1979

Guidelines to assess computerized general ledger and financial reporting systems for use in CPA firms

American Institute of Certified Public Accountants. Computer Applications Subcommittee

Guidelines to Assess Computerized General Ledger and Financial Reporting Systems for Use in CPA Firms

American Institute of Certified Public Accountants AICPA

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Guidelines to Assess Computerized General Ledger and Financial Reporting Systems for Use in CPA Firms

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Contents

Preface

In recent years, members of the accounting profession have become increasingly aware of the benefits derived from the use of electronic data processing by business enterprises and public institutions. These benefits have included increased speed in processing data, a high degree of accuracy, and additional flexibility in processing data to produce various informative analyses.

Such benefits provide an incentive for CPA firms to consider using electronic data processing. However, the variety and complexity of means for utilizing electronic data processing are such that even an experienced practitioner may find it difficult to evaluate the available options—in-house computer, service center, timesharing, and so forth. For a data processing novice, the task is even more formidable. Therefore, it is appropriate for the AICPA to provide the profession with as much guidance as possible regarding the use of electronic data processing by a CPA firm.

The computer applications subcommittee was appointed to determine the desirable features of data processing applications for CPA firms and approaches to selecting the equipment, software, and services for these applications. Previous publications in this series are *Guidelines for General System Specifications for a Computer System* and *Guidelines to Assess Computerized Tax Return Systems,* which were published by the AICPA in 1976.

Introduction

Purpose

The purpose of these guidelines is to assist CPAs who have a limited knowledge of electronic data processing to assess computerized general ledger and financial reporting systems.

There could be any number of reasons why a CPA firm considers using a computerized general ledger and financial reporting system for client accounting services. It could be that an analysis by management has indicated that too much time is spent on routine tasks, or that meeting client deadlines has become a problem. The firm's current and expected work load may be such that additional personnel will be needed, or the firm's public image may be involved—that is, it may be important from the standpoint of client relations to be known as a firm that is conversant with computers and electronic data processing.

Whatever the reason for a firm's interest in a computerized general ledger and financial reporting system, the firm should use a systematic approach to investigating computerized systems to avoid becoming confused by the many technical and economic factors involved. The firm should understand the data processing options available and should use investigation and evaluation approaches that will facilitate selecting a suitable system.

Data Processing Options Overview

The data processing options available to a CPA firm are an in-house computer or a data processing service.

In-House Computer. The installation of computer equipment on a firm's premises to perform data processing jobs is commonly referred to as an *in-house computer* option. (A variation of this option is the rental of computer time segments from other organizations having in-house computers. This is commonly referred to as a *leased time* or *block time* rental option.) Under the in-house computer option, the firm would either rent or purchase data processing equipment. The firm may also purchase or rent computer programs (software) to perform its data processing jobs or it may choose to have its personnel develop these programs.

The term *computer* is applied to a broad range of equipment. This can be confusing to the inexperienced user. Some small business computers (often called minicomputers) are more powerful than physically larger computers that are not considered minicomputers.

Software for all types of computers is available from many sources. Application software for the smaller computer installation can often be obtained from the equipment vendor or from an independent software supplier. Software for larger computer installations may also be obtained from these sources, but is frequently developed by the user's personnel.

Data Processing Service. A data processing service is a commercial organization that sells computer services. Under the data processing service option, a firm would not be involved in operating the equipment that actually performs the processing, but the firm's personnel may prepare input to and/or receive output from the service. The following data processing services should be considered:

- *Service centers* are companies that accept input physically transported from a firm by messenger or mail, in the form of source documents or machine-readable media prepared by the firm's personnel, and provide agreed upon printed output that is delivered to the firm. Software for applications processed by a service center is typically provided by the center.[1]

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[1] For a complete discussion, see *Audits of Service-Center-Produced Records* (New York: AICPA, 1974).

- *Timesharing services* are companies that make a central computer available for use through a connection to a terminal device on a firm's premises and charge fees for use of computer time and data storage. Software for applications processed by a timesharing service is often provided by the timesharing service vendor but also may be obtained from independent sources or developed by the user's personnel.
- *Remote batch services* are hybrids of the service center and timesharing approaches in which a terminal device on a firm's premises is used to prepare and transmit input data for processing and to receive output. This mode of operation differs from timesharing because the processing is not on-line and does not provide immediate output. The output is usually transmitted back to the firm's terminal several hours later or possibly overnight. Generally, the volume of input and output data is much larger than that found in timesharing, and, for that reason, faster terminals are used.

System Selection Approach

The variety and complexity of the available data processing options and equipment for computerized general ledger and financial reporting can readily lead to preoccupation with equipment, which confuses the task of selecting a system. Therefore, a firm should be careful to use a system selection approach that emphasizes its data processing needs and keeps the data processing options in the status of tools that can be used to meet these needs.

A desirable approach generally involves the following three phases:

- *System specifications.* The starting point in system selection should be to determine the specifications that a computerized general ledger and financial reporting system must meet in order to fulfill the firm's objectives in adopting the system.
- *Request for proposals.* The second phase should be to request specific equipment or service proposals from the vendors of data processing equipment and services.
- *Evaluation and selection.* The final phase should be to evaluate the proposals based on the extent to which they meet the firm's system specifications. The approach presented in these guidelines applies a rating scheme with evaluation point values for the various specifications. Each vendor's proposal receives a numeric evaluation score. This score can then be related to the cost of the proposed system to determine which vendor provides the greatest fulfillment of specifications per dollar of cost. Before selecting a system, however, a firm should also contact present users of proposed systems to determine their level of satisfaction.

Overview of These Guidelines

These guidelines cover the following material intended to assist a CPA firm in applying the selection approach described above:

- Suggested features and characteristics of computerized general ledger and financial reporting systems that could become the basis for a firm's system specifications.
- Suggested approaches to defining the firm's requirements for system features and work load capacity.
- A summary of the advantages and disadvantages of various data processing options (in-house computer, service center, and so forth) for general ledger and financial reporting.
- Appendixes containing work paper forms that a firm can use in defining specifications and selecting a computerized general ledger and financial reporting system.

System Specifications

Determining system specifications should be the first phase in the process of selecting a computerized general ledger and financial reporting system. The specifications should define the characteristics needed in the system and the conditions under which it will be acquired as well as the criteria that will be used to evaluate the vendor or supplier. These specifications can be categorized as general specifications and application specifications.

General Specifications

General specifications define the characteristics desirable for any application in terms of performance, reliability, environment, contract, and cost.[2] They apply to general ledger and financial reporting systems in the following ways:

- The system should effectively *perform* the firm's client accounting tasks within an acceptable "turnaround time." Turnaround time is determined by the rate of speed at which a system can receive input, perform processing, and produce finished output. For general ledger processing, turnaround time is an important consideration. Most clients will be on month-end closings, so typically, most transactions will be processed during the fifth to the fifteenth of each month. The system should be able to handle these periods of peak processing volume at an acceptable speed.
- To be effectively managed, a system must have adequate documentation.[3] It is especially important to have adequate *user* documentation to promote effective communication between the persons in the firm using the system and the operating personnel.
- The system should include adequate data controls and security to provide *reliable* data processing. It is very important that the system's data controls assure balancing (without using suspense accounts), detect account coding errors, and provide an adequate audit trail.
- The system should easily integrate with the firm's *environment*, organization, and professional standards.
- Acquisition of the system should be based upon a *proper business relationship* between its seller and the firm.
- The system should be obtainable at a *justifiable cost.*

Application Specifications

Application specifications define the capabilities and features required for particular applications. Essential capabilities and features required for a system should be included in the firm's *minimum specifications* for a computerized general ledger and financial reporting system. The need for these features is unchanging; that is, no matter how procedures are modified, the conditions requiring the features will nearly always be present.

They cannot be ranked because lacking any one, the system would fail to complete its required mission. For example, a general ledger system without a flexible chart of accounts would not complete the basic mission of a general ledger accounting system for client accounting.

System capabilities and features that are nonessential, but desirable, should also be considered in selecting a system. In these

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[2] *Guidelines for General System Specifications for a Computer System* (New York: AICPA, 1976).
[3] *Guidelines for General System Specifications,* p. 4.

guidelines, they are classified as *additional features*. The absence of an additional feature is not usually sufficient reason to eliminate a system from consideration. However, any or all of the additional features presented in these guidelines could be considered essential to a particular firm and included in its minimum specifications for a system.

Additional features have the following characteristics:

- They improve the system's performance.

- They provide a capability significantly greater than some minimum feature.
- They can be ranked in the sense that some features are more desirable than others.
- They are desirable until obtaining them becomes excessively costly.
- They form the basis of selection between eligible systems (those that meet the firm's minimum specifications) because they are the features that differentiate one system from another.

Defining Specifications for a General Ledger and Financial Reporting System

Practice Profile

The first step in defining system specifications for a particular firm is to determine client reporting requirements and anticipated transaction volume. A structured approach is recommended to eliminate guesswork in determining essential and nonessential reporting features and the transaction volume that must be processed during peak periods. To obtain this information, it is necessary to review each client's file, and to record their requirements in a systematic manner. Two suggested work sheets are described below.

Reporting Features Work Sheet. The reporting features work sheet, illustrated in figure 1, is used to record the information necessary to determine the firm's requirements for financial reporting features. Columns are provided for recording each client's name and the identification number assigned to the client by the firm. The remaining columns are used to record the following client requirements:

- Comparative balance sheets
- Consolidated balance sheets
- Statement of changes in financial position
- Retained earnings statement
- Cash flow statement
- Consolidated income statements
- Number of separate schedules of income and expense by location
- Number of separate departmental schedules of income and expense
- Number of other subsidiary schedules (cost of sales detail, manufacturing expense, overhead expenses, and so forth)
- Income tax computation schedule
- Comparative information requirements—
  a. Same period of the prior year
  b. Budget vs. actual
  c. Percentage of sales

d. Per-unit amount (i.e., per patient day, per board feet, per gallon produced)

Columns are not provided for balance sheet, income statement, and transmittal letter because it is assumed that they are required for each client.

