

1981

Guidelines to assess computerized time and billing systems for use in CPA firms; Computer services guidelines

American Institute of Certified Public Accountants. Computer Applications Subcommittee

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COMPUTER SERVICES GUIDELINES

Guidelines to Assess Computerized Time and Billing Systems for Use in CPA Firms

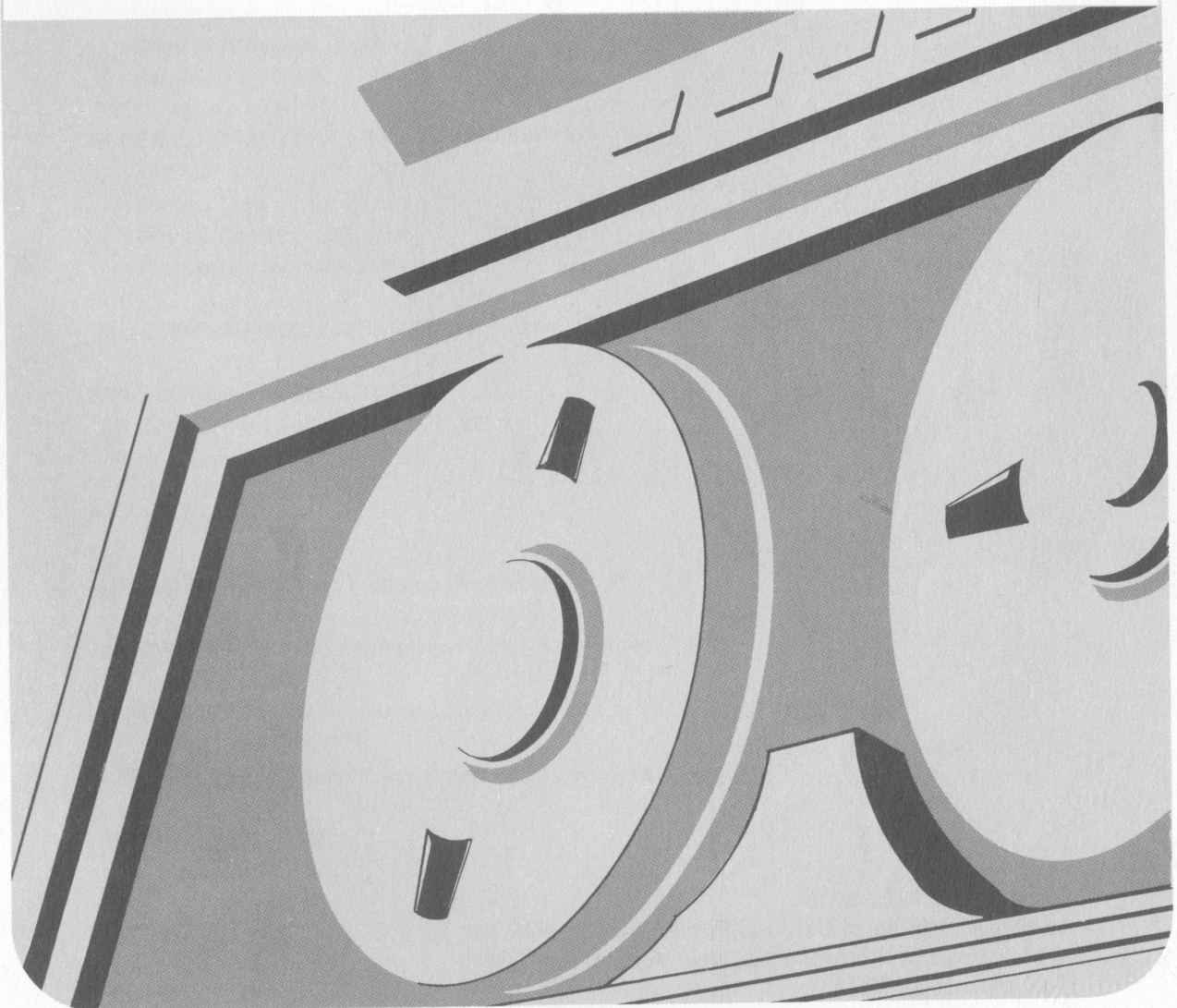
American Institute of Certified Public Accountants **AICPA**



COMPUTER SERVICES GUIDELINES

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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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 the processing of data, a high degree of accuracy, and the ability to produce informative analyses and reports.

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 finds 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 the 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*, *Guidelines to Assess Computerized Tax Return Systems*, and *Guidelines to Assess Computerized General Ledger and Financial Reporting Systems for Use in CPA Firms*.

Introduction

These guidelines were developed to assist CPAs who have a limited knowledge of electronic data processing to assess computerized time and billing systems for use in their practices.

There are many benefits of using a computerized time and billing system in a CPA firm. A computerized system can provide billing information for each client and, using the same data, can provide additional management information critical for planning the firm's growth while controlling day-to-day operations.

Specific benefits include

- Standardization of time and billing procedures, including regular due dates for time reporting and client billing.
- Early indication of potential billing problems

that should be addressed by firm management.

- Increased control over cash flow through more timely billing and better credit and collection procedures.
- Improved management and engagement analysis information for controlling staff productivity and engagement profitability.
- Centralized control over time and billing activities.

Whatever the reason for a firm's interest, the firm should systematically investigate computerized systems to avoid becoming confused by the many technical and economic factors involved. The firm should understand the available data processing options and should use formal investigation and evaluation approaches.

Overview of Data Processing Options

The basic data processing options available to a CPA firm are in-house computers and data processing services.

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.

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 larger computers.

Under the in-house computer option, the firm may also purchase or rent computer programs (software) to process its jobs, or it may choose to have its own personnel develop these programs. 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.

An in-house system used only for client billing may not be economically feasible for a small firm; however, when combined with other applications that a firm may want to provide for its clients, an in-house system may be justified.

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

- A *service center* is a company that accepts 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. The firm and the service center agree on a printed output, which the center will deliver to the firm. Software for applications processed by a service center is typically provided by the center.¹

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

- A *timesharing service* is a company that makes a central computer available for use through a connection to a terminal device on a firm's premises and charges 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 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.

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 terminal several hours later (possibly overnight). Generally, the volume of input and output data is much larger than 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 can lead to a preoccupation with equipment, which confuses the task of selecting a system. A firm should be careful to use a system selection approach that emphasizes its information needs and that treats the data processing options as tools that can be used to meet these needs. A desirable approach involves the following three phases:

- *System specifications.* The starting point in system selection should be a determination of the specifications that a computerized time and billing 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 vendors of data processing equipment and services.

