services to the Member, Committee, and other House offices. As a result, some users are charged far less than the actual costs of the services received, and others are charged far more than the level of services received. Further, HIR’s charge back rate established for local lines in district offices does not sufficiently reflect the full cost of those lines incurred by HIR. This means that some organizations spend a disproportionate percentage of their budget/allowance on these telecommunications services; effectively subsidizing other users. In addition, HIR is required to maintain a budget for covering the expenses not fully covered by the charge back.
- The House does not currently use the most efficient and effective process for receiving and analyzing vendor bills nor does it verify the accuracy of the message unit costs for local calls. As a result, HIR employees spend more time than necessary performing accounting management functions and it is possible that the bills for local services are inaccurate.
- Client Services has no formal policy or procedure in place to verify the accuracy of the time Lucent Technologies spends to complete non-standard M/A/Cs. The average monthly expenditure for these installations exceeds \$19,000. Consequently, HIR may incur unnecessary charges as a result of excessive time spent on individual changes.
- The CAO inappropriately paid \$3.2 million of FY 1995 funds to three specific vendors for network services and equipment in advance of actually receiving any equipment or services. The CAO had not received approval of this advance payment arrangement from the Committee on House Oversight.

---

<sup>4</sup>PBX is an automatic or manual private telephone exchange for transmission of calls to and from the public telephone network. Because of its size, the House uses four PBXs that are connected together.

## **RECOMMENDATIONS**

We made a total of 13 recommendations to the CAO to improve operational aspects of telecommunications functions. The recommendations are as follows: (1) convert all remaining Member offices to frame relay service as the Members upgrade their in-office computer systems; (2) develop a proposal, for approval by the Committee on House Oversight, that entails an option for consideration of local exchange carrier frame relay services compared to other viable alternatives in the upcoming frame relay competitive procurement; (3) conduct an analysis to compare the alternatives for local exchange services, including negotiations for improved rates with the current provider; (4) conduct an analysis of alternatives for voice conferencing services that compare the use of alternate service providers as well as the use of the Definity PBX systems and/or stand alone conferencing equipment; (5) convert the existing Lucent Technologies M/A/Cs contract from a flat rate to a “per station” basis; (6) fully document the operations management policies and procedures and other information in the Operations Manual; (7) require HIR to conduct a formal, detailed user needs analysis and a cost-benefit analysis for future PBX and telephone upgrades or acquisitions to justify their decisions and expenditures and ensure that the ramifications of such initiatives are fully communicated to the Committee on House Oversight; (8) develop a proposal, for approval by the Committee on House Oversight, to establish and implement a new charge back structure that eliminates the incentive-oriented program for providing “soft lines” at no charge and provides rates that reasonably and equitably distribute costs among both “direct inward dialing” and “soft line” users; (9) develop a proposal, for approval by the Committee on House Oversight, to establish and implement a new charge back structure that recovers the total cost of district local line service and eliminates the subsidy included in HIR’s budget; (10) actively pursue receipt of billings via CD-ROM with each vendor as it becomes available; (11) establish policies and procedures for the Client Services Group to reconcile all time and materials activity on the monthly reports as well as conduct periodic inspections; (12) require three bids on any M/A/C work estimated to cost over \$2,500; and (13) prohibit entering into any advance payment arrangements without the Committee on House Oversight’s full knowledge and understanding of the issues and ramifications involved, and approval of such an arrangement.

## **MANAGEMENT RESPONSE**

On January 16, 1997, the Acting CAO concurred with the findings and all 13 recommendations (see Appendix). According to the response, efforts are underway and planned to take advantage of additional opportunities to reduce telecommunications operations and service costs. Examples of corrective actions taken and planned include: (1) developing a Request for Proposal, for approval by the Committee on House Oversight, for Wide Area Data service that provides for consideration of local exchange carrier frame relay services; (2) conducting market competition analyses to compare the alternatives for local exchange services and voice conferencing services; (3) analyzing the current calling patterns to ascertain the volume of calls that can be accommodated on the new G3 conference feature; (4) exercising the “per station” option in the existing M/A/C contract with Lucent Technologies; (5) analyzing all operations, and ensuring that policies and procedures and other information are fully documented in the Operations Manual; (6) conducting formal, detailed user needs analyses and cost-benefit analyses for any future PBX, switches, and telephone purchases; (7) analyzing the costs, benefits, and ramifications of eliminating the no charge policy for “soft lines” as well as district local line services and preparing proposals containing the results of these analyses for approval by the Committee on House Oversight; (8) establishing policies and procedures to reconcile all time and materials activity on the monthly reports as well as conduct periodic inspections for M/A/C work; (9) instituting a requirement for obtaining three bids on any non-standard M/A/C activity estimated to exceed \$2,500; and (10) ensuring that all future advance payment arrangements are properly authorized and executed with the Committee on House Oversight’s full knowledge, understanding of the issues, and approval.

Notwithstanding the planned actions, the Acting CAO informed us that implementation of several of the planned actions and/or their completion would be dependent upon their ability to obtain additional resources.

## **OFFICE OF INSPECTOR GENERAL COMMENTS**

The Acting CAO's actions are responsive to the issues we identified and, when fully implemented, should satisfy the intent of our recommendations. The milestone dates provided for selected actions appear reasonable. With respect to the those actions indicated in the report where implementation is dependent upon securing additional resources, we trust that the Acting CAO will make every effort to obtain the necessary resources to implement those recommendations as expeditiously as possible. As indicated in this report, implementation of several recommendations are dependent upon the review and approval of the Committee on House Oversight and, therefore, will remain open until a decision is reached by the Committee.

[This Page Intentionally Left Blank]

**TABLE OF CONTENTS**

TRANSMITTAL MEMORANDUM

RESULTS IN BRIEF ..... i

I. INTRODUCTION

    Background..... 1

    Objectives, Scope, And Methodology..... 3

    Internal Controls ..... 4

    Prior Audit Coverage..... 4

II. FINDINGS AND RECOMMENDATIONS

    Finding A: If Members Upgrade Their In-Office Systems, The House  
              Can Realize Over \$900,000 Annual Savings By Migrating  
              The Wide Area Network To Other Connectivity Options..... 5

    Finding B: The House Could Realize Substantial Annual Savings  
              By Implementing Alternative Telecommunications  
              Service Provider Offerings ..... 10

    Finding C: The House Could Realize Annual Cost Savings Of \$92,000  
              By Re-evaluating Its Telecommunications Maintenance  
              Service Contracts ..... 14

    Finding D: Future PBX Upgrade Needs To Be Sufficiently Documented  
              And Justified..... 17

    Finding E: House User Charge Back Policies Do Not Fairly Distribute  
              The Costs Of The Services ..... 20

    Finding F: The House Needs To Improve Its Procedures For Analyzing  
              And Verifying Telecommunications Service Usage And Charges ..... 23

Finding G:	The House Does Not Adequately Verify Vendor Charges Related To Non-Standard M/A/Cs.....	25
Finding H:	The CAO Inappropriately Made Advance Payments Totaling \$3.2 Million For Network Services And Equipment .....	27
III.	APPENDIX	
Appendix:	CAO Management Response To The Draft Report	

## **I. INTRODUCTION**

### **Background**

House Information Resources (HIR) is the major provider of information technology services to the Members, Committees, and other offices of the U.S. House of Representatives (House). HIR is responsible for the voice, data, and video infrastructures used within the House, with the exception of the office level systems in the Members' suites.