The use of the work sheet is illustrated in figure 1. In this example, twenty-nine clients out of one hundred require cash flow statements and thirty-nine require income statements with comparison to the prior year. Thus, this sample firm should include these statements in its minimum specifications for selecting a general ledger and financial reporting system.

This work sheet also provides information for stratifying client report requirements. If only two of the firm's one hundred general ledger clients require consolidated statements, the firm may decide that the capability to prepare consolidated statements is not an important factor in the selection of a general ledger system. However, if these two clients generate 25 percent of the total general ledger accounting fees, then the capability to prepare consolidated statements becomes an important factor.

A blank reporting features work sheet has been included in Appendix 1.

Data Processing Work Load Work Sheet.
The data processing work load work sheet, illustrated in figure 2, is used to determine the firm's requirements for system throughput capability and data storage capacity. As shown in the example, the number of transactions for each client is recorded in the column for the week that the transactions are to be processed. By adding the transactions for each week, the total weekly processing volume can be estimated. This volume is used to

FIGURE 1

REPORTING FEATURES WORK SHEET

CLIENT Name	Number	Balance Sheet Comp.	Balance Sheet Cons.	Stmt. of Change	Retained Earn. Stmt.	Cash Flow Stmt.	INCOME STATEMENT Cons.	No. of Loc.	No. of Depts.	No. of Sub. Sch.	Tax Comp. Sch.	Prior Yr.	Budget	% of Sales	Per Unit
Smith Supply Co., Inc.	1025	X					X	1	5	2	X		X	X	
Northern Wholesale	1028											X		X	
General Hospital	1150	X		X				1	37	1			X		X
WXYZ Radio	1179	X						1			X	X			
American Distributors	1264	X		X		X		4		3	X	X			
Smith & Jones, MDs	1298					X	X								
Local Auto, Inc.	1444	X		X		X		1	4			X		X	
City Radio Group	2674	X	X	X	X	X		7			X				
Easy-Mix Concrete	4729	X	X	X	X	X	X	19	40	4	X	X			
Mobile Home Sales	5097	X		X				29	1		X		X		X
Textile Brokers	5234							1	7	3	X	X		X	
Fast Foods, Inc.	6077						X	13		2				X	
Total Clients	100	34	2	17	8	29	23	174	196	217	14	39	24	84	6

FIGURE 2

DATA PROCESSING WORK LOAD WORK SHEET—BY QUARTER

CLIENT Name	No.	Process	Due Date	No. of G/L Accts.	No. of Transactions	NO. TRANSACTIONS BY WEEK 1	2	3	4	5	6	7	8	9	10	11	12	13
Smith Supply Co.	1025	Month	15th	160	486		486				486				486			
Northern Wholesale	1028	Month	10th	44	107	107				107				107				107
General Hospital	1150	Month	10th	615	4,099	4,099				4,099				4,099				4,099
WXYZ Radio	1179	Qtr.	3rd wk	43	640			640										
American Distributors	1264	Month	20th	190	481		481				481				481			
Smith & Jones MDs	1298	Qtr.	4th wk	31	84				84				84				84	
Local Auto, Inc.	1444	Month	15th	94	441		441				441				441			
City Radio Group	2674	Month	15th	177	612		612				612				612			
Easy-Mix Concrete	4729	Month	5th	571	1,951	1,951				1,951				1,951				
Mobile Home Sales	5099	Month	28th	1412	5,612				5,612				5,612				5,612	
Textile Brokers	5234	Qtr.	1st wk	119	596	596				596				596				
Fast Foods, Inc.	6077	Month	5th	724	315	315				315				315				315
TOTAL CLIENTS	100			32,168		20,460	10,860	3,310	23,501	21,640	9,700	2,961	19,410	18,531	9,019	2,651	18,050	9,700

determine the firm's requirements for system throughput capability. The number of general ledger accounts recorded on the work sheet is used to determine the firm's requirements for data storage capacity. Knowing the number of accounts for each client is important, especially when considering minicomputers with limited storage capacities.[4]

A blank data processing work load work sheet is included in Appendix 2.

System Features

After completing the firm profile work sheets, the next step is to relate the firm's requirements as defined in the work sheets to the features of computerized general ledger and financial reporting systems. The features to be considered apply to the system's performance and reliability and to the reports produced by the system.

Performance and reliability features relate to the operation of the system. In data processing, three very important factors to be considered are—

- The technical proficiency required to use the system.
- The degree of accuracy and auditability provided by the system.
- The processing speed, efficiency, and simplicity with which the system operates.

In order to evaluate performance and reliability features, it is very helpful to talk to firms presently using the system and to observe the operation of the system while it is performing jobs similar to those that are expected to be processed.

Reporting features relate to the reports produced by the system. The reporting features of a system can usually be deter-mined by examining vendor literature and reviewing the printed output produced by the system.

Any system being considered must contain certain minimum features that facilitate implementation, usage, and provide economical and efficient operation for the majority of client processing. Typically, this processing will consist of simple ledgers and financial statements. Based on the data collected on the reporting features work sheet, the need for additional features needed to satisfy the more complex requirements of some clients can be determined. If these additional features are required to meet a major client's requirements, they should also be included in the minimum specifications. If they are not required, then they should be considered additional features which are desirable and could become the basis for selection between two or more eligible systems.

The basic tasks performed by a computerized general ledger and financial reporting system are outlined in the flowchart shown in figure 3. A major criterion for selection of one eligible system over another is the efficiency with which a system accomplishes these tasks.

Performance and Reliability Features

Discussed below are the basic performance and reliability features generally found in all computerized general ledger and financial reporting systems.

Input Control and Editing. The ability of a system to minimize errors by checking the accuracy of data entered into the system before client records are updated is very important. If the input control and editing function of the system is adequate, the amount of manual checking and reviewing of the finished reports can be minimized. The responsibility of a CPA, however, is the same for financial statements prepared on data processing equipment as for statements prepared manually. The editing function of the general ledger system is shown as step 2 on the flowchart in figure 3. There are three primary control and edit functions that must be performed by the system.

- *Account for all data.* The system should provide for checking that all data prepared

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[4] For a complete discussion of throughput capability and data storage capacity specifications, see *Guidelines for General System Specifications.*

FIGURE 3
TYPICAL GENERAL LEDGER PROCESSING CYCLE
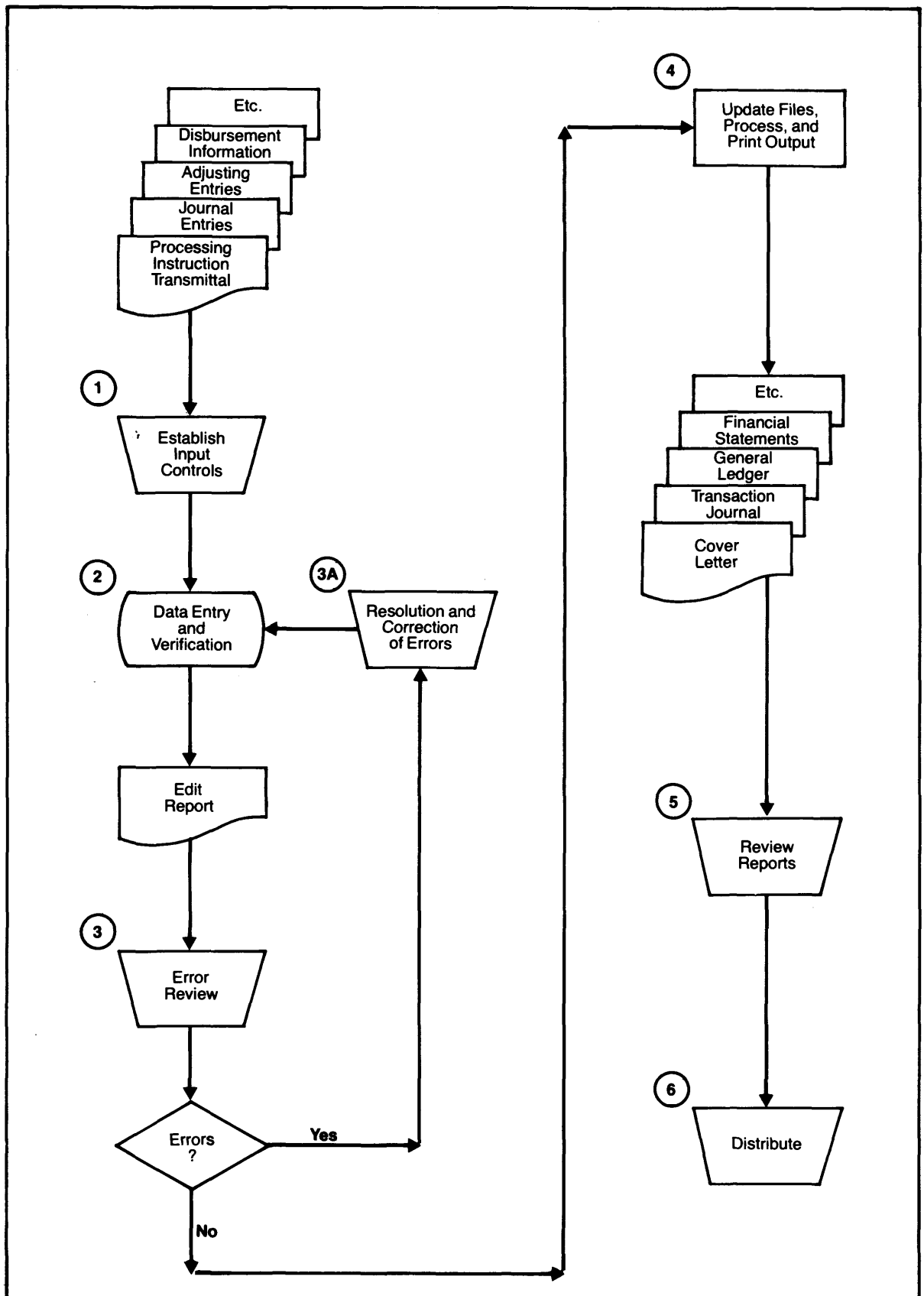
for processing has been processed by the system. This can be accomplished in several ways. A system-generated total of transactions entered into the system can be compared to a predetermined total. Similarly, a system-generated hash total on the account number of each transaction entered into the system can be compared to a predetermined hash total. This method would also detect an account number that was entered incorrectly into the system. System-generated totals of debits and credits entered into the system can also be compared to predetermined totals.