- *Evaluation and selection.* The final phase should be to evaluate the proposals according to how well they meet the firm's system specifications. The approach presented in these guidelines applies a rating scheme that assigns point values for the various specifications. Each vendor's proposal receives a numeric score. This score can then be related to the cost of the proposed system to determine which vendor best matches the specifications at the lowest cost. Before selecting a system, a firm should also contact present users of the 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 time and billing 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 time and billing.
- Appendixes containing workpaper forms that a firm can use in defining specifications and in selecting a computerized time and billing system.

System Specifications

Determining system specifications should be the first phase in the selection of a computerized time and billing 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 potential vendors or suppliers. These specifications can be categorized as general specifications and application specifications.

General Specifications

General specifications define the characteristics that are desirable for any application in terms of performance, reliability, environment, contractual arrangements, and cost.² They apply to time and billing systems in the following ways:

- The system should effectively perform the firm's time and billing tasks within an acceptable turnaround time. *Turnaround time* is defined as the length of time it takes to receive input, perform processing, and produce finished output.
- To be used and managed effectively, a system must have adequate documentation.³ It is especially important to have adequate user documentation to promote effective communi-

cation between the persons in the firm who use 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 ensure balancing, detect coding errors, and provide an adequate audit trail.
- The system should easily integrate with the firm's environment and organization.
- Acquisition of the system should be based on 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 for a system should be included in the firm's *minimum specifications* for a computerized time and billing system. The need for these minimum features is unchanging; that is, no matter how procedures are modified, the processing that requires these features must be performed. They cannot be ranked in order of importance because, lacking any one, the system would not be able to complete its required tasks.

System capabilities and features that are nonessential but desirable should also be considered in selecting a system. In these 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 system specifications. 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, since some features are more desirable than others.
- They are desirable until obtaining them becomes too costly.
- They form the basis for selection between eligible systems (those that meet the firm's minimum specifications) because they are the features that differentiate one system from another.

² *Guidelines for General System Specifications for a Computer System* (New York: AICPA, 1976).

³ *Guidelines for General System Specifications*, page 4.

Defining Specifications for a Time and Billing System

Firm Profile

The first step in establishing system specifications for a time and billing system is to define the firm's information requirements and to estimate its anticipated transaction volumes. A structured approach is recommended, since it reduces guesswork in determining essential and nonessential reporting features and in forecasting the transaction volume that must be processed during peak periods. To obtain this information, it is necessary to review the firm's current and projected organization structure and to record the firm's requirements in a systematic manner. A firm profile worksheet can be used to serve as a guide for collecting the necessary information.

Firm Profile Worksheet. The firm profile worksheet, illustrated in figure 1, is used to summarize the information needed to determine the firm's requirements for a time and billing system. A blank firm profile worksheet is provided in Appendix 1.

A word of caution may be in order. Experience has shown that CPAs tend to be too conservative in estimating the future growth of their firms. Five years down the road, a system that still has excess capacity will prove to be a better bargain than one that is inadequate and has been continually patched to keep it going. In developing projected requirements, be optimistic!

FIGURE 1
FIRM PROFILE WORKSHEET

	Current Requirements	Projected Requirements in Five Years
1. Staff Information		
Number of		
Clerical staff	<u>5</u>	<u>7</u>
Professional staff	<u>20</u>	<u>30</u>
Partners	<u>7</u>	<u>10</u>
Firm members with billing responsibility	<u>7</u>	<u>10</u>
Employee classifications	<u>5</u>	<u>5</u>
2. Client Information		
Number of		
Clients	<u>729</u>	<u>1200</u>
Separate concurrent engagements for each client (maximum)	<u>4</u>	<u>4</u>
Client entity types (corporations, trusts, etc.)	<u>6</u>	<u>6</u>
Client industry types	<u>60</u>	<u>80</u>
3. Firm Information		
Number of		
Offices	<u>1</u>	<u>2</u>
Departments	<u>2</u>	<u>6</u>
Chargeable activities	<u>30</u>	<u>30</u>
Nonchargeable activities	<u>5</u>	<u>5</u>
Expense categories	<u>7</u>	<u>7</u>
Billing rates for each employee (maximum)	<u>3</u>	<u>3</u>
4. Work Load Information		
Number of		
Time reporting periods per month (maximum)	<u>5</u>	<u>5</u>
Time sheets per time reporting period	<u>160</u>	<u>220</u>
Client invoices per month	<u>200</u>	<u>350</u>
Accounts receivable	<u>600</u>	<u>1000</u>
Cash receipts and adjustments per month	<u>250</u>	<u>400</u>

System Features

After completing the firm profile worksheet, the CPA relates the firm's requirements to the features of computerized time and billing systems. The features to be considered involve the system's performance and reliability and the reports that it will produce.

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

- The technical proficiency required to use the system.
- The degree of accuracy and the audit trail provided by the system.
- The speed, efficiency, and simplicity of the system's processing.

In order to evaluate performance and reliability, it is very helpful to contact firms currently

using the system and to observe the operation of the system while it is performing jobs similar to those that the firm expects to perform.

The reports produced by the system can usually be determined by examining vendor literature and by reviewing actual printed output from the system.

Any system being considered must contain certain minimum features that facilitate implementation, usage, and economical, efficient operation. Using data collected on the firm profile worksheet, the CPA can determine the need for additional features to satisfy a particular firm's more complex needs. These features should also be included in the firm's minimum specifications. Additional features that are desirable but not required can become the basis for selection between eligible systems.

Performance and Reliability Features

The basic performance and reliability features generally found in computerized systems are discussed in this section.

Input Control and Editing. It is important for the system to minimize errors by checking the accuracy of input data before the computer files are updated. If the input control and editing function of the system is adequate, manual checking and reviewing of the finished reports can be minimized. The system must perform three primary control and edit functions:

- *Account for all data.* The system should check that it has processed all data prepared for processing. For time and billing systems, this can be accomplished in several ways. Manually prepared checklists can be used to account for all employee time and expense reports. A system-generated total of the number of transactions entered into the system can be compared to a predetermined total. A system-generated hash total on the employee and/or client number of each transaction entered into the system can be compared to a predetermined hash total. (This method would also detect an employee and/or client number that was entered incorrectly into the system.) System-generated totals of hours entered into the system from time reports and dollars

entered from expense reports can be compared to predetermined totals.

- *Balance all data.* The system should check for out-of-balance conditions.
- *Edit data.* The system should verify the validity and reasonableness of the data entered. The system should compare employee numbers, service codes, and client numbers with those set up on the time and billing master files. The system should also check that
 - Numeric fields contain only numbers.
 - Required fields are not blank.
 - The period ending date is correct for the current processing.
 - Reference fields, such as transaction source identification, are present and correct.
 - Data for a particular period are not entered twice.
 - Hours are not entered for nonexistent dates, such as April 31.