Two of the four groups within HIR, the Communications Group and Client Services Group, have responsibilities for providing and maintaining the telecommunications function and services. This audit evaluated telecommunications costs at the House and opportunities for reducing costs or redistributing funds in meeting current and future telecommunications requirements.

The Communications Group provides voice, data, and video telecommunications needs to all Member, Committee, and other House offices. The Group's functional areas include voice and video telecommunications operations and services; network systems engineering; network configuration management; network installation and maintenance; and network control center operations. This Group manages networks and connectivity for all Washington, D.C. and district offices, providing telecommunications access and services to all Member, Committee, and other House offices. It also provides and manages telephone and voice mail facilities, and supports video conferencing capabilities. Internet<sup>5</sup> connectivity and administration is another aspect of the group's responsibilities facilitating Member and staff research and providing for dissemination of House information to the public.

The Communications Group oversees a large telecommunications arena. There are also over 1,300 active users via mainframe access connections. The Campus Data Network, which includes all House offices, is comprised of approximately 7,000 microcomputers on two backbones using Fiber Distributed Data Interface (FDDI<sup>6</sup>) and Ethernet<sup>7</sup> technology. In July 1996, off campus networks total about 540, consisting of 288 telecommunications frame relay networks and 252 WAN private telecommunications lines to connect Members' Washington, D.C. and district offices. Internet access, including all subnet connections, has been provided to 553 House offices, including 349 Members. The Group oversees the Washington, D.C. telephone system which has over 19,000 extensions operated from over 11,500 multi-button instruments (telephones and faxes). The district office telephone systems are comprised of about 900 locations. Voice mail facilities in use consist of over 5,600 mail boxes. Group and desktop video technology as well as computer telephony integration (CTI) are in the early phases of deployment.

The Client Services Group provides the client interface for voice, data, and video telecommunications resources. The Group is responsible for providing complete and timely office automation and telecommunications support to all Member, Committee/Subcommittee, and other House offices. The Group's functional areas include technical support; systems engineering; training; graphics; and telecommunications support. With respect to telecommunications support, the Group is charged with providing assistance and advice in the design and effective use of microcomputers, local area network (LAN) technology; and advice on wide area network (WAN) and LAN configuration issues. They also coordinate requests for new telecommunications service and changes in existing

---

<sup>5</sup>The Internet is a large international network that connects many computer systems, providing network services including electronic mail (i.e., E-mail), remote terminal sessions, and multi-media services such as the world-wide web.

<sup>6</sup>FDDI is a high speed fiber optic transmission technology that was first deployed with the start of the 103<sup>rd</sup> Congress. Within the House Campus Network, the House's FDDI Network is also known as BUDnet.

<sup>7</sup>Ethernet is a networking scheme that allows microcomputers to be connected to a network. It physically consists of cabling, which connects all the machines on a network.

service; process all telephone invoices; provide telephone training; and administer over 540 calling cards and 650 cellular phones. The Capitol Telephone Exchange operation is also under the purview of the Client Services Group and provides operator services for the House and Senate. The operation handles approximately 25,000 calls daily and provides support for teleconferencing.

HIR's Fiscal Year (FY) 1997 telecommunications budget was approved at \$8.2 million, which included funds for existing telecommunications operations and services, as well as new initiatives, such as migrating to a network-centric computing environment, creating a paper-less environment, and telecommunications system upgrades. Further, HIR's long-range telecommunications plan entitled *Five Year Investment Plan for the Infrastructure and Operations of the U.S. House of Representatives Communications* called for a total of \$85.2 million between 1996-2000. This figure has since been reduced to \$77.7 million, which reflects a \$7.5 million budget reduction by the Subcommittee on Legislative Appropriations for FY 1997. Of the \$77.7 million, \$43.2 million (55.6 percent) is for equipment, operations and maintenance, and district to Washington, D.C. data services for Members; \$15.5 million (19.9 percent) is for continuing switch and telephone upgrades; and the remaining \$19 million (24.5 percent) is required to continue major enhancements to the House telecommunications infrastructure and services. Examples of infrastructure initiatives include campus data networking, switches, video and teleteaching, wiring, cables, fiber optics, voice processing, voice mail, cellular and wireless telecommunications, CTI, security, and disaster recovery.

In addition to HIR's FY 1997 budget, the FY 1997 budgets for Members, Committees, and other House offices account for telecommunications service expenses totaling \$11.7 million. This total represents Members' expenses of \$9.6 million, Committees' expenses of \$9 million, and other House offices' expenses of \$1.2 million.

**Objectives, Scope, And Methodology**

This audit is the second of five telecommunications audits aimed at evaluating the House's telecommunications environment. The five audits, all performed concurrently, focused separately on telecommunications security; telecommunications costs; economy, efficiency, and effectiveness of telecommunications; contingency planning, backup, and disaster recovery; and telecommunications management. In addition, we performed a telecommunications customer satisfaction survey. The overall objective of this audit was to evaluate the costs of maintaining the network, as well as reviewing the procedures and processes in place to ensure cost efficiency. In meeting our objective, we focused on:

- determining the appropriateness of the current expenses related to maintaining the telecommunications network;
- assessing the appropriateness of existing contracts, in terms of costs, discounts, etc., with various vendors of telecommunications equipment and services;
- assessing the effectiveness of the current procedures performed by HIR to ensure Members are appropriately charged for services received; and
- assessing the appropriateness of budgeted figures for developing and maintaining the infrastructure needed to provide current and future technologies and user service requirements.

The scope of the review included voice, data, and video telecommunications within the House. The review encompassed the period of August 1995 through August 1996 and we conducted the work during the months of June through August 1996.

We conducted our audit in accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States. To gather and verify data, we interviewed key personnel, reviewed relevant documents, and performed appropriate tests of various processes and procedures. Specifically, we interviewed personnel in HIR as well as selected vendors. In addition, we applied applicable information systems audit guidelines used in the Federal government and private industry in evaluating the costs of maintaining a telecommunications network and providing comparable telecommunications services. While we understand the House is not required to comply with such guidelines, we believe they establish reasonable standards for comparison. The methodology used to assess the telecommunications network and services operations included:

- Conducting interviews with appropriate House officials to gain an understanding of the telecommunications operations and services and user needs.

- Analyzing detailed call records (i.e., records did not contain specific information on individual calls) of Member offices for a selected period to assess telecommunications utilization and costs charged to the House for services. This included providing limited, call detailed tapes for computer processing at Mitretek Systems in order to compare the House's per minute rate for long distance service with the cost of specific call traffic on the Federal Telecommunications System 2000 network (commonly known as FTS 2000).
- Reviewing the existing contracts of selected vendors to determine the actual costs of equipment and services incurred by the House, and the procurement arrangement and contract provisions, including the appropriateness of costs and discounts received.
- Reviewing the current processes in place for ensuring competitive pricing is consistently received.
- Performing a comparative cost analysis of various telecommunications services and equipment used by the House to determine the availability of comparable services at lower cost.

### **Internal Controls**

Within the scope of this audit, we evaluated internal controls related to procurement of services and inventory of equipment for the telecommunications function. The audit disclosed significant internal control weaknesses related to moves, adds, and changes to network systems, justifications for major acquisitions, monitoring usage charges, charge back policies, verification of vendor charges, and prepayments for equipment and services. These internal control weaknesses are described in the *Findings and Recommendations* section of this report.