● *Balance all data.* The system should check each transaction to see that debits and credits balance.

● *Edit data.* The system should verify the validity of the account number on each input transaction by checking the number to the general ledger master file set up for the particular client. The system should also check that—
Numeric fields contain only numbers.
Required fields are not blank.
Date fields (month-year) are correct for the current processing.
Reference fields, such as transaction source identification, are present and correct.
Data for a particular period is not entered twice.
Data for the first period of a new year is not entered before the year-end closing has been completed.

The edit report should provide a complete listing of all errors (e.g., balancing, coding, etc.) detected by the system. Detected errors should be clearly identified to facilitate correction and reentry. All fields contained in the transaction should be printed and control totals should be generated for numeric fields.

Generally, transactions are printed on edit reports in the sequence they were entered to make it easier to resolve errors, particularly out-of-balance conditions (figure 4).

The journals produced by the system should provide a complete audit trail of all data entered into the system. The basic difference between journals and edit reports is the way the data is arranged. Input entries on edit reports are usually in the sequence entered (for example, date, transaction source, account number, sales district), whereas in journals their sequence is determined by the client's requirements (for example, check number, reference number, date, etc.). In some systems, an edit report is not produced unless an error is detected (figure 5).

Resolution and Correction of Errors. The system should provide for control over detected errors until they have been resolved. Error handling procedures vary among systems. Considerable investigation and planning should be done to determine the most suitable procedures for a particular firm. Two major factors to be considered are—

● Error handling procedures can become a source of additional error. For example, a suspense account used to accommodate account number errors must be used with extreme caution because the balances on the financial statements are affected.

● Corrected transactions should be subjected to the same edits and controls that were applied to original transactions.

Because of differences in systems, equipment, anticipated transaction volumes, and so forth, it is difficult to set specific guidelines for error handling procedures; however, some additional points to be considered are—

● Since data entry may be a limiting factor on the throughput of many small computers, it is usually better not to have the operator resolve each error as it is detected, but rather for a complete edit report to be produced and directed to someone else for error resolution.

● If batches containing data of several clients are being processed, the error-free batches should be processed and the erroneous batches held in a temporary work file rather than holding all the work until an error can be resolved.

● As many types of errors as possible should be detected by the edit program before additional processing or file updating takes place.

● Creating a new general ledger account for an account number not presently in the chart of accounts is one means of handling invalid account numbers. This alternative should be used with caution, because of the effect on the financial statements and prior year comparisons.

Reprocessing of Data. The need to reprocess previously run general ledgers will occur. This may arise because of an error, and/or omission, caused by either the accountant or the client. In either case, the important point is that it will occur and must be provided for in the general ledger system.

Reruns can be handled in two ways. A supplemental run can be made in which the

FIGURE 4

```
CLIENT 00125                    SAMPLE COMPANY                        PAGE 8
                                 EDIT REPORT
                              DECEMBER 31, 19XX


   SOURCE         DESCRIPTION        DATE      ACCOUNT      AMOUNT      DIFFERENCE

   SLS 31   TOMS TOOL SHOP          12-02-XX    1050          623.72
   SLS 31   APPLE INC               12-02-XX    1050          731.20
   SLS 31   CROSSROADS REPAIR       12-02-XX    1050          201.50
   SLS 31   HAPPY LANDINGS          12-02-XX    A050*         923.12
   SLS 31   PRINCE INDIAN INK CO    12-02-XX    1050          213.48
   SLS 31   TIPTOP ROOF CO          12-02-XX    1050          138.17
   SLS 31   SALES                   12-02-XX    6010         2831.19CR     923.12CR
```

```
   CO  35   K&C FORMS               12-02-XX    5170           33.75
   CO  35   CASH                    12-02-XX    1001           33.75CR        .00




            * * * *  R U N  T O T A L S  * * * *

        TOTAL DEBITS                     12401.00

        TOTAL CREDITS                    13324.12

        DIFFERENCE                         923.12CR

        * NUMBER OF INVALID ACCOUNTS            1

        TOTAL VALID ACCOUNTS                 125
```

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FIGURE 5

CLIENT D0125   SAMPLE COMPANY   PAGE 01
CHECK REGISTER
DECEMBER 31,19XX

DATE	CHECK	PAYEE	CHECK AMT.	ACCT	DEBITS	CREDITS
12-01	6732	JOHN SMITH	15.66	5180	8.60	
				5240	7.06	
	6733	CRIMSON RADIO	9.38	5240	9.38	
	6734	BARABOO DISRIBUTORS	1453.28	3235	1490.32	
12-02				4240		37.04
	6735	WIS. TELEPHONE CO.	278.21	5180	278.21	
	6736	K&C FORMS	33.75	5170	33.75	

* * * * * * * * RUN TOTALS * * * * * * * * *

TOTAL DISBURSEMENTS			8262.20		8732.75	470.55
						.00

new data is processed and a supplemental general ledger is produced, which may be the easiest method of handling reruns. Of course, the financial statements are rerun, but previously printed journals, and so forth, will not be complete because of the supplemental data. It is usually more desirable to combine the supplemental transactions with the original transactions and to rerun the general ledger.

The design of the general ledger system usually dictates how reruns are to be handled. Ideally, the system should not actually update the balances in the general ledger file until the next period is processed. This makes it possible to rerun the period without going back to last period's general ledger balance file, and to a historical transaction file for the original transactions.

Additional Features. Some additional features found in general ledger systems are discussed below. The need for these features should be determined by each firm.

- *Prior period adjustment.* The capability to adjust prior periods without affecting the comparability of the current period on the financial statements.[5]
- *Standard journal entries.* Automatic processing of recurring journal entries without the necessity of manual data entry.
- *Automatic reversal.* The capability to enter selected journal entries into the system and have them automatically reversed

in the following accounting period. For example, the set-up and reversal of accounts payable.

- *Recognition of thirteen periods.* The capability to handle thirteen four-week accounting periods.
- *Retention of year-end balances.* The capability to maintain year-end balances so that year-end adjustments can be posted and year-end computer statements can be printed at any time.
- *Year-end adjustments.* The capability to process year-end adjustments without affecting the comparability of the final interim period, for example, using a thirteenth period for year-end adjustments in order not to affect the comparability of the December balances.
- *Retrieval of historical data.* The provisions in the system for the retention and the retrieval of historical data should be carefully evaluated. The capability to produce a general ledger containing the transactions for the entire year is often desirable for both client and audit purposes.
- *Maintenance of files.* The system should provide the user with the following file maintenance capabilities:
  The ability to print the contents of all master files as required.
  The ability for adding, changing, and deleting records as required.
  All changes should appear in a printed audit trail format showing both "before" and "after" condition.

Chart of Accounts

The chart of accounts structure provided by potential systems should be flexible enough to accommodate existing clients without the necessity of having them significantly revise their present chart of accounts. However, every system has some restrictions, so it is necessary to determine whether they are acceptable to the firm.

These restrictions generally fall into three categories:

- *Range.* The system may require that certain classes of accounts be in a specified range of numbers. Examples would be that assets are between 1,000 and 1,999,

liabilities and equity between 2,000 and 2,999, sales between 3,000 and 3,999, and so forth.

- *Number structure.* The number of digits in the account number, and the ability of the system to perform necessary groupings and manipulation of the data based on these account numbers, are two of the most important features in any system. These are the areas where all systems have some restrictions, so it is extremely important to know exactly what the capabilities of the system are and to determine if these capabilities meet the firm's requirements.

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[5] See Financial Accounting Standards Board Statement of Financial Accounting Standards no. 16, *Prior Period Adjustments,* for criteria related to prior period adjustments.

Usually as system capabilities increase in these areas, system cost and operational complexity also increase.

Examples of frequently encountered charts of accounts are illustrated in the four examples below.

● *Field size.* Another major restriction in many systems is the size of the account description field. The description field should be large enough to accommodate the account titles, captions, and total line descriptions used by the firm's clients without the need for extensive, and possibly confusing, abbreviations. A field size illustration appears on page 15.

The size of the description field provided

Simple chart used by many small businesses.

	Basic Account
	XXXX
1000	Cash In Bank
1001	Cash—First National
1002	Cash—Lincoln National
1050	Accounts Receivable
1052	Accounts Receivable—Trade
1059	Accounts Receivable—Employees

6000	Operating Expenses
6010	Salaries & Wages
6090	Travel Expense

Excerpt of chart used by clients that conduct business at several branches and are concerned with departmental results at each location.

Basic Account	Branch	Department
XXX	XX	XX
501—01—08	Sales—Prime City—City Counter	
501—01—09	Sales—Prime City—Wholesale	
501—03—08	Sales—Country Town—City Counter	
501—03—09	Sales—Country Town—Wholesale	
501—03—10	Sales—Country Town—Installation Dept.	