The edit report should provide a complete listing of all errors detected by the system (balancing, coding, and so forth). Errors should be clearly identified to facilitate correction and re-entry. 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 in which they were

entered to make it easier to resolve errors, particularly out-of-balance conditions.

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 procedures most suitable for a particular firm. Two major factors must be considered:

- Error-handling procedures can become the source of additional error.
- 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, several points should be considered:

- 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 several batches are being processed, the error-free batches should be processed and the erroneous batches should be held in a temporary work file; all work should not be held until the errors 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.

Reporting Features

The CPA should use the firm profile worksheet to relate the firm's requirements to the reporting features of potential systems. Usually, system cost and operational complexity increase as system reporting capabilities increase.

Master File Information. Master files contain relatively permanent information stored on computer files and referenced by the system during processing. Time and billing systems have three types of master file information: staff information, client information, and service code information.

Staff Information. The staff information required for a basic system includes

- Employee name
- Employee number
- Employee billing rate

The types of information required for some of the additional reporting features found in more complex systems include

- *Multiple billing rates for each employee.* Calculation of billing amount at the rate applicable to the specific service provided (for example, audit or MAS).
- *Classification code.* Productivity analysis by class of employee (for example, partner, manager, or staff).
- *Department-assigned-to code.* Productivity analysis by department (audit, tax, or MAS).
- *Office-assigned-to code.* Productivity

analysis and other management reports by office.

- *Budget data.* Comparison of actual time to budgeted time by activity.

Client Information. The client information required for a basic system includes

- Client name
- Client number
- Client address
- Client telephone number
- Billing responsibility

The types of information required for some of the additional reporting features found in more complex systems include

- *Engagement number.* Time and charges accumulated and reported separately for each engagement applicable to a particular client.
- *Engagement due date.* Listing of clients by engagement due dates for control and scheduling.
- *Additional firm members with billing responsibility.* Identification of multiple billing responsibility.
- *Office-assigned-to code.* Profit analysis and other management reports by office.
- *Year-end.* Listing of clients by year-end dates for control and scheduling.
- *Entity type code.* Profit analysis and other management reports by entity type (for example, corporation, trust, or individual).

- *Industry type code.* Profit analysis and other management reports by industry type.
- *Credit rating.* Credit control.
- *Client's key employees' names and titles.* Computerized maintenance of relevant client information.
- *Work location.* Engagement control and planning.
- *Special data.* Identification of special considerations, such as profit-sharing plans or consolidated tax returns.

Service Code Information. In computerized time and billing systems, service codes are used to categorize the types of services performed for clients. The service codes and related activity descriptions are stored in a computer file for access during processing. The service code structure provided by potential systems should be flexible enough to accommodate the amount of detail required by the firm. Usually, as system capabilities increase, cost and operational complexity also increase. Therefore, service code requirements should be carefully analyzed to ensure that the firm is not planning to adopt an unnecessarily complex service code structure.

Examples of a basic and a more complex service code structure are illustrated in figures 2 and 3.

Accumulation of Time and Charges. Time and charges are entered into the system from the following sources:

- Employee time sheets.
- Employee expense reports.
- Firm disbursements chargeable to clients.
- Miscellaneous firm expenses chargeable to clients.

On the basis of the data entered from these sources, the following reports are produced:

- Edit reports
- Summaries of work-in-process
- Work-in-process detail reports
- Analyses of time and charges

Employee Time Sheets. The employee time sheet provides the basis for the accumulation and calculation of the accounting fee. Because most of the transactions processed through the system originate from the time sheet, it is very important that this form is designed so that it can be filled out easily. Time sheets should be submitted for processing at least weekly or semi-monthly to provide for timely accumulation of billing data and for

FIGURE 2
BASIC SERVICE CODE STRUCTURE

Chargeable Activities	
10	Audit
20	Review
25	Compilation
30	Tax
40	Management advisory services
50	Clerical
55	Other
Nonchargeable Activities	
90	Holiday
91	Vacation
92	Sickness
93	Unassigned
94	Professional development
95	Administrative
99	Other

orderly scheduling of computer processing. This interval also provides close monitoring of staff progress on assignments.

Either the unit system or the decimal system is satisfactory for processing the data through a computer. Generally, the smallest time reporting unit used is a quarter or a tenth of an hour.

Employee time sheet information required for a basic system includes

- Time period covered.
- Employee name.
- Employee number.
- Client name.
- Client number.
- Service codes for chargeable activities.
- Time worked.
- Service codes and descriptions for non-chargeable activities.

Information required for some of the additional reporting features found in more complex systems includes

- Engagement code
- Description of work performed
- Standard billing rate override

An example of a weekly time sheet is illustrated in figure 4.

Employee Expense Reports. The form used to enter employee expenses into the system should be designed to simplify data entry. Some systems include employee expenses on the time sheet to reduce the number of input entries.

FIGURE 3
A MORE COMPLEX SERVICE CODE STRUCTURE

Chargeable Activities	Review and Management and Other				
	Audit	Compilation	Tax	Advisory Services	Accounting Services
Contact and proposal	101	201	301	401	501
Planning	102	202	302	402	502
Field work	103	203		403	
Review	104	204	304	404	504
Client conferences	105	205	305	405	505
SEC reports	106				
Staff assistance, meetings	110	210	310	410	510
Tax planning	111	211	311		
Individual tax return			312		
Corporate tax return			313		
Partnership tax return			314		
Fiduciary tax return			315		
Estate/gift tax return			316		
Pension, profit-sharing, ERISA			317		
Property tax return			318		
Tax cases			319		
General ledger accounting					530
Payroll accounting					531
Clerical	140	240	340	440	540
Other	150	250	350	450	550

Nonchargeable Activities	
Administrative:	
601 Switchboard and reception	611 Quality control (nonchargeable)
602 Filing and mailroom	612 Company newsletter
603 Timekeeping	613 Unassigned time
604 Billing	614 Civic relations—Government
605 Stenographic (nonchargeable)	615 Civic relations—Chamber of Commerce
606 Office administration	616 Civic relations—Charitable
607 Partner and manager meetings	617 Civic relations—Service clubs
608 Recruiting	618 Client relations
609 Other administrative	619 New client development
610 Tax processing and copying	
Professional Development:	
701 P.D. coordination and development	705 Staff meetings
702 Preparation and teaching—in-house course	706 Professional committees and officer activity
703 Professional development	707 Other professional development
704 Professional organization meetings	
Time Off:	
901 Holiday	904 Maternity time
902 Vacation	905 Funeral
903 Sick time	906 Personal time off