### **Prior Audit Coverage**

No prior audits have been performed related to the cost areas of the House's telecommunications environment and services.

**II. FINDINGS AND RECOMMENDATIONS****Finding A: If Members Upgrade Their In-Office Systems, The House Can Realize Over \$900,000 Annual Savings By Migrating The Wide Area Network To Other Connectivity Options**

HIR has encouraged the transition from private lines to frame relay service through the establishment of the district office "Flagship" service, which resulted in 38 Member offices transitioning to the frame relay service and a monthly savings of \$8,000 since January 1996. However, the current House WAN connectivity between Member and district offices is still not as economical as other available connectivity options. By pursuing other connectivity options and encouraging the remaining Members to upgrade their in-office systems to be compatible for frame relay services, the House can save in excess of \$900,000 annually and reduce the complexity of managing the WAN.

Two WAN services are provided for connectivity between Member and district offices--private lines from Sprint and frame relay service from MCI Communications Corporation (MCI). The private lines are dedicated connections at speeds of 9.6 kilobits per second to 56 kilobits per second between Member and district offices. Their cost is mileage sensitive (i.e., the further the connection, the more the cost). The frame relay service (i.e., a switching technique that routes units of data known as frames) with connections at 56 kilobits per second, involves connecting both district offices and the House backbone network to various MCI network sites that are in proximity to the different locations. The switches provide connections between the two locations, on an as needed basis. Frame relay pricing is essentially mile insensitive, and therefore, it is significantly less expensive than private lines for large networks, such as the House network, that are geographically diverse. Frame relays can be obtained from two different sources: an inter-exchange carrier (IEC<sup>8</sup>), such as MCI, or the local exchange carrier (LEC<sup>9</sup>), such as Bell Atlantic. Frame relay service from LECs is significantly less expensive than service from IECs, which is currently used at the House. Therefore, several options exist for the House to achieve significant connectivity cost savings.

---

<sup>8</sup>IEC is commonly thought of as a "long distance" company, such as American Telephone & Telegraph (AT&T), MCI, and Sprint. These companies provide services between local carriers.

<sup>9</sup>LEC is commonly thought of as a "local telephone" company, such as Bell Atlantic.

- The House can realize over \$310,000 in annual savings by migrating the current 291 private line users to frame relay service, as depicted in Table 1 below.

Number of Private Lines	291
Average Private Line Cost	\$487
Average Monthly Frame IEC Cost	\$398
Average Monthly Savings (per user)	\$89
Total Monthly Savings	\$25,899
<b>Annual Savings</b>	<b>\$310,788</b>

**Table 1. Comparison of the House's Private Line Service Cost To Frame Relay Service Cost**

- The House presently procures nationwide frame relay service from MCI. This network was procured via a Request for Proposal process which required that the winning vendor be able to provide the service in all district office locations. However, the House can realize over \$287,000 in savings by migrating the present network to frame relay services provided by LECs, as shown in Table 2 below. (It should be noted that the savings calculation is based on an analysis of average costs between the networks. It should also be noted that at least 224 (84.5 percent) of the current district office locations are in areas where such service is available.)

Number of IEC Users	265
Number of Users Eligible for LEC <sup>10</sup>	224
Present Average Monthly IEC Cost	\$398
Average Monthly Cost of LEC	\$291
Average Monthly Savings (per user)	\$107
Total Monthly Savings	\$23,968
<b>Annual Savings</b>	<b>\$287,616</b>

**Table 2. Comparison of the House's IEC Frame Relay Service Cost To LEC Frame Relay Service Cost**

<sup>10</sup>Some Users may not be eligible for LEC-based frame relay service because the service is not available everywhere. However, we have determined that at least 84.5 percent of the district locations have LEC-based frame relay services available to them.

- The best option is to procure services for all eligible users from each of the LECs that service the area of a Member's district office. Frame relay access from LECs is significantly less expensive than access from an IEC and private lines. Thus, if all the eligible users were migrated to LEC-based frame relay networks, the House could save over \$900,000, as shown in Table 3 below:

Number of IEC and Private Line Users	556
Number Eligible for LEC	470
Present Average Monthly IEC Cost	\$398
Present Average Monthly Private Line Cost	\$487
Average Monthly Cost of LEC	\$291
Average Monthly Savings per IEC/Private Line user	\$107/\$196
Total Monthly Savings from Total LEC Migration	\$72,184
Remaining Monthly Savings - Private Line Migration to IEC	\$4,005
Total Monthly Savings	\$76,189
<b>Annual Savings</b>	<b>\$914,268</b>

**Table 3. Savings To Be Realized By Migrating Users From Private Line Service and IEC Frame Relay Service To LEC Frame Relay Service**

Notwithstanding the above, HIR's effort to migrate all Member offices from private lines to frame relay service is hampered by two primary factors. First, and foremost, the use of antiquated computer systems in a number of Member offices are impeding the migration to frame relay. These systems utilize terminals in district offices that connect to a computer in Washington, D.C. via private lines. For instance, a staff member in a district office, who is writing a memo, would use a word processing system that is located perhaps several thousand miles away. While this technology was commonly used in the 1970's, it is considered archaic in today's society with the proliferation of microcomputers. Furthermore, many of these older computer systems support applications with unique characteristics and, thereby, are not easily migrated to the frame relay service. Secondly, HIR has no control over the choice of equipment purchased and used by Member offices and, thereby, cannot mandate the remaining Member offices to migrate to a modern system. This lack of control places HIR in a difficult situation—i.e., trying to implement initiatives for a more efficient and economical operation while maintaining an expensive network solution for supporting these older systems.

House Members are committed to supporting the CyberCongress vision, initiated at the start of the 104<sup>th</sup> Congress, for using information systems and telecommunications technology in accomplishing its objectives while reducing costs. Among the various programs launched under the CyberCongress auspice, the frame relay initiative was offered to provide a more effective and economical House WAN connectivity between Members and district offices. Between November 1995 and October 1996, the number of Members using frame relay service has increased from 148 to 211—a total of 63. To do this, many of these Members had to upgrade their in-office systems to take advantage of advanced automation and improved telecommunications. Although the audit work did not extend to quantifying the specific costs associated with upgrading the remaining 151 Members' in-office systems to achieve full migration to frame relay, HIR estimates the capital investment range from \$60,000 to \$90,000 per Member office to upgrade the servers, workstations, and software. As of October 31, 1996, 151 Member offices still need to upgrade their in-office systems before they could contemplate using the frame relay service. This requires an additional estimated total capital investment ranging from \$9 to \$13.5 million. While the additional capital investment is large, Members using antiquated in-office systems will eventually need to upgrade their systems to utilize the information technology resources resulting from the CyberCongress initiative.

Thus, the House will not be in a position to realize these annual savings in telecommunications operations without first ensuring that the remaining 151 Members' in-office systems are upgraded and migrated to the frame relay service. Clearly, the continued support of private lines and antiquated systems is not consistent with the CyberCongress goals and objectives.

**Recommendation**

We recommend that the Chief Administrative Officer:

1. Convert all remaining Member offices to frame relay service as the Members upgrade their in-office computer systems.
2. Develop a proposal, for approval by the Committee on House Oversight, that entails an option for consideration of local exchange carrier frame relay services compared to other viable alternatives in the upcoming frame relay competitive procurement.