Excerpt of chart used by hospitals that use the chart of accounts recommended by the American Hospital Association.[6]

Responsibility Center	Expense Classification
XXXX	XX
6021.02	General Surgery—Salaries—Technicians
6021.03	General Surgery—Salaries—Registered Nurses
6021.37	General Surgery—Surgical Supplies
6021.40	General Surgery—Drugs

Excerpt of chart used by a governmental unit that uses a uniform system recommended by state government.[7]

Fund	Department	Object of Expenditure
XX	XXX	XX
01.510.02	General Fund—Police Dept.—Salaries	
01.510.17	General Fund—Police Dept.—Maint. Autos	
01.610.53	General Fund—Social Services—Dues & Subscriptions	
01.610.74	General Fund—Social Services—Capital Equipment	

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[6] Chart of Accounts for Hospitals (Chicago: American Hospital Association, 1976).

[7] Uniform Local Government Accounting System (Raleigh: North Carolina Local Government Commission, 1972).

by a system affects the readability and appearance of both the general ledger and the financial statements. A minimum of thirty characters should be provided.

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        CASH IN BANK
            FIRST UNION NATIONAL - MEMPHIS TENNESSEE
    This example requires a description field of forty-two characters to provide for inden-
    tation, spaces, and the description. If a system provides thirty-one characters, the
    description will appear as—
        CASH IN BANK
            FIRST UNION NATIONAL - MEM TN
    A twenty-character description will appear as—
        CASH IN BANK
            1ST UNION NATIONAL
```

Reporting Features

Each firm should determine whether a prospective system meets the requirements of GAAP as well as the requirements of any other comprehensive basis of accounting its clients might use.[8]

Discussed below are the basic reporting features present in most general ledger and financial reporting systems, and some additional features present in many current systems.

General Report Specifications. A system should print the following information on each page of every report.

● Client name
● Client number
● Report date
● Page number

Some additional features that are desirable to enhance the appearance of the financial statements are—

● *Sign reversal.* The capability to reverse arithmetic signs on the financial statements (for example, printing a credit receivable balance as a liability on the balance sheet without a credit sign).
● *Suppress printing zero balances.* The capability to skip the printing of accounts with zero balances on the financial statements.
● *Dollar rounded amounts.* The capability to print rounded whole dollar amounts on the financial statements.

Other desirable features are—

● *Print account number.* The capability to print account numbers on selected financial statements to facilitate analysis by reference to the general ledger.
● *Notes.* The capability to print notes to the financial statements.

Edit Reports. The edit report was discussed on page 10. Figure 4 contains an example of a typical edit report.

Journals. The journals produced by most systems include—

● Cash receipts
● Cash disbursements
● Sales
● Purchases
● Payroll

Since journals reflect the detail from a particular transaction source, they normally reflect all the data contained in the original transaction. Journals are often combined with edit reports (see page 10). In certain cases, summary data from the journal is posted to the general ledger rather than posting each detail transaction.

Journals should reflect the following detail for each transaction:

● Journal source
● Date (of transaction)
● Reference field (to trace to source document)

---

[8] See Statement on Auditing Standards no. 14, *Special Reports* (New York: AICPA, 1976), for descriptions of comprehensive bases of accounting other than GAAP.

- Account number
- Description (e.g., payee, etc.)
- Amount

Journal format should be flexible enough to satisfy the varied needs of clients. A typical example of a journal is shown in figure 5.

General Ledger. In the general ledger all data for the accounting period is sorted and displayed in account number sequence. The general ledger should contain the following data:

- Account number
- Account title
- Beginning balance
- For each transaction—
  Source
  Reference
  Date
  Description
  Amount
- Ending balance
- Current period net change
- Control totals of account balances should be printed and out-of-balance conditions clearly noted

A portion of a typical general ledger is shown in figure 6.

Financial Statements. The system should provide adequate flexibility in the wording of the accountant's report and the extent of disclosure to meet the standards applicable to each engagement. An example of financial statements compiled for a nonpublic entity on a computerized system is illustrated.[9] Statement formats and the accountant's report will vary according to the terms of the particular engagement.

- Accountant's report (figure 7).
- Balance sheet—the balance sheet may be in the traditional format (figure 8) or in a variety of other formats. It may, for example, compare the current year with last year. The appearance of the balance sheet is often improved by consolidating several account balances into a single line (for example, combining cash balances for separate banks into a single statement line for cash in bank). Schedules are often printed to support the respective balance

sheet and income statement amounts (figure 9).

- Income statement—the income statement may also be presented in various formats. The more common formats present current period and year-to-date balances (figure 10) or current period and year-to-date for the current year compared to the prior year (figure 11). Another widely used format presents current period and year-to-date amounts compared to budgeted amounts.

Percentages of a base amount, such as sales, may be displayed on each line. Also, a per-unit amount, such as per patient day, may be displayed on each line. The system should provide for printing separate schedules of income and expense by department or location in addition to printing an income statement for the entire organization.

- Statement of retained earnings (figure 12).
- Statement of changes in financial position (figure 13).
- Statement of cash flow (figure 14).
- Notes (figure 15).
- The ability of the system to produce account analyses (figure 16) and/or a working trial balance (figure 17) can save the CPA considerable clerical time and effort when performing an audit.

Additional Reporting Features. These may include—

- Key management information and business ratios (see figure 18).
- Payroll reporting. Many systems provide payroll accounting, quarterly reporting, and W-2s as a subsystem to the general ledger.
- Calculation of inventory and cost of sales. Many systems provide the capability to automatically calculate inventory and cost of sales using a predetermined gross profit percentage.
- Calculation of income tax expense and liability.
- Distribution of partnership profit.
- Year-end ledger closing. Systems often offer routines to assist the CPA in year-end closing.
- Budget preparation work sheets. Many systems are able to produce various reports, which are used in budget preparation.

---

[9] See Statement on Standards for Accounting and Review Services no. 1, *Compilation and Review of Financial Statements* (New York: AICPA, 1979).

FIGURE 6

GENERAL LEDGER
CLIENT 00125
PAGE 14

SAMPLE COMPANY MO DA YR	ACCT.	DESCRIPTION	REFERENCE	DEBITS	CREDITS	DECEMBER 31,19XX NET CHANGE	NEW BALANCE
11-30-XX	5130	ACCOUNTING & LEGAL	BALANCE	4750.00			
12-05-XX	5130	DEC. RETAINER	10131	450.00		450.00	5200.00
				450.00			
11-30-XX	5140	SALARIES	BALANCE	20769.83			
12-20-XX	5140	DEC. PAYROLL	12332	1885.12		1885.12	22654.95
				1885.12			
11-30-XX	5150	INSURANCE	BALANCE	1125.00			
12-15-XX	5150	ALLTOWN INSURANCE	652	105.10		105.10	1230.10
				105.10			
11-30-XX	5160	OFFICE RENT	BALANCE	3323.33			
12-15-XX	5160	CORRECT NOVEMBER ERROR	J12		23.33		
12-31-XX	5160	DEC. RENT	0012	300.00		276.67	3600.00
				300.00	23.33		
11-30-XX	5170	OFFICE SUPPLIES	BALANCE	895.26			
12-02-XX	5170	K&C FORMS	6736	33.75			
12-17-XX	5170	JACKS STATIONERY	J211A	51.25		85.00	980.26
				85.00			

************* CONTROL TOTALS *************

PRIOR PERIOD BALANCE TOTALS	523,721.12	523,721.12	.00
CURRENT PERIOD TRANSACTIONS	33,968.22	33,968.22	.00
TRIAL BALANCE TOTALS	557,689.34	557,689.34	.00
TRANSACTION COUNT CURRENT PERIOD	453		

FIGURE 7

DECEMBER 31, 19XX

TO THE BOARD OF DIRECTORS
SAMPLE COMPANY

THE ACCOMPANYING BALANCE SHEET OF SAMPLE COMPANY AS OF DECEMBER 31, 19XX, AND THE RELATED STATEMENTS OF INCOME, RETAINED EARNINGS, AND CHANGES IN FINANCIAL POSITION FOR THE YEAR THEN ENDED HAVE BEEN COMPILED BY US.

A COMPILATION IS LIMITED TO PRESENTING IN THE FORM OF FINANCIAL STATEMENTS INFORMATION THAT IS THE REPRESENTATION OF MANAGEMENT. WE HAVE NOT AUDITED OR REVIEWED THE ACCOMPANYING FINANCIAL STATEMENTS AND, ACCORDINGLY, DO NOT EXPRESS AN OPINION OR ANY OTHER FORM OF ASSURANCE ON THEM.

CPA FIRM
CITY, STATE

FIGURE 8

```
CLIENT 00125                SAMPLE COMPANY
                            BALANCE SHEET
                          DECEMBER 31, 19XX

                              ASSETS
CURRENT ASSETS
   CASH-SCHEDULE 1                              $      9,865
   RECEIVABLES-SCHEDULE 2                            72,321
   INVENTORY (NOTE 1)                              103,265
   PREPAID EXPENSE                                   1,236
                                                   --------
      TOTAL CURRENT ASSETS                                      $   186,687

FIXED ASSETS (NOTE 2)
   OFFICE FURNITURE                            $     12,237
   ACCUMULATED DEPRECIATION                          (2,165)
                                                   --------
      NET FIXED ASSETS                                             10,072

OTHER ASSETS
   INVESTMENTS (NOTE 3)                        $      4,200
   UTILITY DEPOSITS                                    100
                                                   --------

      TOTAL OTHER ASSETS                                            4,300
                                                                 ----------
      TOTAL ASSETS                                             $   201,059
                                                                 ==========

