
OFFICE OF THE CITY AUDITOR

REVIEW OF COMMUNICATION AND INFORMATION SERVICES CHARGE-BACK RATES

**Thomas M. Taylor, CPA
City Auditor**

Prepared by:

Paul T. Garner, CCP, CSP
Senior Audit Manager

Jing Xiao, CPA
Auditor

David Henley, CPA
Auditor

**August 1, 2003
Report No. 387**

Memorandum



CITY OF DALLAS

August 1, 2003

Honorable Mayor and Members of the City Council
City of Dallas

We have conducted a review of the proposed Communication and Information Systems (CIS) charge-back rates developed by CIS for FY03-04.

We conclude that CIS has measured and documented usage statistics for some of its proposed charge rates; however, rates that comprised a majority of CIS budgeted expenditures were not fully developed to serve as a systemic and logical charging system based upon actual usage. Related opportunities for improvement are included in this report.

We appreciate the cooperation of City staff during our examination.

Thomas M. Taylor

Thomas M. Taylor, CPA
City Auditor

c: Teodoro J. Benavides, City Manager

**REVIEW OF COMMUNICATION AND INFORMATION SERVICES
CHARGE-BACK RATES**

CONTENTS

	<u>PAGE</u>
INTRODUCTION	1
Authorization	1
Scope and Methodology	1
Overall Conclusion	1
Background	1
OPPORTUNITIES FOR IMPROVEMENT	4

INTRODUCTION

Authorization We have conducted a review of the proposed CIS charge-back rates developed by Communication and Information Systems (CIS) for FY03-04. This review was conducted under the authority of Chapter IX, Section 2 of the Dallas Charter and in accordance with the Annual Audit Plan approved by the City Council.

Scope and Methodology We performed our review in accordance with generally accepted government auditing standards and included tests of the accounting records and other procedures that we considered necessary in the circumstances.

Our review was focused on the proposed data services and telecommunication charge-back rates set by CIS for FY03-04.

Our review objectives were to:

- Identify the methodology used by CIS in deriving the data service and telecommunication charge rates.
- Determine whether the charge-back rates set by CIS are accurately charging the customer departments for their usage.

In order to accomplish our objectives, we performed the following steps:

- Interviewed CIS personnel to identify the process for gathering budget and usage data.
- Tracked CIS proposed usage statistics back to supporting documents.
- Compared target 2004 expenditures to prior year average annual expenditures and analyzed variances.

Overall Conclusion We conclude that CIS has measured and documented usage statistics for some of its proposed charge rates; however, rates that comprised a majority of CIS budgeted expenditures were not fully developed to serve as a systemic and logical charging system based upon actual usage.

Background In this report, charge-back rate means a rate or price that CIS charges user departments for using CIS services. CIS is an

INTRODUCTION

Internal Service Fund department. As such, CIS should design its charge-back system to expressly recover the full cost of providing a given activity.

Currently, CIS uses a proportional methodology to allocate its expenditures to other departments. CIS collects and reports expenditures by budget line number (Object Code). This reporting allows any user with access to the department's accounting and budgeting system to see how costs are accumulated for any specified period and how those costs compare to budgeted amounts. Departments are assessed flat rates that are not based on actual measured usage. They are charged based upon estimated proportional use of CIS services. The CIS department derives the estimates.

The purpose of establishing the new charge-back system was to allocate CIS expenditures to departments by usage of services, thus encouraging departments to make conscious decisions on the use of service resources. The charge-back system is also designed to justify the charge for usage of services incurred by the Enterprise Fund departments.

In October 2001, Andersen Consulting conducted a CIS rate study and developed a cost allocation model. The CIS charge-back categories were derived by using Andersen's recommendations.

The Andersen study identified that the CIS accounting and budgeting system does not allow the department to input expenditures by chargeable activity for each budget line number. As a result, any chargeability or cross-charge study must rely on user estimates and assumption. Consequently, the accuracy of these estimates depends heavily on the experience of the estimator.

The Andersen study also stated, "CIS must, through its VoIP vendor, develop a means of capturing actual utilization of the network so that overall network costs can be correctly allocated to a service." To provide more precise customer usage data, CIS purchased software in October 2002. CIS has accumulated four months of data from October 2002 to February 2003 and has used this data to make usage projections for the remaining

INTRODUCTION

part of the year. The proposed FY03-04 CIS charge-back categories contain fourteen elements, which are depicted in the following table.