### **Management Response**

On January 16, 1997, the Office of the Chief Administrative Officer concurred with this finding and both recommendations (see Appendix). According to the response, the HIR Communications Group has and will continue to provide the necessary support to convert Member offices to frame relay service as long as their in-office computer systems have been upgraded to do so. Examples of CHO initiatives supporting the upgrade of Member in-office systems include: (a) terminating micro-min; (b) terminating election night coverage on MIN and directing usage to the Internet; (c) making certain information only available through the Internet/Intranet (not terminal based); (d) removing outdated microcomputers (286 and below) and associated equipment from departing Members' inventory; and (e) centrally providing MS Windows 95, MS Exchange, etc., including installation costs. With respect to the frame relay competitive procurement, the Communications Group developed a Request for Proposal (RFP) for Wide Area Data service that provides for consideration of local exchange carrier frame relay services. On November 20, 1996, the RFP was forwarded to the Office of the CAO for review, preliminary approval, and submission to the Committee on House Oversight for final approval.

### **Office of Inspector General Comments**

The Acting CAO's actions are responsive to the issues we identified and, when fully implemented, should satisfy the intent of our recommendations. We consider Recommendation 1 closed. However, Recommendation 2 will remain open until a decision is reached by the Committee on House Oversight.

**Finding B: The House Could Realize Substantial Annual Savings By Implementing Alternative Telecommunications Service Provider Offerings**

Although the House local exchange services (i.e., local telephone services) and voice conferencing services may have been cost-effective during the audit period, we learned that the costs of these services may not be competitive in the near future considering the increasing competition in the telecommunications arena. Without re-evaluating the contract costs of these services, the House could unnecessarily be paying significantly more per year for local exchange services and teleconferencing services. Therefore, in the next 6-12 month period, HIR needs to re-evaluate these services to ensure that the House obtains the most competitive prices for comparable services.

**The House could realize significant annual savings by re-evaluating its local exchange service options with alternative service providers**

Best practices dictate that significant expenditures of any budget, such as the House's local exchange service expense, be periodically re-evaluated to determine whether the rates incurred for services are reasonable and competitive. This re-evaluation requires that a comparative cost analysis be performed for certain technologies and services, such as individual network services, and be procured via separate procurement processes when significant savings can be realized. As an alternative, contract provisions can provide for economic adjustments to reflect lower market prices. In recent months, competition for local exchange service has begun in the Washington, D.C. metropolitan area. Several carriers are implementing networks and starting to provide these services.

The House's current costs for local exchange services, procured through the House's longtime telecommunications service provider, Bell Atlantic, are at prevailing tariff rates. While the costs for such services were cost-effective at one time, recent competition within local markets is serving to drive costs down for various telecommunication services. To determine whether less expensive alternatives were available to the House, we made inquiries with competitive telecommunications service providers for comparable service. One service provider claimed that they could provide "comparable" service for significantly less cost to the House. Based on the local message unit costs quoted by this service provider, we were able to estimate a cost reduction. From this perspective, we learned that the House should be able to realize cost savings totaling about \$207,000 per year by reducing their local message unit costs. Message units charges from Bell Atlantic are \$.0725 for each call placed within the local Washington Metropolitan calling area. In arriving at this cost savings, we obtained the House's billing records for the audit period and computed the average monthly message units (approximately 985,000 calls). We then compared the average monthly cost using the current cost per message rate to the rate of \$.055 quoted to us by an alternative service provider we identified. The potential savings equal about \$207,000 per year.

As another alternative for local exchange service, some competitive service providers offer an option to use measured service rather than paying a "per call" charge. The charges under this option are essentially structured the same as most long distance service charges (i.e., "per minute" charge). Using an average call length of approximately three minutes, and measured "per minute" rates provided by a competitive service provider, the House would pay an average of \$.045 per call. This would result in an annual savings of approximately \$325,000. Table 4 illustrates the House's current costs and the potential annual cost savings that can be realized in comparison with the two comparable alternatives identified.

	<i>Per Call Rate</i>	<i>Per Minute Rate</i>
Average monthly message units	985,323	985,323
Present House cost per message unit	\$.0725	\$.0725
Present monthly unit charges	\$71,436	\$71,436
Competitive provider rates	\$.055	\$.045
Competitive monthly unit charges	\$54,193	\$44,340
Monthly savings	\$17,243	\$27,096
<b>Annual savings</b>	<b>\$206,916</b>	<b>\$325,157</b>

**Table 4. Comparison of the House's Local Exchange Service Costs  
To Alternative Providers' Service Costs**

**The House could realize annual savings by re-evaluating its voice conferencing service options with alternative service providers**

Best practices dictate that individual network services be procured via separate procurement processes when significant savings can be realized. In addition, equipment-based options should also be priced and compared to carrier-based service options.

The House uses voice conferencing services, which allow three or more people from different locations to participate in a conference call. MCI charges the House approximately \$.33 per minute for this service based on the existing legislative contract price. We explored comparable voice conferencing services with alternative providers and analyzed the House's monthly billing statements from MCI for voice conference services from January 1996 through July 1996. We found that the House was paying an average cost of \$7,221 per month for voice conferencing services. In contrast, an alternative provider we identified quoted us varying costs between \$.18 to \$.25 per minute depending on whether an operator is required to set up the conference. This would result in an annual savings of up to \$39,258. Table 5 illustrates the House's current costs and the potential annual cost savings that can be realized in comparison to the two "per minute" rates identified.

	<i>\$.25 Per Minute</i>	<i>\$.18 Per Minute</i>
Average monthly minutes of use	21,944	21,944
Average cost per minute	\$.33	\$.33
Average monthly MCI conference charges	\$7,242	\$7,242
Competitive providers monthly charges	\$5,486	\$3,950
Monthly savings	\$1,756	\$3,292
<b>Annual savings</b>	<b>\$21,072</b>	<b>\$39,504</b>

**Table 5. Comparison of the House's Voice Conference Service  
Costs To Alternative Providers' Costs**

### **Conclusion**

Until recently, competitive alternatives have not been readily available but recent legislation at both the Federal and local level has resulted in an increasing number of telecommunication service providers establishing themselves in the Washington, D.C. area. This increase in competition has resulted in lower prices for various telecommunications services and should extend to the local exchange service offerings in the near future. Therefore, in the next 6-12 month period, HIR needs to re-evaluate these services to ensure that the House obtains the most competitive prices for comparable services.

### **Recommendation**

We recommend that the Chief Administrative Officer:

1. Conduct an analysis to compare the alternatives for local exchange services, including negotiations for improved rates with the current provider. Upon conclusion of this analysis, if justified, HIR should establish a plan and schedule for initiating a competitive process for procuring these services.
2. Conduct an analysis of alternatives for voice conferencing services that compare the use of alternate service providers as well as the use of the Definity PBX systems and/or stand alone conferencing equipment.

### **Management Response**

On January 16, 1997, the Acting CAO concurred with this finding and both recommendations (see Appendix). According to the response, the Communications Group plans to conduct market competition analyses to compare the alternatives for local exchange services and voice conferencing services before the end of FY 1997. Alternative analyses for each of these services and associated findings will be submitted to the Committee on House Oversight for approval. Despite these plans, the response indicated that the Communications Group's ability to fully implement planned actions will be dependent upon obtaining additional resources. In the interim, efforts are underway to analyze the current calling patterns and ascertain the volume of calls that can be accommodated on the new G3 conference feature.

### **Office of Inspector General Comments**

The Acting CAO's actions are responsive to the issues we identified and, when fully implemented, should satisfy the intent of our recommendations. Furthermore, the milestone date provided appears reasonable. However, we trust that the Acting CAO will make every effort to obtain the necessary resources to implement the recommendations as expeditiously as possible.