                       LIABILITIES AND STOCKHOLDERS' EQUITY
CURRENT LIABILITIES
   ACCOUNTS PAYABLE                            $     18,650
   ACCRUED  TAXES-SCHEDULE 3                         7,723
                                                   --------
      TOTAL CURRENT LIABILITIES                                $    26,373

STOCKHOLDERS' EQUITY
   5000 SHARES AUTHORIZED AND
      ISSUED AT $20.00 PER SHARE               $    100,000
   RETAINED EARNINGS                                74,686
                                                   --------
      TOTAL EQUITY                                                174,686
                                                                 ----------
      TOTAL LIABLITIES AND EQUITY                              $   201,059
                                                                 ==========




                 SEE ACCOUNTANT'S COMPILATION REPORT
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FIGURE 9

```
CLIENT 00125                    SAMPLE COMPANY
                           BALANCE SHEET SCHEDULES
                             DECEMBER 31, 19XX

                             CASH-SCHEDULE 1
PETTY CASH                                          $        250
AMERICAN NATIONAL BANK-REGULAR                            8,752
FIRST NATIONAL BANK-PAYROLL                                863
                                                    ------------
    TOTAL SCHEDULE 1                                          $      9,865
                                                                  ==========


                          RECEIVABLES-SCHEDULE 2
TRADE ACCOUNTS CURRENT                              $     63,485
OVER 30 DAYS                                              7,542
OVER 60 DAYS                                              2,794
ALLOWANCE FOR DOUBTFUL ACCOUNTS                          (1,500)
                                                    ------------
    TOTAL SCHEDULE 2                                          $     72,321
                                                                  ==========


                         ACCRUED TAXES-SCHEDULE 3
FEDERAL PAYROLL TAX                                 $      1,691
STATE PAYROLL TAX                                           852
INCOME TAXES PAYABLE                                      5,180
                                                    ------------
    TOTAL SCHEDULE 3                                          $      7,723
                                                                  ==========
```

```
                    SEE ACCOUNTANT'S COMPILATION REPORT
```

FIGURE 10

```
CLIENT 00125                    SAMPLE COMPANY
                              INCOME STATEMENT
                  FOR 12 MONTHS ENDED DECEMBER 31, 19XX

                                DECEMBER              YEAR-TO-DATE

SALES                        $    30,132   100.0   $   312,377   100.0
                                ----------  -----     ----------  -----
COST OF SALES
  BEGINNING INVENTORY        $    95,623   317.3   $    68,131    21.8
  PURCHASES                       25,121    83.4       179,233    57.4
  FREIGHT ON PURCHASES               291     1.0         2,213      .7
  ENDING INVENTORY             (103,265) (342.7)     (103,265)  (33.1)
                                ----------  -----     ----------  -----
     TOTAL COST OF SALES      $    17,770    59.0   $   146,312    46.8
                                ----------  -----     ----------  -----
     GROSS PROFIT            $    12,362    41.0   $   166,065    53.2
                                ----------  -----     ----------  -----
GENERAL EXPENSES
  ACCOUNTING AND LEGAL       $       450     1.5   $     5,200     1.7
  SALARIES                         1,885     6.3        22,655     7.3
  INSURANCE                          105      .3         1,230      .4
  OFFICE RENT                        300     1.0         3,600     1.2
  OFFICE SUPPLIES                     85      .3           980      .3
  TELEPHONE                          278      .9         2,516      .8
  TRAVEL AND ENTERTAINMENT           563     1.9         3,512     1.1
  OFFICERS' SALARIES               3,000    10.0        36,000    11.5
  TAXES                               75      .2           623      .2
  UTILITIES                           95      .3         1,255      .4
  DEPRECIATION                       115      .4         1,553      .5
  MISCELLANEOUS                       97      .3           748      .2
                                ----------  -----     ----------  -----
     TOTAL GENERAL EXPENSE    $     7,048    23.4   $    79,872    25.6
                                ----------  -----     ----------  -----
     OPERATING INCOME OR (LOSS)$    5,314    17.6   $    86,193    27.6
                                ----------  -----     ----------  -----
OTHER INCOME AND (EXPENSES)
  DIVIDENDS RECEIVED                               $       385      .1
  INTEREST PAID              $       (23)    (.1)          (727)   (.2)
                                ----------  -----     ----------  -----
     NET OTHER INCOME (EXPENSE)$     (23)    (.1)  $      (342)   (.1)
                                ----------  -----     ----------  -----
  NET INCOME (LOSS) BEFORE
     TAXES                   $     5,291    17.5   $    85,851    27.5
  FEDERAL  AND STATE INCOME
     TAXES                         2,116     7.0        34,728    11.1
                                ----------  -----     ----------  -----
  NET INCOME (LOSS)          $     3,175    10.5   $    51,123    16.4
                                ==========  =====     ==========  =====




                        SEE ACCOUNTANT'S COMPILATION REPORT
```

FIGURE 11

CLIENT D0125

SAMPLE COMPANY
INCOME STATEMENT
FOR 12 MONTHS ENDED DECEMBER 31, 19XX

	DECEMBER		YEAR-TO-DATE		PRIOR YEAR DECEMBER		PRIOR YEAR YEAR-TO-DATE	
SALES	$ 30,132	100.0	$ 312,377	100.0	$ 27,678	100.0	$ 295,466	100.0
COST OF SALES								
BEGINNING INVENTORY	$ 95,623	317.3	$ 68,131	21.8	$ 70,328	254.1	$ 65,429	22.1
PURCHASES	25,121	83.4	179,233	57.4	18,427	66.6	172,354	58.3
FREIGHT ON PURCHASES	291	1.0	2,213	.7	178	.6	2,013	.7
ENDING INVENTORY	(103,265)	(342.7)	(103,265)	(33.1)	(68,131)	(246.2)	(68,131)	(23.1)
TOTAL COST OF SALES	$ 17,770	59.0	$ 146,312	46.8	$ 20,802	75.1	$ 171,665	58.0
GROSS PROFIT	$ 12,362	41.0	$ 166,065	53.2	$ 6,876	24.9	$ 123,801	42.0
GENERAL EXPENSES								
ACCOUNTING AND LEGAL	$ 450	1.5	$ 5,200	1.7	$ 310	1.1	$ 4,700	1.6
SALARIES	1,885	6.3	22,655	7.3	1,415	5.1	20,157	6.8
INSURANCE	105	.3	1,230	.4	85	.3	1,195	.4
OFFICE RENT	300	1.0	3,600	1.2	300	1.1	3,600	1.2
OFFICE SUPPLIES	85	.3	980	.3	15	.1	825	.3
TELEPHONE	278	.9	2,516	.8	173	.6	2,361	.8
TRAVEL AND ENTERTAINMENT	563	1.9	3,512	1.1	511	1.8	3,712	1.3
OFFICERS' SALARIES	3,000	10.0	36,000	11.5	2,750	9.9	33,000	11.2
TAXES	75	.2	623	.2	70	.3	605	.2
UTILITIES	95	.3	1,255	.4	82	.3	1,122	.4
DEPRECIATION	115	.4	1,553	.5	44	.2	527	.2
MISCELLANEOUS	97	.3	748	.2	75	.3	601	.2
TOTAL GENERAL EXPENSE	$ 7,048	23.4	$ 79,872	25.6	$ 5,830	21.1	$ 72,405	24.6
OPERATING INCOME OR (LOSS)	$ 5,314	17.6	$ 86,193	27.6	$ 1,046	3.8	$ 51,396	17.4
OTHER INCOME AND (EXPENSES)								
DIVIDENDS RECEIVED	$		$ 385	.1	$		$ 165	.1
INTEREST PAID	(23)	(.1)	(727)	(.2)				
NET OTHER INCOME (EXPENSE)	$ (23)	(.1)	$ (342)	(.1)	$		$ 165	.1
NET INCOME (LOSS) BEFORE TAXES	$ 5,291	17.5	$ 85,851	27.5	$ 1,046	3.8	$ 51,561	17.5
FEDERAL AND STATE INCOME TAXES	2,116	7.0	34,728	11.1	418	1.5	20,624	7.0
NET INCOME (LOSS)	$ 3,175	10.5	$ 51,123	16.4	$ 628	2.3	$ 30,937	10.5

SEE ACCOUNTANT'S COMPILATION REPORT

FIGURE 12

```
CLIENT 00125                    SAMPLE COMPANY
                        STATEMENT OF RETAINED EARNINGS
                      FOR 12 MONTHS ENDED DECEMBER 31, 19XX



RETAINED EARNINGS BEG. BAL.                    $    23,563
NET INCOME THIS YEAR                                51,123
                                               ----------

RETAINED EARNINGS END BAL.                     $    74,686
                                               ==========
```

FIGURE 13

```
CLIENT 00125                    SAMPLE COMPANY
                STATEMENT OF CHANGES IN FINANCIAL POSITION
                   FOR 12 MONTHS ENDED DECEMBER 31, 19XX

                    SOURCES AND USES OF WORKING CAPITAL

NET INCOME (LOSS)                    $      51,123

ADD EXPENSES REQUIRING NO
 OUTLAY OF FUNDS
    DEPRECIATION                            1,553
                                        ----------
TOTAL SOURCES FROM OPERATIONS                       $      52,676

OTHER SOURCES (USES) OF FUNDS
    OFFICE FURNITURE             $      (8,120)
    INVESTMENTS                         (2,090)
                                    ----------
TOTAL OTHER SOURCES (USES) OF
 FUNDS                                                    (10,210)
                                                     ----------
NET INCREASE (DECREASE) IN
 WORKING CAPITAL                                     $      42,466
                                                     ==========


               CHANGES IN COMPONENTS OF WORKING CAPITAL

                                                           INCREASE
                              DEC 31, 19XX    JAN 1, 19XX  (DECREASE)
CURRENT ASSETS
    CASH                      $     9,865   $      7,213   $     2,652
    RECEIVABLES                    72,321          65,132        7,189
    INVENTORY                     103,265          68,131       35,134
    PREPAID EXPENSE                 1,236             813          423
                              ----------    ----------     ----------
                              $   186,687   $    141,289   $    45,398
                              ----------    ----------     ----------
CURRENT LIABILITIES
    ACCOUNTS PAYABLE          $    18,650   $     16,210   $     2,440
    ACCRUED TAXES                   7,723           7,231          492
                              ----------    ----------     ----------
TOTAL CURRENT LIABILITIES     $    26,373   $     23,441   $     2,932
                              ----------    ----------     ----------
WORKING CAPITAL               $   160,314   $    117,848   $    42,466
                              ==========    ==========     ==========




                    SEE ACCOUNTANT'S COMPILATION REPORT
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FIGURE 14