The amount of detail that can be entered varies among systems. Expense data required for a basic system include

- Period ending
- Employee name
- Employee number
- Client name
- Client number
- Date

- Amount
- Chargeable expense category
- Nonchargeable expense category

Data required for some of the additional reporting features found in more complex systems include

- Engagement number
- Expense description

FIGURE 4

CPA FIRM
WEEKLY TIME REPORT

(REPORT TIME TO NEAREST ¼ HOUR)

EMPLOYEE NAME		NO.	MO.	DAY	WEEK ENDED	YR.							
CLIENT NUMBER	CLIENT NAME	SVC. CODE	DESCRIPTION OF WORK PERFORMED	SUN.	MON.	TUES.	WED.	THURS.	FRI.	SAT.	TOTAL		
TOTAL CHARGEABLE TIME													
NONCHARGEABLE TIME													
HOLIDAY		90											
VACATION		91											
SICKNESS		92											
UNASSIGNED		93											
PROF. DEVELOPMENT		94											
ADMINISTRATIVE		95											
OTHER		96											
NONCHARGEABLE TIME													
TOTAL HOURS													

EMPLOYEE SIGNATURE _____ DATE _____

APPROVED _____ DATE _____

If the firm plans to use the same form for both employee expense reporting and data entry, additional information required by the Internal Revenue Service must also be included.

Figure 5 contains an example of a typical employee expense form used for data entry.

Direct Firm Disbursements. Typically, air fare, hotel, and similar expenses paid directly by the firm and chargeable to clients are entered into the system from the check copies. It is important to establish procedures and controls to ensure that all such expenses are properly entered into the system.

Miscellaneous Firm Charges to Clients. Standard input forms should be used to enter miscellaneous firm charges to clients for toll calls, photocopying, postage, and similar expenses. Such an input form is shown in figure 6.

Edit Reports. The system should produce an edit report before updating the time and billing files. (Edit reports were discussed on page 5.) Figure 7 contains an example of a typical edit report.

Summaries of Work-in-Process. Using the data entered, the system should be able to produce a summary of work-in-process by client (shown in figure 8). This report is usually printed monthly or semi-monthly and provides a one-line analysis of each client's unbilled work-in-process. Reports that include an aging of work-in-process are preferable because they provide an indication of charges that may become unbillable. Some systems provide the option of either printing this report in client number order or ranking unbilled work-in-process so that the largest dollar values are printed first.

For firms with more than one person who authorizes billing, the system should be able to produce a work-in-process report by billing responsibility. This indicates each person's contribution to the total work-in-process. Such a report is shown in figure 9.

For firms with more than one office, the system should provide subtotals of work-in-process by office. The firm's requirements determine the level of detail and printing options required for these reports.

Work-in-Process Detail Reports. The work-in-process detail report provides a historical record for each client. The system should be able to perform the following functions:

- Summarize work-in-process by type of service performed and by individual.

- Transfer unbilled services between clients. If applicable, transfer unbilled services between persons with billing responsibility and between offices.
- Process *interim* billings that reduce the total unbilled time without affecting the work-in-process detail in the file.
- Process *partial* billings that delete applicable work-in-process detail from the file.

Some systems provide a balance-forward report with only the current period's activity listed in detail. This is difficult to work with and is usually less desirable than a detailed report by client; however, the additional time required to print detailed reports must be considered. In some cases, it may be more efficient to look up prior detail by referring to balance-forward reports. Billing on a regular basis will help minimize these problems.

Additional features found in some systems include

- Work-in-process detail reports designed so that they can be used as billing drafts. Space is provided to enter adjustments to standard billing rates.
- The capability to allocate billing adjustments to individual staff members and to persons with billing responsibility.
- The capability to produce, when required, work-in-process detail reports for specific clients.

The work-in-process detail reports are usually prepared monthly, even though billing is on a weekly or biweekly basis.

Figure 10 contains an example of a work-in-process detail report.

Analyses of Time and Charges. Many systems provide additional management information on the basis of the data entered into the system from the employee time sheets and expense forms. This information requires the use of more detailed forms than those depicted in figures 4 and 5. Typical reports include

- *Employee time analysis.* This provides a breakdown of each employee's chargeable and nonchargeable hours and dollar amounts for the reporting period. The report provides a quick comparison of all employees' performances. A percentage analysis of chargeable versus nonchargeable hours is a useful feature that provides an indication of each employee's relative performance without the distortion that is caused by different billing rates. Figure 11 contains an example of a typical time analysis report.
- *Employee productivity analysis.* This report summarizes each employee's billable and

nonbillable activity for each month. Many systems also provide a comparison of chargeable and nonchargeable time to budgeted time. Figure 12 contains an example of an employee analysis report.

- *Summary of nonchargeable time.* A detailed breakdown of the firm's nonchargeable time can prove useful. Figure 13 contains an example of this report.

The level of detail and variety of analyses vary greatly among systems. Which reports should be included in a firm's minimum specifications is determined by the firm's specific information requirements.

Client Billing. Using the billing instructions that are entered, the system should produce a billing journal that

- Lists the billings to clients.
- Summarizes the work-in-process removed from the unbilled work-in-process file.
- Accumulates billing adjustments.

In many systems, the billings are summarized by type of service rendered. At a minimum, the billing journal should be produced monthly. Figure 14 contains an example of a billing journal.

Two additional reports produced by many systems are

- A billing follow-up report (shown in figure 15).
- An annual client billing summary (shown in figure 16).

Practices and procedures for invoice preparation vary among firms. Many firms with computerized time and billing systems still prepare invoices manually from data supplied by the system. In other firms, invoice drafts are prepared by the system. These drafts include suggested wording and fees computed at standard rates. The person with billing responsibility then modifies, as required, both the wording and the fee to be charged. A final invoice is prepared, either manually or by the EDP system. Some time and billing systems provide automatic invoice preparation and entry of client billings into accounts receivable. These invoices must still be subject to review by the individual in charge of the client before they are sent to the client.

Figure 17 is an example of a computer-generated invoice.

Accounts Receivable. Most time and billing systems also provide accounts receivable processing based on the amounts billed to clients. Usually, a form is provided for accumulating collections and adjustments for entry into the system (figure 18), and a cash receipts and adjustments journal is produced on the basis of the data entered (figure 19).

The system should produce an aged accounts receivable listing that provides a detailed analysis of the firm's receivables. Depending on individual requirements, the system should be able to sequence the report by office and by billing responsibility. Some systems also include in this report the date and amount of the last payment received from each client. Figure 20 contains an example of a typical aged accounts receivable listing.