**Finding C: The House Could Realize Annual Cost Savings Of \$92,000 By Re-evaluating Its Telecommunications Maintenance Service Contracts**

The House needs to re-evaluate its maintenance services contract for moves, adds, and/or changes (hereinafter referred to as M/A/Cs) to networks. We estimate that the House can save \$92,000 by changing to a "per station" option in its current contract. In addition, HIR's written operations policies and procedures are insufficient which can result in inefficient management of resources and other management problems. The House needs to improve its operations management policies and procedures, especially with heavily used networks constantly changing as a result of House elections every two years. The potential impact of any M/A/Cs to network systems makes it imperative that these changes be planned and implemented in an organized and cost-effective manner.

**The House overpays for voice M/A/Cs**

Under best practices, management needs to periodically reevaluate their maintenance services to determine their most cost-effective options. The House has contracted with Lucent Technologies (formerly AT&T) for maintenance services for the voice system until the year 2002. This contract allows for two options related to M/A/Cs. The House can pay an annual lump sum (\$206,768) for unlimited M/A/Cs or pay on a "per station" basis (\$51.19). The House presently pays the lump sum, but, per the contract, may elect to convert to a "per change" (i.e., changes related to a specific telephone instrument) basis. If a contract change is made, the House will then be locked into that option for the term of the contract. Our studies indicate the House may recognize significant savings by exercising the option of paying for changes on a "per station" basis. By converting to a "per station" charge we estimate the annual cost savings to be approximately \$92,000.

**HIR maintenance policies and procedures need to be fully documented**

Under best practices, an organization should have maintenance policies and procedures that fully document the maintenance routines, day-to-day operating procedures, and problem resolution processes (especially with vendors) necessary to support telecommunications service platforms. These policies and procedures, and an operations manual should specifically address the areas of Private Branch Exchanges (PBXs<sup>11</sup>), the data networks, each of the management systems for both voice and data systems, and the wiring infrastructure<sup>12</sup>. The operations manual should be a working document that is continuously updated to reflect changes and additions to the systems. The present HIR Operations Manual is a single binder that contains documents relating to various aspects of operations. Documentation of the many procedures is minimal. A properly structured and supported Operations Manual should be a valuable reference for operations personnel and, in particular, new personnel. The document should include the methods and operating procedures developed by the manufacturers of the telecommunications systems and the procedures required of the HIR staff. Without sufficient written policies and procedures in place, miscommunication, duplication of effort, and inefficient management of resources can take place. In addition, training of new personnel takes longer without well-documented policies and procedures. Development of a policy to define what should be documented in the Operations Manual and how it should be documented needs to be established as a priority.

**Recommendations**

We recommend that the Chief Administrative Officer:

---

<sup>11</sup>PBX is an automatic or manual private telephone exchange for transmission of calls to and from the public telephone network. Because of its size, the House uses four PBXs that are connected together.

<sup>12</sup>Wiring infrastructure is the infrastructure of copper and fiber optic cable that is installed throughout buildings and between buildings in order to create networks.

1. Convert the existing Lucent Technologies M/A/Cs contract from a flat rate to a "per station" basis.
2. Fully document the operations management policies and procedures and other information in the Operations Manual. This manual should address specific policies and procedures to maintain all systems, sub-systems, and networks, including the following:
  - Accounting Management policies and procedures;
  - Description of standard operating and analysis procedures for PBX systems and backbone;
  - Network management policies and procedures;
  - Maintenance policies and procedures; and
  - Most recent network diagrams.

### **Management Response**

On January 16, 1997, the Acting CAO concurred with this finding and both recommendations (see Appendix). Action was taken, in late September 1996, to exercise the "per station" option in the existing M/A/C contract with Lucent Technologies. Further, the HIR Communications and Client Services Groups are tasked with analyzing all operations, and ensuring that policies and procedures and other information are fully documented in the Operations Manual. The manual will address specific policies and procedures to maintain all systems, subsystems, and networks and is expected to be completed by the end of Calendar Year 1997. However, completion of this task is predicated upon the availability of additional resources.

**Office of Inspector General Comments**

The Acting CAO's actions are responsive to the issues we identified and, when fully implemented, should satisfy the intent of our recommendations. We consider Recommendation 1 closed and the milestone date reasonable for Recommendation 2. However, we trust that the Acting CAO will make every effort to obtain the necessary resources to implement Recommendation 2 as expeditiously as possible.

**Finding D: Future PBX Upgrade Needs To Be Sufficiently Documented And Justified**

The ongoing House PBX switch upgrade plan is not supported by a formal, detailed user needs document or an adequate cost-benefit analysis. This switch upgrade, in turn, required HIR to set aside \$3 million in FY 1997 and another \$3 million in FY 1998 to upgrade the House's telephone handsets in order to utilize the features associated with the implementation of the new PBX switches. As a result, the House may prematurely spend millions of dollars in the future for upgrading its voice telecommunications equipment, which is neither necessary nor cost-justified.

Best practices dictate that entities perform a thorough requirements analysis to provide a clear basis of user needs before acquiring information resources. These needs should be expressed in the form of opportunities for increased economy and efficiency, new or changing requirements, or deficiencies in existing capabilities. Typically, a formal assessment of user needs would include defining and documenting user requirements and top management's approval of those requirements. In addition, best practices include conducting a cost-benefit analysis addressing each identified requirement. This analysis should evaluate and compare various alternatives for meeting those requirements. It should also include a description of each of the alternatives and their costs, a description of quantifiable and non-quantifiable benefits, a description of the weighted decision criteria reflecting the specific environment of the organization, and a decision matrix comparing each alternative.

Well-run acquisition or development of information systems generally are managed using a formal System Development Life Cycle (SDLC) methodology. The two analyses described above are early steps employed in a formal SDLC methodology. An SDLC methodology provides a structured approach to managing a system implementation project. It includes guidelines spanning from planning the project to key activities throughout the project to system implementation. Conducting a requirements analysis and performing a cost-benefit analysis and documenting those results are essential to not only adequately justify management's decisions and expenditures, but also to provide much needed information for project development and implementation.

The House telephone system is the primary means of voice telecommunications between Members, their constituents, and other areas of Federal and state governments. During the audit, we learned that the HIR Communications Group was in the midst of upgrading its PBX system, which will expand over the next several years. The Committee on Appropriations approved \$4.59 million in HIR's FY 1995 budget to begin the telephone system switch (G3r switch) upgrade project with the first switch scheduled for installation by May 1996. A second G3r switch was approved and funded at a cost of nearly \$3.5 million through the reprogramming of FY 1995 funds. The first switch was installed in April 1996 and the second switch was installed in August 1996. Additional switch upgrades are planned for the future: Switch modules at a cost of \$2 million for FY 1998, a G.2.2 switch replacement at a cost of \$3.5 million in FY 1999, and a next generation multi-media switch upgrade at a cost of \$3.5 million in FY 2000.

With the PBX switch upgrade project well underway, the Communications Group requested an additional \$3 million in FY 1997 to replace approximately 50 percent of the existing telephones with newer technology handsets. They further plan to request another \$3 million in FY 1998 to replace the remaining telephones. The Group's rationale for replacing the handsets was predicated on the assertion that the existing telephone handsets had reached the end of their useful life and replacements are needed to avoid widespread breakdowns. However, the premise that the existing sets are reaching the end of their operational life is not supported by any House statistics, industry statistics, or "best practices".