```
CLIENT 00125                  SAMPLE COMPANY
                         STATEMENT OF CASH FLOW
                    FOR 12 MONTHS ENDED DECEMBER 31, 19XX


                                        DECEMBER          YEAR-TO-DATE

CASH BEGINNING BALANCE              $      8,321      $      7,213
                                        ----------         ----------


NET INCOME (LOSS)                   $      3,175      $     51,123

ADD EXPENSES REQUIRING NO
 OUTLAY OF FUNDS
    DEPRECIATION                              115             1,553
                                        ----------         ----------
TOTAL SOURCES FROM OPERATIONS $            3,290      $     52,676
                                        ----------         ----------

SOURCES (USES) OF CASH
    RECEIVABLES                     $     (2,154)     $     (7,189)
    INVENTORY                               (775)          (35,134)
    PREPAID EXPENSE                         (239)             (423)
    OFFICE FURNITURE                                       (8,120)
    INVESTMENTS                                            (2,090)
    ACCOUNTS PAYABLE                        1,328             2,440
    ACCRUED TAXES                              94               492
                                        ----------         ----------
TOTAL SOURCES (USES) OF CASH  $           (1,746)     $    (50,024)
                                        ----------         ----------


NET INCREASE (DECREASE) OF
     CASH                           $      1,544      $      2,652
                                        ----------         ----------


CASH ENDING BALANCE                 $      9,865      $      9,865
                                        ==========         ==========
```

SEE ACCOUNTANT'S COMPILATION REPORT

FIGURE 15

```
        CLIENT 00125                     SAMPLE COMPANY
                            NOTES TO THE FINANCIAL STATEMENTS
                                   DECEMBER 31, 19XX



        NOTE 1
          INVENTORY IS VALUED AT THE LOWER OF COST OR MARKET UNDER THE
          FIRST-IN, FIRST-OUT METHOD.

        NOTE 2
          OFFICE EQUIPMENT IS RECORDED AT COST. DEPRECIATION IS COMPUTED
          UNDER THE STRAIGHT-LINE METHOD OVER THE ESTIMATED USEFUL LIVES
          OF THE EQUIPMENT AS DETERMINED BY MANAGEMENT.

        NOTE 3
          INVESTMENTS CONSIST OF MARKETABLE COMMON STOCKS AND ARE SHOWN AT
          COST. AT DECEMBER 31, 19XX THE DIFFERENCE BETWEEN COST AND MARKET
          VALUE REPRESENTING UNREALIZED GAINS OR LOSSES IS NOT MATERIAL.
```

SEE ACCOUNTANT'S COMPILATION REPORT

FIGURE 16

CLIENT 00125

SAMPLE COMPANY
ACCOUNT ANALYSIS

PAGE 4

A/C #	DESCRIPTION	DATE	SOURCE	REFERENCE	TRANSACTIONS	COMMENTS
1180	PREPAID EXPENSE					
	RENT	01-01-XX		BALANCE	813.14	
		01-03-XX	C/D2	0001	900.00	
	WRITE-OFF	01-31-XX	JE/2	0001	300.00CR	
	WRITE-OFF	02-28-XX	JE/4	0001	300.00CR	
	ALLTOWN INSURANCE	12-05-XX	CD/35	1001	220.31	
	WRITE-OFF	12-31-XX	JE 12	0012	300.00CR	
		12-31-XX		BALANCE	1236.10	

27

FIGURE 17

SAMPLE COMPANY * * * WORKING TRIAL BALANCE * * * DECEMBER 31, 19XX   PAGE 1

ACCT	DESCRIPTION	TRIAL BALANCE DEBIT	TRIAL BALANCE CREDIT	ADJUSTMENTS DEBIT	ADJUSTMENTS CREDIT	ADJUSTED BALANCE DEBIT	ADJUSTED BALANCE CREDIT
1000	CASH	250.00					
1001	AMERICAN NATIONAL BANK-REGULAR	8752.23					
1002	FIRST NATIONAL BANK-PAYROLL	863.10					
1010	TRADE ACCOUNTS CURRENT	63485.22					
1011	OVER 30 DAYS	7541.96					
1012	OVER 60 DAYS	2794.07					
1014	DOUBTFUL ACCOUNTS		1500.00				
1101	INVENTORY	103265.12					
1201	PREPAID EXPENSE	1236.10					
1301	OFFICE FURNITURE	12237.05					
1351	ACCUMULATED DEPRECIATION		2164.98				
1401	INVESTMENTS	4200.00					
1405	UTILITY DEPOSITS	100.00					
2001	ACCOUNTS PAYABLE		18650.12				
2010	FEDERAL PAYROLL TAX		1691.21				
2011	STATE PAYROLL TAX		851.87				
2015	INCOME TAXES		5180.23				

FIGURE 18

```
CLIENT 00125                    SAMPLE COMPANY
               MANAGEMENT INFORMATION AND BUSINESS RATIOS
                  FOR 12 MONTHS ENDED   DECEMBER 31, 19XX

     WORKING CAPITAL                                      160,314
     LIQUIDITY RATIOS
        CURRENT RATIO                                     7.08 TO 1
        QUICK RATIO                                       3.12 TO 1
     SOLVENCY RATIOS
        TOTAL ASSETS TO TOTAL LIABILITIES                 7.62 TO 1
        TOTAL EQUITY TO TOTAL LIABILITIES              6.62 TO 1
     AVERAGE COLLECTION PERIOD FOR ACCOUNTS RECEIVABLE     23 DAYS
     INVENTORY TURNOVER                                   26.01 TIMES
     RETURN ON INVESTMENT
        % OF NET INCOME TO TOTAL ASSETS                   25.43%
        % RETURN ON CAPITAL                               29.26%