CIS Data Services Charge-back Rates Summary						
	Services	Rate	Usage Measure	Measuring Tool	Target Expenditure	% of Total
1	Programming	\$67/hr	Programmer hours	PC Time	\$4,031,158	16.2%
2	Project Management	\$80/hr	Project mgt hours	PC Time	987,204	4.0%
3	LINC Transactions	\$0.0025/tran	Number of transactions	SMF	830,438	3.3%
4	CICS Transactions	\$0.0025/tran				
5	CPU Time	\$1,849/hr	CPU utilization hours	SMF	2,605,873	10.5%
6	Disk Storage	\$0.04/mg	Storage volume	LAN & Mainframe	745,223	3.0%
7	Lines Printed Jobs	\$0.88/K line	Number of lines	SMF	262,026	1.1%
8	Web Support	\$102/hour	Engineer hours	PC Time	305,710	1.2%
9	Network Access	\$9/user/mo	Number of users	GroupWise	236,551	1.0%
10	Network Support*	\$189/port/mo	Number of ports, PC	None	12,692,128	50.9%
11	Dedicated Server	\$482/sv/mo	Number of servers	None	1,138,246	4.5%
12	Shared Server	\$338/app/mo	Number of applications	None		
13	D-I Remote Access**	\$15/user/mo			0.00	
14	HRIS	\$8/emp/mo	Number of employees	Lawson	1,090,842	4.3%
	Total Expenditures				\$24,925,399	100%

* Network Support includes two categories: Desktop Support \$50.94/pc/month and Network Support \$138.81/port/month.

** The Dial-in Remote Access charge rate was in the developing stage during this review. The rate was not applied to any target expenditure for FY03-04.

OPPORTUNITIES FOR IMPROVEMENT

We identified some rates that were established under methodologies and criteria that need to be improved. Our review was not designed or intended to be a detailed study of every relevant system, procedure, and transaction. Accordingly, the opportunities for improvement presented in this report may not be comprehensive of the areas where improvements may be needed.

1. The largest charge category, Network Support, does not have appropriate direct usage measurements.

CIS has not invested in the tools to allocate costs efficiently via user-defined rules based on events, amounts, or other allocation methods.

Network Support was the largest charge category among the fourteen charge elements. The estimated expenditure budget for this category is \$12,696,968, or 51% of the total target data services expenditures of \$24,925,399.

Network Support includes two separate services: Desktop Support and Network Services.

- I. Desktop Support accounts for \$3,069,530 in expenditures. The proposed billing unit to departments is the number of personal computers. The CIS proposed rate is \$50.94 for each computer per month, or \$611.28 per year.

This costing methodology is an allocation and is not based upon usage. Desktop Support should have been segmented into two parts: computer diagnosis and software application support. These two types of support require different resources and skills, thus the pricing strategies should be different.

In the current market condition, all manufacturers and suppliers are providing very competitive warranties and maintenance service packages for computer hardware. However, external contractors may not be able to provide software support for internal systems as effectively as CIS. Therefore, charges for desktop support services should have been measured separately for computer malfunction diagnosis and software support.

Departments that do not use desktop support should not have to pay for it. By using the number of computers as the measurement for all desktop support services, CIS does not accurately charge the departments for usage.

- II. Network Services has \$9,627,438 in target expenditures. The charge unit for Network Services is based on the number of ports, and the proposed rate is \$138.81 per port per month.

OPPORTUNITIES FOR IMPROVEMENT

Number of ports may be used to measure access to the network; however, it does not reflect the actual usage of the network. Consequently, it is not appropriate to solely use the number of ports to measure the usage of this service. Using the network traffic originating from circuits will be more appropriate. When departments have designated capacity or specific circuits can be attributable to specific departments, these departments should be responsible for the cost of the circuits.

CIS management is currently developing a more precise measurement of direct network usage and desktop support usage.

We recommend that the Director of CIS:

- Continue the effort in completing the charge-back methodology and implement the completed charge-back rates for the FY04-05 budget.
- Use the proportional allocation method used in previous years to charge expenditures to departments for the FY03-04.