Typically, the larger the decision, the more important it is to conduct a thorough cost benefit and alternatives analysis. The analysis and accompanying justifications used by HIR for the new switches did not reflect a detailed analysis and would not have been considered satisfactory within the private sector. Furthermore, the analysis did not adequately represent the long term ramifications of the upgrade such as the fact that the existing instruments would not work with the new systems and that new instruments would need to be purchased. In fact, this upgrade was in direct contradiction with the justification used for renewing Lucent Technologies' maintenance contract through the year 2002. That contract required maintenance for the old switches in which one of the arguments was

“there is no need to replace the entire switching system and more than 13,000 electronic telephones in 1997”. Nevertheless, when we inquired about the switch upgrade, we were told by HIR that the switch upgrade decision was based on user needs. That is, HIR held two focus group meetings, where users indicated their desire for telephone features such as Caller ID, integrated speaker phones, improved voice quality, and the capability to add equipment for video conferencing. User input from these sessions provided the primary basis for justifying the multi-million dollar switch upgrades.

Contrary to HIR’s assertion, we were told by different HIR personnel that they now have to initiate efforts to convince or “sell” Members on the new functionalities available with the new switches to increase utilization. Had the House had an overwhelming need for new features, HIR would not have to convince Members, Committees, and other House offices to migrate to newer technology. In fact, this low interest level is consistent with House users’ responses compiled from the Office of Inspector General’s (OIG) 1995 and 1996 Customer Satisfaction Surveys<sup>13</sup>. The results of both surveys indicated an overwhelming customer satisfaction rate (96 percent) with the existing equipment and quality of the voice transmission services at the House. Furthermore, the surveys showed that only 9 percent of the users had any plans to use video conferencing within the next 12 months.

Considering the House has already made a significant investment in the PBX/telephone upgrade project and newer technology handsets are required for compatibility for the G3r switches, the House has little choice but to complete the purchase of the handsets. To do otherwise, would not be cost-effective. However, in the future, it is imperative that HIR conduct a formal, detailed requirements analysis and cost-benefit analysis of possible cost-effective alternatives before initiating new upgrades or acquisitions that are planned for FY 1998-2000. In addition, HIR needs to work closely with the Committee on House Oversight on future upgrades or acquisitions to ensure that the Committee fully understands the ramifications of these initiatives.

### **Recommendation**

We recommend that the Chief Administrative Officer require HIR to conduct a formal, detailed user needs analysis and a cost-benefit analysis for future PBX and telephone upgrades or acquisitions to justify their decisions and expenditures and ensure that the ramifications of such initiatives are fully communicated to the Committee on House Oversight.

### **Management Response**

On January 16, 1997, the Acting CAO concurred with this finding and recommendation (see Appendix). The Acting CAO stated that HIR will conduct a formal, detailed user needs analysis and a cost-benefit analysis to justify expenditures for future PBX and telephone upgrades, including planned switch upgrades.

### **Office of Inspector General Comments**

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

---

<sup>13</sup>For the OIG’s 1995 survey results, see compilation report entitled *U.S. House of Representatives Results of the Customer Satisfaction Survey*, dated July 18, 1995. For the OIG’s 1996 survey results, see Report No. 97-CAO-03, entitled *Results of The House Telecommunications Customer Satisfaction Survey*, dated March 24, 1997.

**Finding E: House User Charge Back Policies Do Not Fairly Distribute The Costs Of The Services**

The current implementation of the charge back system does not fairly or completely distribute costs for telecommunications services to the Member, Committee, and other House offices. As a result, some users are charged far less than the actual costs of the services received, and others are charged far more than the level of services received. Further, HIR's charge back rate established for local lines in district offices does not sufficiently reflect the full cost of those lines incurred by HIR. This means that some organizations spend a disproportionate percentage of their budget/allowance on these telecommunications services; effectively subsidizing other users. In addition, HIR is required to maintain a budget for covering the expenses not fully covered by the charge back. These conditions are the result of an inaccurate charge back rate structure.

Under best practices, user charge back programs are to provide a fair and equitable distribution of costs. User charge back programs should recover the monthly recurring costs of the service, thus eliminating the need for multiple budgets to cover a single service.

**The House provides telephone extensions without passing charges back to users**

User charge backs are used at the House to distribute the costs of the local and inter-exchange carrier services to Member, Committee, and other House offices. Charge backs are used for PBX extensions in use at the House complex, local exchange lines in the Member's district offices, and long distance charges in both locations.

HIR provides two types of services for users at the House complex: Direct Inward Dial (D.I.D.) and "soft line" services:

- D.I.D. service utilizes numbers with the prefixes beginning with 225 or 226. D.I.D. numbers can be dialed from anywhere inside or outside the House telephone system and reach the phone directly. This capability required the House to procure D.I.D. trunks and numbers from its local telecommunications service provider, Bell Atlantic. The charge back cost for D.I.D. extensions is \$15 per month.
- The "soft line" services are telephone numbers that begin with the prefix "3" (i.e., internal 5 digit telephone extensions). Unlike numbers with the "225" and "226" prefixes, the "3" prefix cannot be dialed directly from the outside. Calls intended for these extensions must be placed to a D.I.D. extension, such as a receptionist, and then transferred internally to the "3" extension. Phones with "3" extensions are, however, able to make outbound calls like the "225" and "226" extensions. The House provides 7,518 telephone extensions with the "3" prefix free of charge to various House offices.

The charge back for extensions at the House complex are used to cover the cost of the local exchange services. Because there is only a charge back for D.I.D. extensions, these users bear the full burden of the local exchange services. In effect, they subsidize the users of "soft lines." The incremental cost for provisioning a D.I.D. extension (the additional cost of D.I.D. trunks and numbers) rather than a "soft line" is approximately one to two dollars a month.

The provisioning of extensions without charge back costs does not provide an equitable distribution of carrier costs. The unequal distribution of costs means the D.I.D. users are required to use a larger percentage of their budget for these telecommunications services. The typical Member office has between 20 and 25 extensions. In some instances, we found that Members have 15-20 "soft lines" and the remainder were D.I.D. extensions. This scenario results in a \$75 per month (\$15\*5 extensions) charge back to the Member. In other instances where the Members have no "soft lines," the Members are charged up to \$375 per month (\$15\*25 extensions) for D.I.D. extensions. According to an HIR official, the no charge policy for soft lines was initiated ten years ago when the PBX system was originally installed to entice a number of Member offices, who had been reluctant to change from the older telephone system, to utilize the newer system with additional features and lines. HIR stated that changes to this policy have since been proposed, however, they were never been implemented. While we realize that incentives to increase utilization are needed on occasion, the overall objective of the House is to recover costs.

**The existing charge back rate for local exchange lines in Member district offices does not cover the cost of the service**

A monthly charge back is assessed to each Member for the local exchange lines in use at their district offices. The current rate of \$45 per line does not sufficiently account for the true cost of those lines incurred by HIR. The current charge back rate is intended to be an "average cost" rather than the actual cost. The intent of this approach is to avoid penalizing those Members who represent districts in locations that have high telephone rates in comparison to other Members. Based on the cost averaging approach, Members are presently charged \$45 for each line used in their district offices. However, the current actual cost (i.e., average) of a district line, as computed by HIR, is \$67. This requires that an additional line item be maintained in HIR's annual budget to cover the difference between the charge back rate and the actual rate. The FY 1996 amount is \$1.4 million for this line item.