                      SEE ACCOUNTANT'S COMPILATION REPORT
```

General Ledger Data Processing Options

The data processing options likely to be considered by a firm in selecting a computerized general ledger and financial reporting system were mentioned in the introduction. They are an in-house computer, leased time, service center, and timesharing or remote batch services. Of course, the desirability of one of these options for a particular firm will depend on the firm's characteristics and circumstances; however, there are aspects of each option which in general are advantages or disadvantages.

In-House Computer

The in-house computer option involves the CPA firm in installing equipment on its premises and assuming full responsibility for data processing operations. The advantages and disadvantages of this option are likely to be as follows.

Advantages

Input
- The CPA can control the privacy of data since all data and data files remain on the firm's premises.
- Input formats can be designed to meet specific needs.

Processing
- Processing priorities can be modified to effect the most efficient and responsive operation of the installation.
- Some of the newer interactive mini-computer systems enable the CPA to look at a report result at a visual display terminal before it is actually printed.

Output
- If software is internally developed, report formats are under the direct control of the CPA. Although most outside vendors' systems allow some flexibility in this area, changing report formats can be difficult.
- Turnaround time is fully dependent upon, and under the control of, the CPA.

Costs
- Highly capable low cost equipment is becoming available today in the small business computer market. Such equipment is being supported with application programs by firms that specialize in software for given computers. Computer equipment and application programs offered in this manner are known as "turnkey" systems. They can be highly cost effective as a choice for an in-house system.

Disadvantages

Input
- Methods, forms, and manuals must be developed and in-house personnel trained. If an application package is purchased, the methods, forms, and manuals are usually provided by the vendor, but training of personnel is still required. This training may be provided by the vendor.

Processing
- Application programs available for in-house use could be less sophisticated than those available on timesharing or through a service center, primarily because the in-house equipment will tend to have less capacity than the large scale equipment used by data processing service centers.
- The CPA firm must bear the responsibility for program maintenance.

Output
- All forms handling must be done within the firm.

Costs
- There can be a relatively high fixed cost and equipment commitment.

- Additional space and other physical facilities may be required for equipment.
- Computer programs must be obtained by purchase, rent, or internal development. It is the CPA's responsibility to make sure that such programs satisfy operating and documentation requirements.

Leased Time

Companies that have excess computer time available often sell or lease such time to others. This "block time," if it is available, may be an attractive alternative.

Under the leased time alternative, personnel, input equipment, and supplies may be either obtained from the lessor or provided by the lessee. If the lessee provides such items, then the cost considerations are similar to those for in-house processing.

The use of leased time for the preparation of general ledger and financial reporting might be considered where—

- There is no in-house equipment and the CPA desires to obtain some "hands-on" computer experience without making a large dollar commitment to equipment acquisition.
- Processing volume is presently insufficient to justify in-house equipment.

The advantages and disadvantages of this option are likely to be as follows.

Advantages

Input
- The CPA can control the privacy of data by retaining possession of all data and data files.
- Input formats can be designed to meet specific needs.

Processing
- Processing priorities can be modified within the available "block time" to effect the most efficient and responsive operation of the installation.
- Some of the newer interactive mini-computer systems enable the user to view a report at a visual display terminal before it is printed.

· *Output*
- If software is developed internally, report formats are under the direct control of the CPA. Although most outside vendors' systems allow some flexibility in this area, changing report formats can be difficult.

Costs
- There is a low fixed cost for processing since charges are only for the actual computer time used, plus appropriate personnel and supply costs.

Disadvantages

Input
- Methods, forms, and manuals must be developed and in-house personnel trained. If an application package is purchased, the methods, forms, and manuals are usually provided by the vendor, but training of personnel is still required. This training may be provided by the vendor.

Processing
- Application programs available under the leased time option may be less sophisticated than those available on timesharing or through a service center, primarily because the equipment will tend to have less capacity than the large scale equipment used by data processing service centers.
- The CPA firm must bear the responsibility for program maintenance.
- In most leased time situations, the lessor has the initial right to use the system and may refuse the lessee access to the system.
- The computer may be available to the lessee only during "off-hours" (for example, between 10:00 P.M. and 6:00 A.M.).
- The computer to be leased and the available general ledger and financial reporting computer programs may not be compatible.
- Conversions to other equipment by the lessor could require the lessee CPA either to undertake a possibly costly conversion effort in order to process on the new equipment, or to seek another source of computer time.

Output
- Scheduling problems can occur, so the lessee has to be flexible. Scheduling changes may be caused by hardware failures or lessor time emergencies. Since the lessor controls the equipment, his processing will generally take precedence. If this occurs during peaks in general ledger and financial report processing, the condition may lead to late output and aggravated clients.

- All forms handling must be done by the CPA firm.

Costs
- Computer programs must be obtained by purchase, rent, or internal development. It is the CPA's responsibility to make sure that such programs satisfy operating and documentation requirements.

Service Center

A service center is a business offering data processing services on a time or volume basis. These services typically include converting input data to machine-readable form, processing such data, and returning the output to the user. A service center may also offer system design and programming services which enable it to customize applications to user specifications. In turn, they may process a customer's data using the customer's programs or their own application packages.

The advantages and disadvantages of the service center option are as follows.

Advantages

Input
- Usually a good user instruction manual is available.

Processing
- Service centers may offer highly sophisticated general ledger/financial reporting programs providing a wide range of reports.
- There is little or no space required for equipment on the CPA's premises.

Costs
- Usually there is a minimal capital investment, but there may be a fixed term

contract or program modification cost to consider.
- There is low fixed cost for personnel and equipment.
- Firm management is not involved in the processing operation.

Disadvantages

Input
- Since client information leaves the CPA's office, there is a remote possibility that it may be subject to loss and unauthorized access and/or use.

Processing
- The CPA has the same responsibility for incorrect processing as with in-house operations and may be at risk for faulty work done by the service center.

Output
- Turnaround time can be increased because work must be moved to and from the service center.
- Output report formats may be limited by the service center software and operating policies.
- Rerun delays can be aggravating and costly.

Timesharing/Remote Batch

Timesharing and remote batch processing are data processing methods using terminal devices connected by telephone or other means of communication to a large central computer. The advantages and disadvantages of these options are as follows.

Advantages

Input
- Since source documents do not leave the firm's premises, the CPA can exercise control over the privacy of the source documents.

- There can be an immediate indication of input errors.

Processing
- Equipment space requirements are small.
- Problems related to the management of a data processing center operation are minimized.
- Many timesharing services have a general ledger and financial reporting system designed for use by CPAs. This eliminates the front-end cost of developing or purchasing application programs.

Output
- Selected account inquiry capability is available on interactive systems.
- The established data base of accounting data can be used for sophisticated financial analysis and forecasting where such applications are also available.

Costs
- Set-up costs are minimal and equipment costs are low.
- Costs are more directly related to elective use. Some vendors offer a pricing plan that helps to overcome high storage costs.

Disadvantages

Input/Output
- Many terminal devices are like typewriters and have slow input and output capabilities.
- Although transmission difficulties seldom arise, the user should be aware that transmission interference can result in lost data.
- When client information is placed on files at the timesharing/remote batch service, there is a remote possibility that it may be subject to unauthorized access and/or use.

Costs
- On-line data storage costs are more expensive than other alternative modes of processing.
- Operator delays, excessive manipulation of data, or processing large data files can result in high costs.
- Where local telephone connection to the timesharing facility is not available, long distance charges may be very expensive. However, most services do provide local access numbers or 800 numbers.

Selecting a Processing Option

After considering the advantages and disadvantages of the various data processing options, the nonviable options should be eliminated. For example, if a firm's location precludes service centers, and timesharing telephone line costs are too expensive, then these options should be dropped from consideration.

The firm should then contact vendors in the remaining option areas to request proposals. The vendors should be supplied with the transaction volumes and data storage requirements that were developed on the data processing work load work sheet (figure 2) and with the required reports and additional features decided upon after completing the reporting features work sheet (figure 1).

A written request for proposal (RFP) should be sent to the eligible vendors (figure 19). The RFP should contain as much pertinent information as possible so that each vendor will be making a proposal based on the same specifications. Figure 20 lists some available sources of names of potential vendors. The RFP should also contain adequate background information to assist the vendors in making proposals realistic for the firm's operating environment. Ground rules that vendors are expected to adhere to when submitting proposals should be clearly spelled out. Of course, the criteria that the firm will use in making its selection should be detailed so that the vendors' responses can be easily evaluated and compared.[10]

FIGURE 19
REQUEST FOR PROPOSAL

April 1, 19XX

A Hardware Vendor
Any Town, USA

Gentlemen:

We are requesting price quotations for electronic data processing equipment based on the following specifications:

Application: Client general ledger and financial reporting system for use within a CPA firm

Activity: Current processing volumes include—
100 clients
30,000 general ledger accounts
2,000–22,000 transactions/week

In the next five years, processing volume is expected to triple.

Hardware requirements:
Will consider any system that will meet our volume and software requirements. However, to provide proper interface for two major clients, the system must include a nine-track, 1600 BPI tape unit. Print quality is considered to be an important factor.

System configuration:
Your price quotation should list specific components and provide details of lease vs. purchase options and maintenance costs.

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[10] *Guidelines for General System Specifications for a Computer System,* p. 14.

FIGURE 19 (*continued*)

Equipment reliability:
>Supply information about current estimates of—
>>Mean-time to failure.
>>Mean-time to repair.
>>Percentage of anticipated downtime.

Installation:
>The following should be provided:
>>Site requirements: space, electrical, and environment.
>>Special installation costs.
>>Delivery schedule.

Software:
>The vendor is expected to provide all required software on a turnkey basis.
>Software costs should be included in the proposal.

>Minimum features to be included in the proposed software system include—

1. An account number structure that will handle at least ten alphanumeric characters.
2. A flexible chart of accounts that can be easily tailored to meet varying client requirements.