The accounts receivable statements produced by the system may be either the balance-forward type or the detailed open-item type. Generally, the open-item type is preferable. Figure 21 contains an example of an open-item statement.

Some systems also produce an accounts receivable follow-up report (shown in figure 22) that is useful for management control over past-due accounts.

Supplemental Reports and Listings. Depending on the data maintained in the computer files, many systems also provide supplemental reports and listings that can be printed at the user's option. Typical examples include

- Due-date monitoring reports, such as engagement due-date lists and client year-end lists. Figure 23 contains an example of a client year-end list.
- Lists of clients with pension plans, profit-sharing plans, and so forth (shown in figure 24).
- Mailing labels for all clients or categories of clients (such as members of controlled groups, subchapter S corporations, and so forth). A sheet of client mailing labels is shown in figure 25.

FIGURE 5

CPA FIRM WEEKLY EXPENSE REPORT

EMPLOYEE NAME	NO.	MO.	DAY	YR.			
DATE	CLIENT NUMBER	CLIENT NAME	DESCRIPTION OF EXPENSE	SCV. CODE	AMOUNT*		
TOTAL EXPENSES							

BALANCE \$ _____
ADVANCE \$ _____
AMOUNT DUE \$ _____
CHECK \$ _____

EMPLOYEE SIGNATURE _____ DATE _____
 APPROVED _____

*ATTACH RECEIPTS FOR ALL ITEMS IN EXCESS OF \$10.00

FIGURE 8

BILLING RESPONSIBILITY 152-RODGERS, MORRIS		CPA FIRM WORK-IN-PROCESS SUMMARY BY CLIENT 1/31/79					NET UNBILLED AMOUNT		NET UNBILLED OVER 180	
CLIENT NO.	CLIENT NAME	W-I-P HOURS	CURRENT	AGING OF WORK-IN-PROCESS	121-180	OVER 180	TOTAL WORK-IN-PROCESS BILLINGS	INTERIM BILLINGS	NET UNBILLED AMOUNT	NET UNBILLED OVER 180
012438	ABC REALTY, INC.	35.6	948.30				948.30		948.30	
017424	ACME MANUFACTURING CORP.	31.9	438.39	169.13			607.52	200.00	407.52	
020487	ASHLAND ASSOCIATES	5.2	153.00	29.00			182.00		182.00	
023047	BROWN MANUFACTURING COMPANY	122.3		1,421.72			1,421.72		1,421.72	
250787	BUILDERS, INC.	14.0	65.23	321.35	27.32		413.90		413.90	
340738	CHARLESTON CLINIC, S.C.	33.4	1,055.24				1,055.24		1,055.24	
764102	SOUTHWEST COUNCIL	145.8	2,372.86	927.33	71.00	269.20	3,640.39		3,640.39	269.20
843026	THE WESTERN CLUB	5.2	156.81				126.81		126.81	
870128	WILLIAMS MEDICAL CENTER, S.C.	41.0		1,322.00	16.50		1,338.50	1,000.00	338.50	
934102	ZILLMANS MARKET	7.0	320.00				320.00		320.00	
TOTAL - 152 RODGERS, MORRIS		668.5	14,437.38	6,186.77	495.25	570.30	21,689.70	2,700.00	18,989.70	337.95

FIGURE 9

CPA FIRM WORK-IN-PROCESS SUMMARY BY BILLING RESPONSIBILITY 1/31/89											
OFFICE - ANYTOWN		WORK-IN-PROCESS SUMMARY BY BILLING RESPONSIBILITY									
NO.	NAME	M-I-P HOURS	AGEING OF WORK-IN-PROCESS			TOTAL WORK-IN- PROCESS	INTERIM BILLINGS	NET UNBILLED AMOUNT	NET UNBILLED AMOUNT	NET UNBILLED OVER 180	
			CURRENT	121-180	OVER 180						
014	ADAMS, CHARLES	215.6	3,822.12	1,767.95	420.11	1,310.50	7,320.72	7,320.72			
017	BAKER, JOHN	1,118.6	23,826.69	3,545.62	1.13	37.64	27,411.28	17,235.00	10,176.28		
022	CARLSON, MICHAEL	889.0	21,822.55	4,377.61	863.18	443.42	27,506.76	16,790.00	10,716.76		
028	DUNBAR, DAVID	1,995.1	33,819.29	12,719.55	1,905.66	2,088.90	50,533.40	22,610.00	27,923.40		
036	EVERST, CLIDE	1,126.8	32,748.34	1,203.05	556.17	759.73	35,267.33	239.87	34,527.46	759.73	
102	FRANKLIN, BENJAMIN	512.5	10,667.97	3,727.96	1,805.10	1,250.74	17,051.77	535.00	16,496.77		
148	PETERSON, GEORGE	53.2	1,197.84	88.05	22.13	57.58	1,365.60	230.00	1,115.60		
152	RODGERS, MORRIS	668.5	14,437.38	6,186.77	495.25	570.30	21,689.70	2,700.00	18,989.70		
168	SMITH, JEAN	205.6	2,758.21	844.16	372.09	372.01	4,347.27	330.00	3,997.27		
240	WILLIAMS, KARL	4.8	167.65	12.75	13.63		194.03		194.03		
TOTAL FOR OFFICE - ANYTOWN		16,722.6	322,619.95	77,680.98	28,958.81	29,588.83	658,846.57	142,709.51	316,059.06	1,624.33	