This current practice makes the HIR budget planning process more difficult because of a potential requirement to subsidize the monthly cost of new district lines. The subsidy inflates the HIR budget unnecessarily and means that user's telecommunications budgets do not accurately reflect their true operating costs. According to an HIR official, the user charge back rate for district lines is a figure established by the former Committee on House Administration in 1987 to entice Members to utilize the new telephone system.

**Recommendation**

We recommend that the Chief Administrative Officer develop a proposal, for approval by the Committee on House Oversight, to establish and implement a new charge back structure that:

1. Eliminates the incentive-oriented program for providing “soft lines” at no charge and provides rates that reasonably and equitably distribute costs among both D.I.D. and “soft line” users.
2. Recovers the total cost of district local line service and eliminates the subsidy included in HIR’s budget.

**Management Response**

On January 16, 1997, the Acting CAO concurred with this finding and both recommendations (see Appendix). According to the response, the HIR Client Services Group plans to analyze the costs, benefits, and ramifications of eliminating the no charge policy for “soft lines”. A proposal documenting the results of HIR’s analysis will be forwarded to the Committee on House Oversight before the end of FY 1997. In addition, the Group plans to analyze the costs, benefits, and ramifications of district local line service and prepare a proposal containing the results of this analysis for approval by the Committee on House Oversight before the end of FY 1997.

**Office of Inspector General Comments**

The Acting CAO’s actions are responsive to the issues we identified and, when fully implemented, should satisfy the intent of our recommendations. Furthermore, the milestone dates provided appear reasonable.

**Finding F: The House Needs To Improve Its Procedures For Analyzing And Verifying Telecommunications Service Usage And Charges**

The House does not currently use the most efficient and effective process for receiving and analyzing vendor bills nor does it verify the accuracy of the message unit costs for local calls. As a result, HIR employees spend more time than necessary performing accounting management functions and it is possible that the bills for local services are inaccurate. The House needs to more aggressively pursue negotiations with vendors to receive billing information via CD-ROM<sup>14</sup>. In addition, the House needs to verify all monthly local call counts against the PBX system data.

**The House can improve its billing analysis process by migrating the receipt of vendor bills to CD-ROM technology**

A generally accepted practice in the telecommunications industry today is for customers to receive billing information via CD-ROM. This format speeds up the lengthy bill review by allowing HIR staff to bill details more quickly. CD-ROM based bills provide easy and flexible accessing and sorting of all billing information by telephone number and/or account number.

Presently, vendor billing data is loaded into the MONIES system (a telecommunications cost accounting and billing system) via magnetic tapes from Bell Atlantic, AT&T, MCI, NetworkMCI, and Bell Atlantic NYNEX Mobile. The MONIES system uses the data to produce reports to be analyzed for accuracy of the billing information and to produce monthly telephone statements for Member, Committee, and House offices. The data used for this purposes is not formatted for vendor billing analyzes and reporting. Hard copies of these and other vendor invoices are also received and must also be manually reviewed for accuracy. This involves scanning through many pages of bills or reading lengthy computer printouts. Though this current process works, it is labor intensive and time-consuming to analyze and review telecommunications service usage and charges to produce accurate telephone bills. Thus, this approach is significantly less efficient than other means.

While the magnetic tapes cannot be replaced at this time because of the computer processing system, the tedious review of computer printouts and paper invoices can be eliminated. By migrating to a CD-ROM collection system for vendor billing details including usage charges, tax, and other information, ad hoc reports could be generated by HIR staff with far less effort and resources, thereby improving the efficiency of the staff. This would improve the process for analyzing billing issues/problems by providing additional formats for reading the bills and reducing the time it takes to sort through the hard copy bills for the appropriate data. CD-ROM capabilities provide much better management information and control while improving accounting productivity. While discussions have been held by HIR with several vendors regarding receipt of billing and management reports via CD-ROM, vendors have not been responsive.

**The House Does Not Verify Usage Charges From The Local Exchange Services Vendor**

Best practices in the commercial marketplace require that all monthly local call counts be verified against PBX system data to ensure accuracy of vendor counts. The House averages more than 985,000 calls within the Washington, D.C. metropolitan area each month. The local exchange service provider, Bell Atlantic, charges \$.0725 per call. There is no formal process in place to verify the message unit charges from the local provider against available data from the PBX. Each month the vendor charges for message units should be verified against the peg counts<sup>15</sup> associated with the outbound local trunks (physical facilities connecting the House PBXs to Bell Atlantic). These peg count reports are readily available from the existing management systems. Without proper

---

<sup>14</sup>A CD-ROM is a high capacity read-only memory in the form of an optically read compact disc.

<sup>15</sup>A peg count is a type of performance index in which a counter keeps a running track of a particular measurement. For instance, a peg count for a PBX may keep track of the number of calls placed over a trunk or group of trunks.

verification of local usage counts, the House is vulnerable to errors in the local service provider's billing system, and therefore may incur inaccurate charges.

**Recommendations**

We recommend that the Chief Administrative Officer actively pursue receipt of billings via CD-ROM with each vendor as it becomes available.

**Management Response**

On January 16, 1997, the Acting CAO concurred with this finding and recommendation (see Appendix). The Acting CAO stated that HIR has and intends to continue to pursue receipt of billing and usage information in CD-ROM format with each vendor.

**Office of Inspector General Comments**

The Acting CAO's action is responsive to the issue we identified and should satisfy the intent of our recommendation. We consider this recommendation closed.

**Finding G: The House Does Not Adequately Verify Vendor Charges Related To Non-Standard M/A/Cs**

Client Services has no formal policy or procedure in place to verify the accuracy of the time Lucent Technologies spends to complete non-standard M/A/Cs. The average monthly expenditure for these installations exceeds \$19,000. Consequently, HIR may incur unnecessary charges as a result of excessive time spent on individual changes.

Generally accepted standards are available to use as a guideline for the average time required to perform different types of installations. Best practices indicate that time and materials installations should be verified using this criteria to determine if the time charged to complete work is reasonable. Also, periodic inspections of this work should be performed.

All M/A/C work orders are generated by the Client Services Group and sent to Lucent Technologies to be scheduled, completed, and, upon completion, priced. Lucent Technologies' database is automatically programmed to cost the standard M/A/C work, as outlined in their contract with the House. However, non-standard work that is not applicable to these guidelines is calculated on a time and materials basis in accordance with the rates outlined in the contract. At the end of each month, a report for all M/A/C work completed is generated by the vendor and sent to the Client Services Group for reconciliation. The Technical Support Representatives check the report only to identify one-time charges to be entered into the MONIES system for charge back to Members, Committees, and other House offices. Although management checks for accuracy of the charges associated with the standard type of work performed, no procedure is in place to verify that the time charged for time and materials installations is reasonable. When the report is reviewed by management for reconciliation, time and materials charges are seldom verified unless the cost is inordinately high. Without a process in place to compare the time reported and the average time required to perform a non-standard M/A/C, and to perform periodic physical inspections of this work, the House cannot be assured that they are not being overcharged for non-standard M/A/C activity.

**Recommendations**

We recommend that the Chief Administrative Officer:

1. Establish policies and procedures for the Client Services Group to reconcile all time and materials activity on the monthly reports as well as conduct periodic inspections.
2. Require three bids on any non-standard M/A/C work estimated to cost over \$2,500.