Management's Response:

- Industry standards support the use of the number of personal computers as a unit of billing for desktop support service. It is CIS' opinion that there is no value added to the time and cost associated with capturing usage statistics for diagnostic and software support.
- CIS is developing a complete inventory of the City's circuits, T1s, PRIs, DS3s, and Plexar lines. Upon completion of the inventory list (est. September 2003), CIS will be able to charge point to point users for their dedicated lines and multiple users based on a proportional allocation method. Costs associated with the resources/tools required to capture network traffic originating from circuits would tremendously exceed the benefits derived from such usage information gathered. Network expenses are fixed expenses set by the communication provider/carrier that do not fluctuate based on usage/traffic. Therefore, network traffic usage would not be a driving factor for determining rates/allocating costs.

Auditor's Comment:

- The use of PCs as the unit of billing unfairly charges all users for desktop support service, which they may not have used. We still believe that this service should be optional, and not imposed on all users. Further, users that call in and request desktop support are maintained in a database so little extra effort would be needed to identify the users of this service.

OPPORTUNITIES FOR IMPROVEMENT

- If network usage is a fixed expense and the assessment of cost to users is too burdensome and not beneficial for over \$12 million of charges (Network plus Desktop Support), it calls into question the viability of using any charge-back methodology. Both the 2001 Andersen Consulting study and our analysis conclude that actual utilization of the network is required in a charge-back system.

2. HRIS costs should not be treated as a charge element for CIS services.

CIS has budgeted \$1,090,842 for HRIS related costs, and the department has set an \$8/employee/month rate to charge each department for this cost.

The HRIS is an application owned by the Human Resources (HR) Department. The cost for this application should not be set-up as a direct service charge to each department but as a budget item for HR, which would be consistent with the City's handling of other computer applications such as RESOURCE, Info Advantage, and the Citizen Request Management System.

We recommend that the Director of CIS consult with the City Manager and Budget Office to reconsider the HRIS charge-back in CIS and consider budgeting the item to HR.

Management's Response:

The decision was made to allocate funds for the HR/PR System in CIS' budget so that cost for the system would be shared/recovered from all entities (i.e., Enterprise Fund departments) benefiting from the system. If HRIS expenses are budgeted in HR's budget, these costs would have to be recouped as part of the City's Cost Allocation Plan due to HR being a General Fund department. Thus, this methodology would not be based on usage (per employee) as proposed by CIS.

Auditor's Comment:

Allocating HRIS application costs to user departments is not consistent with how other software applications are handled. If the assertion that the Cost Allocation Plan is not based upon usage, then Enterprise Fund departments such as Dallas Water Utilities, Aviation, and Convention and Event Services are not being correctly assessed for their departments' use of such systems as RESOURCE, Info Advantage, and the Citizen Request Management System.

OPPORTUNITIES FOR IMPROVEMENT

3. The Dial-In Remote Access rate should continue to be developed.

This charge rate has not been developed, and no budgeted expenditure has been applied to this charge element for FY03-04. (The cost of this service is among the Network Expenditures and is being charged to departments through the Network Support charges.)

There should be a defined cost for providing the remote access service, and the users should be traceable. Therefore, the Dial-In Remote Access rate should be set up as an individual charge-back element instead of being compounded into Network Support services.

We recommend that the Director of CIS continue the development of this charge-back rate and make the rate ready for the FY04-05 budget.

Management's Response:

CIS will continue the development of this rate. However, this service has not been widely publicized due to security risks associated with having users access the City's network without having proper virus protection software on their system. Currently only CIS programmers are users of dial-in-remote access service. Making this service available to users throughout the City will require CIS to review and address potential security risks.

4. The Network Access rate calculation does not include all network users using the Internet.

The rate proposed for Internet access (\$9/user/month) was derived using the following formula:

$$\frac{(\text{GroupWise License Fee} + \text{Internet Provider Charge})}{\text{Number of GroupWise Users}}$$

This formula understates the number of users with Internet access. There are some City departments, such as the City Attorney's Office, that are not GroupWise users. Even though these departments should not be charged for GroupWise License Fees (\$95,000 for FY 2004), they should be charged for using the City's Internet system to recoup the departments' share of the Internet Provider Charge (\$141,551 for FY 2004).

We recommend that the Director of CIS consider resetting the Network Access charge-back rate to include all network users with Internet access in the calculation.

OPPORTUNITIES FOR IMPROVEMENT

Management's Response:

CIS concurs with this recommendation and will implement one of the following two alternatives for charging back network access cost:

- Combine cost pools for email and Internet service and use the number of PCs as the billing unit.
- Establish separate cost pool for email service and Internet service. Use the number of email account holders as the billing unit for email service. Use the number of assigned user ID holders as the billing unit for Internet service.