FIGURE 11

CPA FIRM
YEAR-TO-DATE EMPLOYEE TIME ANALYSIS AS OF 1/31/79

EMPL. NO.	PARTNERS	HOURS		TIME OFF	TOTAL	NONCHARGEABLE		CHARGEABLE	
		ADMIN.	PROF. DEVEL.			PERCENT	PERCENT	AMOUNT	AMOUNT
014	ADAMS, CHARLES	550.4	43.0	68.3	782.3	84.6	15.4	6,567.50	
017	BAKER, JOHN	180.0	46.8	44.0	738.3	36.8	63.2	21,166.25	
022	CARLSON, MICHAEL	246.3	25.0	27.9	851.1	35.2	64.8	32,157.00	
028	DUNBAR, DAVID	249.7	25.7	27.8	753.7	40.1	59.9	24,442.50	
036	EVERST, CLIDE	241.4	52.6	52.5	736.7	45.8	54.2	21,711.25	
102	FRANKLIN, BENJAMIN	261.7	91.8	24.0	737.5	49.8	50.2	19,811.00	
152	RODGERS, MORRIS	247.2	111.5	47.0	722.0	56.2	43.8	16,325.00	
240	WILLIAMS, KARL	396.1	52.5	39.8	733.7	66.6	33.4	14,797.25	
	SUBTOTAL FOR PARTNERS	3,292.5	616.9	516.6	9,216.4	48.1	51.9	251,381.00	
	MANAGERS								
005	AIRMART, JAMES	25.4	13.5	69.7	718.8	15.1	84.9	16,585.95	
019	ANDERSON, MARK	26.4	13.2	90.8	760.3	17.2	82.8	17,033.00	
046	FELTON, CYD	76.8	59.9	24.0	587.6	27.3	72.7	18,163.95	
138	MORTON, FRANK	103.9	20.8	51.5	808.5	21.8	78.2	22,708.52	
195	PETERSEN, LLOYD	65.0	13.5	66.7	741.0	19.6	80.4	19,198.63	
245	MOLKMAN, ALEX	160.8	12.0	76.4	836.7	29.8	70.2	18,765.25	
	SUBTOTAL FOR MANAGERS	377.6	132.9	379.1	4,372.2	20.3	79.7	112,455.30	
	STAFF ACCOUNTANTS								
011	BEEPZMAN, LANCE	17.7	20.5	80.5	756.6	15.7	84.3	10,200.31	
013	BEFEL, MARK	40.5	19.5	62.0	740.0	16.5	83.5	12,846.75	
016	BOYLE, ALAN	101.0	2.5	16.5	120.0	15.8	84.2	1,944.27	
021	COTTON, JACK	27.7	10.3	32.5	806.7	8.7	91.3	13,991.29	
243	MARTINO, ANTHONY	13.0	19.8	5.5	168.9	22.7	77.3	2,057.01	
245	WENZEL, AARON	34.5	43.6	50.0	764.6	16.8	83.2	9,915.86	
250	ZOMERS, MAX	53.9	23.0	93.0	703.5	24.4	75.6	13,073.20	
	SUBTOTAL FOR STAFF ACCOUNTANTS	725.4	567.7	1,690.4	16,807.0	16.6	83.4	265,341.16	
	FIRM TOTALS	4,395.5	1,317.5	2,386.1	30,395.6	26.6	73.4	629,177.46	

FIGURE 12

CPA FIRM
MONTHLY EMPLOYEE PRODUCTIVITY HOURLY ANALYSIS
OCTOBER 19X8 THRU MAY 19X9

EMPLOYEE- 625 FINE, DAVID

SVC CODE	DESCRIPTION	OCT.	NOV.	DEC.	JAN.	FEB.	MAR	APR.	MAY.	Y-T-D TOTAL
BILLABLE ACTIVITY										
102	AUDIT-PLANNING		9.8		10.1					19.9
103	AUDIT-FIELD WORK	93.2	107.6	207.0	178.6	190.2	215.7	106.5	92.3	1191.1
304	TAX-REVIEW							63.5		63.5
TOTAL BILLABLE HOURS		93.2	117.4	207.0	188.7	190.2	215.7	170.0	92.3	1274.5
BUDGETED HOURS		90.0	120.0	200.0	180.0	190.0	200.0	180.0	90.0	1250.0
HOURS OVER(UNDER) BUDGET		3.2	(2.6)	7.0	8.7	.2	15.7	(10.0)	2.3	24.5
ADMINISTRATIVE										
604	BILLING	.4	.5	1.1	.5	2.0	.7	1.3	9.3	15.8
608	RECRUITING	4.0					.5	2.0	1.5	4.0
609	OTHER ADMINISTRATIVE	12.2	12.3	12.4	9.0	10.6	13.3	14.2	11.6	95.6
TOTAL ADMINISTRATIVE HOURS		23.4	17.8	17.0	28.6	19.0	18.5	17.5	36.0	177.8
BUDGETED HOURS		20.0	20.0	20.0	25.0	20.0	20.0	20.0	20.0	165.0
HOURS OVER(UNDER) BUDGET		(3.4)	2.2	3.0	(3.6)	1.0	1.5	2.5	(16.0)	(12.8)
802	VACATION	8.0	16.0							24.0
803	SICK TIME					5.3				5.3
TOTAL TIME OFF		8.0	24.0	10.0		5.3		2.0		49.3
BUDGETED HOURS		8.0	24.0	10.0				2.0		44.0
HOURS OVER(UNDER) BUDGET						(5.3)				(5.3)
TOTAL NONBILLABLE HOURS		68.9	54.1	38.5	29.8	26.8	43.5	35.0	65.7	362.3
TOTAL HOURS		162.1	171.5	245.5	218.5	217.0	259.2	205.0	158.0	1,636.8
CLIENT BILLABLE DOLLARS		2,097	2,651	4,581	4,079	4,375	4,968	3,965	2,146	28,862
PERCENT OF CLIENT TOTAL		57.5	68.5	84.3	86.4	87.6	83.2	82.9	58.4	77.9

FIGURE 13

CPA FIRM
ANALYSIS OF NONCHARGEABLE TIME
THREE MONTHS ENDED DECEMBER 31, 19X9

ACCOUNT	CURRENT YEAR		PERIOD		OVER		CURRENT YEAR		O-D A T E		OVER	
	AMOUNT	PCT	AMOUNT	PCT	(UNDER)	BUDGET	AMOUNT	PCT	AMOUNT	PCT	(UNDER)	BUDGET
TOTAL NONBILLABLE HOURS ADMINISTRATIVE-	5,832	100.00	6,433	100.00	(601)	(601)	19,284	100.00	18,134	100.00	1,150	1,150
SWITCHBOARD AND RECEPTION	348	5.97	369	5.73	(21)	(21)	1,107	5.74	933	5.14	174	174
FILING AND MAILROOM	256	4.39	269	4.18	(13)	(13)	737	3.82	649	3.48	88	88
TIMEKEEPING	67	1.14	61	.95	6	6	218	1.13	163	.90	55	55
BILLING	220	3.77	218	3.40	2	2	660	3.42	611	3.37	49	49
STENOGRAPHIC	296	5.09	257	3.99	39	39	1,008	5.22	696	3.83	312	312
OFFICE ADMINISTRATION	945	16.20	722	11.22	223	223	2,768	14.35	1,952	10.76	816	816
PARTNER AND MANAGER MEETINGS	98	1.69	60	.93	38	38	360	1.87	74	.41	286	286
RECRUITING	17	.30	34	.54	(17)	(17)	66	.34	93	.51	(27)	(27)
CLIENT RELATIONS	41	.70	9	-.14	32	32	177	-.91	37	.20	140	140
NEW CLIENT DEVELOPMENT	173	2.97	132	2.05	41	41	489	2.53	414	2.28	75	75
TOTAL ADMINISTRATIVE	3,967	68.02	4,107	63.84	(140)	(140)	12,741	68.06	11,035	60.85	1,706	1,706