**Management Response**

On January 16, 1997, the Acting CAO concurred with this finding and both recommendations (see Appendix). According to the response, the Client Services Group plans to establish policies and procedures to reconcile all time and materials activity on the monthly reports as well as conduct periodic inspections. This effort is expected to be completed by the end of FY 1997. In addition, the Communications and Client Services Groups instituted a requirement for three bids on any non-standard M/A/C activity estimated to exceed \$2,500. This requirement was documented and completed on December 17, 1996.

**Office of Inspector General Comments**

The Acting CAO's planned actions related to Recommendation 1 are responsive to the issues we identified. The milestone date provided for completing this action appears reasonable and, when fully implemented, should satisfy the intent of our recommendations. Similarly, the action taken to implement Recommendation 2 is responsive and, therefore, we consider this recommendation closed.

**Finding H: The CAO Inappropriately Made Advance Payments Totaling \$3.2 Million For Network Services And Equipment**

The CAO inappropriately paid \$3.2 million of FY 1995 funds to three specific vendors for network services and equipment in advance of actually receiving any equipment or services. The CAO had not received approval of this advance payment arrangement from the Committee on House Oversight.

In September 1995, \$10.9 million from the FY 1995 budget was reprogrammed to provide for ten specific projects/procurements designed to upgrade the House's telecommunications infrastructure. One of the ten projects, the Flagship Data Offering Program, shifts the costs of the wide area data transmission services between Member district offices and Washington, D.C. from Member charge backs to HIR's telecommunications budget. As an incentive for Members to switch from using private lines to frame relay to reduce costs, each Member receives one "free" wide area service.

For this program, the House issued purchase orders in September 1995, establishing credit accounts (pre-paying contract amounts in advance) with three vendors totaling \$3,200,000: Sprint for \$1,720,000; MCI for \$1,148,000; and Cisco Systems (Cisco) for \$332,000. However, the CAO did not request and receive appropriate approval from the Committee on House Oversight for the prepayment of House funds.

The Sprint and MCI accounts are to cover the monthly recurring costs of the private lines (Sprint) and frame relay services (MCI) from January 1996 to September 1996. The account with Cisco is for future hardware purchases. The Terms and Conditions of the purchase orders (at least the purchase orders with Sprint and MCI) call for the services to be provided in accordance with the existing contract(s). Funds were to be taken from the credit account(s) each month to cover the cost of the services. At the end of FY 1996, any remaining credit balance is to be returned to the House or applied to another House telecommunications services account as directed by the Contracting Officer or authorized representative.

In view of the questionable nature of this advanced payment arrangement with respect to pertinent laws and regulations, this matter is being further reviewed by the OIG.

**Recommendation**

We recommend that the Chief Administrative Officer prohibit entering into any advance payment arrangements without the Committee on House Oversight's full knowledge and understanding of the issues and ramifications involved, and approval of such an arrangement.

**Management Response**

On January 16, 1997, the Acting CAO concurred with this finding and recommendation (see Appendix) and indicated the intention to comply immediately.

**Office of Inspector General Comments**

The Acting CAO's action is responsive to the issues we identified. Therefore, we consider this recommendation closed.

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

MEMORANDUM

To: Robert B. Frey III  
Deputy Inspector General

From: Jeff Trandahl  
Acting Chief Administrative Officer

Subject: Telecommunications Cost Audit

Date: JAN 16 1997

Thank you for the opportunity to comment on the draft audit report. We have carefully reviewed the draft audit report and the recommendations contained therein, and are in general agreement. Specific comments on each recommendation follow.

**Finding A:**

**Recommendations:**

1. **Concur** HIR Communications has in place the following to support the recommendation: practices and procedures, staffing, and vendor agreements. To date, 211 conversions have been made, and HIR Communications stands ready to convert any and all Members that upgrade their in-office computer systems.
2. **Concur** On August 19, 1996 a *Commerce Business Daily* announcement was published requesting responses from potential bidders that could meet specified qualification criteria. A bidders list has been established from the eight companies that responded to the announcement. One of the companies explicitly stated that they would propose local exchange carrier frame relay services and four of the other potential bidders are structured to propose such a configuration. HIR Communications has developed a Request for Proposals for Wide Area Data Services that provides for consideration of local exchange carrier frame relay services. This proposal was forwarded out of HIR Communications on November 20, 1996 for review and approval by the Committee on House Oversight prior to release.

**Finding B:**

**Recommendations:**

1. **Concur** HIR Communications will conduct a market competition analysis before the end of Fiscal Year 1997. This analysis will consist of: a *Commerce Business Daily* "sources sought" announcement requesting responses from potential suppliers meeting certain qualification criteria, a request for pricing data, an analysis of the submissions and a report of the findings to the Committee on House Oversight. The ability to carry out the above is contingent upon the receipt of additional resources.
2. **Concur** HIR Communications has begun an analysis of current calling patterns to ascertain the volume of calls that can be accommodated via the new G3 6-Party Conference Feature. Before the end of Fiscal Year 1997, HIR Communications will conduct a market competition analysis. This analysis will consist of: a *Commerce Business Daily* "sources sought" announcement requesting responses from potential suppliers meeting certain qualification criteria, a request for pricing data, an analysis of the submissions and a report of the findings to the Committee on House Oversight. The ability to carry out the above is contingent upon the receipt of additional resources.

**Finding C:**

**Recommendations:**

1. **Concur** On September 30, 1996 a letter was sent from Philip G. Kiko, the CAO Associate Administrator for Procurement and Purchasing, to Lucent Technologies exercising the per station option as detailed in Attachment 1, Cost Schedule B - Operations, Page H-16 of the contract CAO-96-C-027. This option is now in force.
2. **Concur** HIR Communications and Client Services will analyze all operations, and fully document the management policies and procedures and other information in the Operations Manual. This manual will address specific policies and procedures to maintain all systems, sub-systems, and networks by the end of Calendar Year 1997. The ability to carry out the above is contingent upon the receipt of additional resources.

**Finding D:**

**Recommendations:**

1. **Concur** For future PBX and telephone upgrades, including any switch upgrades in the five year plan thought to be necessary HIR will conduct formal, detailed needs analysis and cost-benefit analysis to justify requests for expenditures. This

documentation will be provided to the Committee on House Oversight as part of the approval package.

**Finding E:**

**Recommendations:**

1. **Concur** HIR Client Services will fully analyze the costs, benefits and ramifications of eliminating the no charge policy of soft lines and forward a proposal containing this analysis to the Committee on House Oversight prior to the end of Fiscal Year 1997.
2. **Concur** HIR Client Services will fully analyze the costs, benefits and ramifications of eliminating the subsidy of district local line service and forward a proposal containing this analysis to the Committee on House Oversight prior to the end of Fiscal Year 1997.

**Finding F:**

**Recommendations:**

1. **Concur** HIR Communications has and will continue to pursue receipt of billing and usage information via CD-ROM with each vendor.

**Finding G:**

**Recommendations:**

1. **Concur** HIR Client Services will establish policies and procedures to reconcile all "time and materials" activity on the monthly reports as well as conduct periodic inspections prior to the end of Fiscal Year 1997.
2. **Concur** HIR Communications and Client Services already requires three bids on any non-standard move, add and change activity estimated to cost over \$2,500. Documentation of this procedure was completed December 17, 1996.

**Finding H:**

**Recommendations:**

1. **Concur** The CAO understands and will comply effective immediately.