3. A chart of accounts that can accommodate at least thirty-five alphanumeric characters of account description.
4. Provision for verifying that all input transactions have been processed.
5. Balancing of debits and credits for each individual transaction and all transactions as a group.
6. Thorough editing of all input transactions. Editing should include, but not be limited to, the following checks:
   - Only numeric characters in a defined numeric field.
   - No blanks in required fields.
   - Duplicate entry of data.
7. Complete audit trail for all transactions, journals, and edits.
8. A standard facility for locating, resolving, and correcting errors.
9. The ability to reprocess the general ledger without rebuilding the file.
10. Financial statement presentation in accord with current AICPA, FASB, and SEC pronouncements and requirements.

>The following types of reports must be produced by the system:
>>Edit reports.
>>Journal listings.
>>General ledgers.
>>Balance sheets (consolidated or individual).
>>Income statements.
>>Statement of changes in financial position.
>>Statement of cash flow.
>>Trial balance.

>The following comparative data should be provided on an optional basis for each client:
>>Current vs. prior year.
>>Actual vs. budget.
>>Expense as a percentage of sales, current vs. prior.

Support commitments:
>Outline your capabilities in regard to—
>>Staff training (operations and/or programming).
>>Location of nearest support office.
>>Availability of support personnel.

Expansion capability:
>Describe the expansion capabilities of the proposed system, including representative costs to upgrade.

Please respond by, or before, July 1, 19XX, addressing all correspondence or inquiries to—

>>CPA Firm
>>City, State

FIGURE 20

Publishers of information on available computer hardware and software include—

Auerbach Publishers, Inc., 6560 North Park Drive, Pennsauken, New Jersey 08109

Datapro Research Corporation, 1805 Underwood Boulevard, Delran, New Jersey 08075

GML Corporation, 594 Marrett Road, Lexington, Massachusetts 02173

International Computer Programs, Inc., 9000 Keystone Crossing, Indianapolis, Indiana 46240

International Management Services, Inc., 215 Oak Street, Natick, Massachusetts 01760

Management Information Corporation, 140 Barclay Center, Cherry Hill, New Jersey 08034

Evaluation and Selection

After the firm has determined its specifications for a computerized general ledger and financial reporting system, and proposals have been received from the vendors selected, the final phase in the selection process is evaluating the proposals and selecting the proposal that provides the greatest fulfillment of specifications per dollar of cost. Because of the complexity of various systems and the difficulty in evaluating one system versus another, it may be helpful to reduce the proposals to quantitative factors in order to keep the various options in the status of tools to be used to meet the firm's objectives. The system selected should meet the firm's specifications, and be cost effective in order to meet profitability goals.

To assist in the evaluation of the proposals, the following work sheets are provided in the appendixes:

- Systems features checklist—Appendix 3
- Cost/benefit analysis—Appendix 4

Systems Features Checklist

The systems features checklist provided in Appendix 3 provides a means for measuring a proposed system against the systems specifications developed for the firm and also for comparing various proposals.

Part 1 provides a checklist of the features required to meet the firm's minimum specifications. The absence of any of these features should disqualify a system (see figure 21).

Part 2 is provided to list the additional features to be considered in evaluating several systems that have met the minimum specifications. The following values should be assigned to the additional features to assist in making a quantitative evaluation (see figure 21).

Column A requires a judgment of the importance of a feature based on the following scale:

0—Never used
1—Used 25 percent of the time
2—Used 50 percent of the time
3—Used 75 percent of the time
4—Used almost all the time

Column B requires a judgment of how completely a feature is provided based on the following scale:

-2—Not provided
-1—Provided to some degree
+2—Completely provided

By multiplying Column A by Column B, point values can be developed for the systems being considered. Additionally, it is suggested that the general system specification checklist included in *Guidelines for General System Specifications for a Computer System*[11] be used in evaluating the use of computers for general ledger processing in a CPA firm.

Cost/Benefit Analysis

A method to establish dollar values for alternative systems is provided by the cost/benefit analysis work sheet in Appendix 4. The various elements of cost for the current system and the systems being evaluated are entered on the work sheet. After the estimated annual cost of an alternative system has been calculated, the total points developed on the systems features checklist (Appendix 3) for that system can be divided into the cost to arrive at a "cost per point" amount. The system having the lowest "cost per point"

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[11] *Guidelines for General System Specifications for a Computer System*, pp. 18–21.

FIGURE 21
SYSTEMS FEATURES CHECKLIST

VENDOR _SUPER COMPUTER PRODUCTS INC_

SYSTEM _CLIENT ACCOUNTING PACKAGE_

1. MINIMUM FEATURES

Does the system provide the following minimum features?

		YES	NO
(a)	Adequate account number structure	✓	
(b)	Flexible chart of accounts	✓	
(c)	Adequate chart of accounts description field	✓	
(d)	Account for all transactions	✓	
(e)	Balance all transactions	✓	
(f)	Edit all transactions	✓	
(g)	Adequate audit trail in journals & edits	✓	
(h)	Facility to locate and resolve errors	✓	
(i)	Facility to reprocess general ledgers	✓	
(j)	Adequate financial statement presentation	✓	
(k)	_Prior period adjustment_	✓	
(l)	_Print general ledger for entire year_	✓	
(p)	_Statement of changes in financial position_	✓	
(q)	_Statement of cash flow_	✓	
(r)	_Comparative balance sheet — last year_	✓	
(s)	_Comparative income statement — last year_	✓	
(t)			
(u)			
(v)			
(w)			
(x)			
(y)			
(z)			

FIGURE 21 (continued)

2. ADDITIONAL FEATURES

Does the system provide the following additional features?

		Relative Importance (0–4)	Extent Provided By System (−2, −1, +2)	System Evaluation Score (AXB)
(a)	Sign reversal on statements	1	−2	−2
(b)	Suppress print of zero balance	4	−1	−4
(c)	Accountant's letter	2	2	4
(d)	Disclosure notes	1	2	2

(i)	Account analysis	3	2	6
(j)	Working Trial balance	3	2	3
(k)	Payroll reporting	1	−2	−2
(l)				
(m)				
(n)				
(o)				
(p)				
(q)				
(r)				
(s)				
(t)				
(u)				
(v)				
(w)				
(x)				
(y)				
(z)				
	TOTAL			10

provides the greatest satisfaction of system specifications for the cost incurred. (This calculation is not valid for systems with a total point value that is negative.)

It is then necessary to estimate the revenue that can realistically be generated by each of the systems under consideration. Obviously, the most important figure developed by using this evaluation approach is the potential profit to be realized from the use of the system.

Test Processing

Before making a final selection, a job that is representative of the firm's processing requirements should be set up and processed. This should be an actual job with live data rather than a vendor's canned demonstration program. The system operation should be observed to determine the technical skills required to set up and process the job, the accuracy and auditability of each job step, and the time required for processing. That time can be applied to your projected processing volumes which were determined on the data processing work load work sheet.

Summary

As stated in the introduction, there can be any number of reasons why a CPA firm considers using a computerized general ledger and financial reporting system for client accounting. This guideline describes a basic approach that can be used to review and evaluate the many alternatives that are available. However, no standard evaluation method can provide an exact fit with the particular requirements of an individual firm. The steps described in this guide must be viewed as a starting point. In a given situation, they should be modified to match the needs of the firm. For example, a careful reading of the request for proposal (RFP) that appears in figure 19 will reveal that it does not exactly match the minimum requirements described in this guideline. Rather, the RFP specifies the capabilities that a particular firm must have in a system designed to serve its clients.

For most CPA firms, the installation of a computerized general ledger and financial reporting system represents a major effort that can have a serious impact, either good or bad, on future activities. Unfortunately, there is no foolproof way to ensure that a firm will make the right decision. However, this guideline, and the supplemental material listed in the bibliography, should provide the CPA with a starting point for making an organized and rational evaluation effort that will lead to the selection of a system that will satisfy the firm's requirements at a reasonable cost.

APPENDIX 1
REPORTING FEATURES WORK SHEET

CLIENT		Balance Sheet		Stmt. of Change	Retained Earn. Stmt.	Cash Flow Stmt.	INCOME STATEMENT					Comparative Measure			
Name	Number	Comp.	Cons.			Cons.	No. of Loc.	No. of Depts.	No. of Sub. Sch.	Tax Comp. Sch.	Prior Yr.	Budget	% of Sales	Per Unit

CLIENT		Pro-cess	Due Date	No. of G/L Accts.	No. of Trans-actions	NO. TRANSACTIONS BY WEEK												
	No.					1	2	3	4	5	6	7	8	9	10	11	12	13
Name																		

APPENDIX 3
SYSTEMS FEATURES CHECKLIST

VENDOR _____

SYSTEM _____

1. MINIMUM FEATURES

Does the system provide the following minimum features?

		YES	NO
(a)	Adequate account number structure	_____	_____
(b)	Flexible chart of accounts	_____	_____
(c)	Adequate chart of accounts description field	_____	_____
(d)	Account for all transactions	_____	_____
(e)	Balance all transactions	_____	_____
(f)	Edit all transactions	_____	_____
(g)	Adequate audit trail in journals & edits	_____	_____
(h)	Facility to locate and resolve errors	_____	_____
(i)	Facility to reprocess general ledgers	_____	_____
(j)	Adequate financial statement presentation	_____	_____
(k)	_____	_____	_____
(l)	_____	_____	_____
(m)	_____	_____	_____
(n)	_____	_____	_____
(o)	_____	_____	_____
(p)	_____	_____	_____
(q)	_____	_____	_____
(r)	_____	_____	_____
(s)	_____	_____	_____
(t)	_____	_____	_____
(u)	_____	_____	_____
(v)	_____	_____	_____
(w)	_____	_____	_____
(x)	_____	_____	_____
(y)	_____	_____	_____
(z)	_____	_____	_____

2. ADDITIONAL FEATURES

Does the system provide the following additional features?

	Relative Importance (0–4)	Extent Provided By System (−2, −1, +2)	System Evaluation Score (AXB)
(a) _____	_____	_____	_____
(b) _____	_____	_____	_____
(c) _____	_____	_____	_____
(d) _____	_____	_____	_____
(e) _____	_____	_____	_____
(f) _____	_____	_____	_____
(g) _____	_____	_____	_____
(h) _____	_____	_____	_____
(i) _____	_____	_____	_____
(j) _____	_____	_____	_____
(k) _____	_____	_____	_____
(l) _____	_____	_____	_____
(m) _____	_____	_____	_____
(n) _____	_____	_____	_____
(o) _____	_____	_____	_____
(p) _____	_____	_____	_____
(q) _____	_____	_____	_____
(r) _____	_____	_____	_____
(s) _____	_____	_____	_____
(t) _____	_____	_____	_____
(u) _____	_____	_____	_____
(v) _____	_____	_____	_____
(w) _____	_____	_____	_____
(x) _____	_____	_____	_____
(y) _____	_____	_____	_____
(z) _____	_____	_____	_____
TOTAL			_____

APPENDIX 4
COST/BENEFIT ANALYSIS WORK SHEET

ESTIMATED ANNUAL COSTS/REVENUE

	PRESENT SYSTEM	ALTERNATIVE SYSTEMS			
		1	2	3	4
DIRECT COSTS					
Personnel:					
Supervision					
Data Entry					
Operations					
Programming					
Clerical					
Other					
Data Processing Equipment:					
Data Entry					
Computer					
Terminal					
Maintenance Service					
Other Equipment:					
Storage					
Forms Handling					
Other					
Communications Expense:					
Telephone Equipment					
Toll Charges					
Postage					

| | | ESTIMATED ANNUAL COSTS/REVENUE | | | |
| | | | ALTERNATIVE SYSTEMS | | |
	PRESENT SYSTEM	1	2	3	4
Supplies:					
Input Forms					
Output Forms					
Storage Media (tape, disk, etc.)					
Miscellaneous (ribbons, etc.)					
Occupancy:					
Floor Space					
Utilities					
Maintenance and Janitorial					
Computer Software and/or Program Development Expense					
Service Center or Timesharing Fees					
TOTAL DIRECT COSTS					
Allocated Costs					
Amortized Conversion Costs (A)					
TOTAL COST					
Revenues					
ESTIMATED INCOME (LOSS)					

(A) See Form 4 (p. 25) in *Guidelines for General System Specifications for a Computer System.*

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Bibliography

The purpose of this bibliography is to give the prospective user of data processing a list of nontechnical books that will help in the transition from the manual world of accounting to the sometimes hectic and complex world of data processing.

The references included here represent only a small portion of the many books written each year. The criterion for selection was primarily ease of reading and understanding by an accountant not experienced in data processing.

All the books listed can be found in the AICPA library, and any AICPA member can borrow them for a short period of time at no charge.

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