FIGURE 14

CPA FIRM
BILLING JOURNAL
01/31/X9

BILLING RESPONSIBILITY- 152-RODGERS, MORRIS

CLIENT NUMBER	CLIENT NAME	TRANSFERRED FROM W-I-P ---HOURS	AMOUNT---	INTERIM BILLING	TRANSFERS	SALES TAX	MARKUPS MARKDOWNS	DATE	INVOICE NUMBER	AMOUNT
001925	ACTION, INC.	50.2	1,388.25					01/17/X9	42507	1,388.00
112436	ACHE MILLWORK CO.	90.3	3,214.85					01/13/X9	41032	1,655.20
543207	MEDICAL CLINIC, INC	- 5	18.65							

70036	ROBERTS TRUCK INC.	11.2	301.48					01/18/X9	43206	973.00
	TOTAL FOR 152-RODGERS, MORRIS		5,761.70		1,331.52		660.00 -			4,864.20

FIGURE 15

CPA FIRM BILLING FOLLOW-UP REPORT 01/31/X9									
CLIENT NUMBER	NAME	TOTAL W-I-P	CURRENT	61-120 DAYS	121-180 DAYS	OVER 180	INTERIM BILLING	WHY HASN'T THE ABOVE AMOUNT BEEN BILLED?	WILL THERE BE A PROBLEM COLLECTING THE ABOVE AMOUNT? YES? NO?
152-	RODGERS, MORRIS								
700019	SOUTHWEST COUNCIL	3,640.39	2,372.86	927.33	71.00	269.20	200.00		

IF YES, WHAT PERCENT OR AMOUNT?

WHEN DO YOU EXPECT TO BEGIN BILLING?

FIGURE 16

CPA FIRM
ANNUAL CLIENT BILLING SUMMARY

FEE RANGE:	--FISCAL YEAR ENDED SEPT. 30, 19X9--				--FISCAL YEAR ENDED SEPT. 30, 19X8--			
	NET BILLING	FEE AT PER DIEM RATES	PER HOUR RATE	PER DIEM PCT.	NET BILLING	FEE AT PER DIEM RATES	PER HOUR RATE	PER DIEM PCT.
1000-4999								
BAKER, INC.	3,411.80	3,038.83	27.92	112	3,912.00	3,878.25	26.45	100
BROWN MFG. CO.	3,229.85	3,593.00	25.69	89	10,477.48	13,558.76	23.37	79
CARVER, INC.	2,869.22	2,825.50	26.16	101		243.25	30.43	193
INSURANCE ASSOC.	2,853.37	3,813.25	21.61	74	11,483.37	14,891.50	22.97	77
JAMESTOWN MOBILE MEALS	2,809.40	2,661.25	27.50	105	85.00	69.50	31.25	122
MAYFAIR COLO STORAGE	2,324.47	2,786.25	24.17	83	600.00	857.00	21.53	70
MORLEY INSURANCE	1,155.97	1,427.00	16.94	81	2,564.58	2,614.25	17.68	98
NEW CONCRETE PRODUCTS	1,095.00	1,201.50	23.73	91	3,125.60	3,734.38	22.83	93
1000-4999 TOTAL	39,379.30	43,354.38	24.45	90	50,124.23	59,432.67	22.54	84

FIGURE 17

**CPA FIRM
CERTIFIED PUBLIC ACCOUNTANTS
ANYTOWN, U.S.A.**

**SUNNY DAYS CORPORATION
16 EMERSON DRIVE
LIVINGSTON, NY 10562**

PAGE #1

INVOICE # R14563

APRIL 1, 19X9

**PREPARATION OF FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 19X8**

**PREPARATION OF FEDERAL AND STATE CORPORATION
INCOME TAX RETURNS FOR THE YEAR ENDED
DECEMBER 31, 19X8**

ALL PROFESSIONAL SERVICES TO APRIL 1, 19X9

5,575.00

EXPENSES: TRAVEL AND TOLL CALLS

257.75

TOTAL

5,832.75

REMITTANCE COPY—PLEASE RETURN WITH YOUR CHECK

FIGURE 19

CPA FIRM
CASH RECEIPTS AND ADJUSTMENTS REPORT
1/31/X9

---CLIENT--- NUMBER NAME	DATE	REFERENCE	TOTAL CREDIT	CASH RECEIVED	REF.	CREDIT MEMO AMOUNT	BAD DEBTS
127546 BAKER, INC	01/16/X9	876804	815.00-	800.00	C949	15.00	
138437 BROWN MFG. CO.	01/23/X9	876805	1,735.00-	1,735.00			
144629 CARVER INC.	01/23/X9	876923	200.00-	200.00			
129553 CROWN INC.	01/25/X9	JJ125	65.00-				65.00
139811 NEW CONCRETE INC.	01/31/X9	897302	478.30-	478.30			
TOTALS			5,679.27-	5,559.27		15.00	65.00

FIGURE 20

CPA FIRM
 ACCOUNTS RECEIVABLE AGING BY BILLING RESPONSIBILITY
 1/31/XX

BILLING RESPONSIBILITY- 152- RODGERS, MORRIS

CLIENT NUMBER	CLIENT NAME	BALANCE DUE	AGING OF ACCOUNTS RECEIVABLE					LAST PAYMENT DATE	AMOUNT
			0-30	31-60	61-90	91-180	181-360		
000609	ABC LIMITED							01/16/X0	1,695.23
012474	ANDERSEN, DR. RICHARD	195.00	195.00					06/13/X9	195.00
022230	BAKER INC	599.00						12/01/X9	175.00
032758	FORREST SUPPLY CO.	228.00	228.00					11/16/X7	228.00
054201	DR ROBERT GREEN S.C.	297.00	297.00					07/22/X8	194.00
063405	FEDERAL SAVINGS	1,024.50						12/09/X9	750.00
075758	MENARD SAVINGS	2,075.00	1,024.50	1,075.00	1,000.00			01/05/X0	498.99
079123	NORTH CENTRAL PROD.	1,500.00				500.00		01/12/X0	32.50
088460	NORTH WOODS INC.	966.03						01/19/X0	769.00
104010	ROBERTS MFG CO.							01/12/X0	1,017.21

126682	SPORTSWEAR INC							01/26/X0	375.00
142703	WARREN MFG. CO.	200.00						01/19/X0	267.50
700019	SOUTHERN COUNCIL								

TOTAL 152-RODGERS, MORRIS 18,244.03 2,875.00 1,075.00 500.00 1,945.00 599.00

FIGURE 21

**SMITH & JONES
CERTIFIED PUBLIC ACCOUNTANTS**

REMITTANCE ADDRESS

**P.O. BOX 866
ANYTOWN, USA 99999**

DATE

JANUARY 31, 19X9

**BAKER INC.
P.O. BOX 1406
ANYTOWN, USA 99999**

PLEASE DETACH AND RETURN WITH REMITTANCE

AMOUNT
ENCLOSED

STATEMENT

DATE	DESCRIPTION	CHARGES	PAYMENTS/CREDITS
12/14/X8	I INVOICE	815.00	
1/21/X9	PAYMENT		815.00CR
1/31/X9	I INVOICE	599.00	

MONTH ENDED	OPENING BALANCE	CURRENT MONTH CHARGES	CURRENT MONTH PAYMENTS/CREDITS	BALANCE DUE
JANUARY 31, 19X9	815.00	599.00	815.00CR	599.00

**SMITH & JONES
CERTIFIED PUBLIC ACCOUNTANTS**

**PAYMENTS RECEIVED AFTER STATEMENT DATE,
WILL APPEAR ON NEXT STATEMENT**

FIGURE 22

CPA FIRM
PAST-DUE ACCOUNTS RECEIVABLE FOLLOW-UP REPORT
JANUARY 31, 19X9

BILLING RESPONSIBILITY: 152- RODGERS, MORRIS

CLIENT NUMBER	CLIENT NAME	BALANCE DUE	CURRENT AMOUNT	91-180	181-360	OVER 360
022330	BAKER INC	599.00				599.00

WHY HASN'T THE CLIENT PAID THE ABOVE AMOUNT?

LAST CONTACT RE PAST DUE AMOUNT?

WHEN DO YOU EXPECT PAYMENT?

HAVE YOU SUGGESTED INSTALLMENT PAYMENTS? YES? NO?
IF NO, WHY NOT?

ADDITIONAL COMMENTS:

FIGURE 23

CPA FIRM
 CLIENT LIST BY:
 BILLING RESPONSIBILITY, YEAR-END AND TYPE
 JANUARY 31, 19XX

BILLING
 RESPONSIBILITY - 152- RODGERS, MORRIS

CLIENT NUMBER	CLIENT NAME	YEAR-END	TYPE OF CLIENT
016715	CENTRAL PROGRESS, LTD	12/31/XX	CORP
016766	CENTRAL BANKSHARES INC.	12/31/XX	CORP
031085	FIRST NATIONAL BANK	12/31/XX	CORP
054201	DR. ROBERT GREEN, S.C.	12/31/XX	CORP

132716	NEWTOWN MFG. CORP.	3/31/XX	CORP
145203	HUTCHINSON CORPORATION	3/31/XX	CORP
341024	XYZ DEPARTMENT STORE	1/31/XX	CORP

TOTAL CORPORATIONS- 19

006076	ANDERSON, PAUL	12/31/XX	INDIV
012474	BROWN, DR. RICHARD H.	12/31/XX	INDIV
024694	DOEDE, JOHN H.	12/31/XX	INDIV
045874	HARTMAN, EDWIN	12/31/XX	INDIV
045997	HARTMAN, JOHN	12/31/XX	INDIV

045999	HARTMAN, MARVIN	12/31/XX	INDIV
130159	SCOTT, SETH	3/31/XX	INDIV

TOTAL INDIVIDUALS- 53

FIGURE 24

CPA FIRM
SUPPLEMENTAL DATA REPORT
JANUARY 31, 19XX

PENSION PLANS

CLIENT NUMBER	BILLING RESPONSIBILITY	CLIENT NAME	F/Y/E
016715	RODGERS, MORRIS	CENTRAL PROGRESS LTD.	12/31
016766	RODGERS, MORRIS	CENTRAL BANKSHARES INC.	12/31
017702	SMITH, JOHN	YOUNGSTOWN MFG.	10/31
101201	JONES, WALTER	WRIGHT CORPORATION	6/30
201403	ADAMS, CHARLES	COLFAX CORPORATION	8/31

TOTAL PENSION PLANS LISTED: 47

FIGURE 25

CPA FIRM
CLIENT MAILING LABELS
1/31/79

000609MR
ABC LIMITED
2700 MAIN ST.
FORT WAYNE, INDIANA 46723

007039SM
ABLE SHOE SHOPS
725 NORTH PORT
CINCINNATI OHIO 45273

012474MR
DR RICHARD ANDERSEN
375- 25 EAST 4TH
AKRON, OHIO 44223

022230MR
BAKER INC
ROUTE 46
PO BOX 1476
COLUMBUS, OHIO 43007

023340RS
CROSSROADS REPAIR
ONE HART RD.
DAXTON, OHIO 45301

024378JP
CRY CORPORATION
10-15 NEW STREET
CLEVELAND, OHIO 44012

541288MR
GEORGE ROBERTS
ROBERTS MFG. CO.
ONE DEAL LANE -ROUTE 10
ORANGE, NEW JERSEY 07052

610438CA
TIME ELECTRONICS
SUITE 1040
EQUITABLE BUILDING
PHOENIX, ARIZONA 85002

648287CA
TIP-TOP ROOF CO.
P.O. BOX 902
DALLAS, TEXAS 75229

894238MR
WARREN MFG. CO.
924 OAK LANE
CINCINNATI, OHIO 45201

90041351
JAMES MCQUIN
WORLD-WIDE CORP. LTD
ONE WCRLD PLAZA
NEW YORK, N Y 10001

983145MR
222 PLUMBLING CO.
927 DORAL ROAD
CLEVELAND, OHIO 44113

Time and Billing Data Processing Options

The data processing options available to a firm selecting a computerized time and billing system were mentioned in the introduction. They are an in-house computer, leased time, a service center, and timesharing or remote batch services. Of course, the desirability of each

option for a particular firm depends on the firm's characteristics and circumstances; however, there are aspects of each option that can be considered as general 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, small business computer systems enable the CPA to review a report on 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 under the full control of the CPA.

Costs

- Highly capable, low-cost equipment is becoming available today in the business computer market. Such equipment is being supported with application programs by firms that specialize in application software for given computers. Packages of computer

equipment and application software are offered as *turnkey systems*. This can be a highly cost-effective way of obtaining an in-house system.

Disadvantages

Input

- Methods, forms, and manuals must be developed, and personnel need to be trained. If an application package is purchased, the methods, forms, and manuals are usually provided by the vendor, and vendors may also conduct the required training.

Processing

- Application programs available for in-house use may be less sophisticated than those available for timesharing or through a service center. This is often the case, since the in-house equipment tends to have less capacity than the large-scale equipment used by a data processing service center.
- The CPA firm must bear the responsibility for program maintenance.

Output

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

Costs

- There can be a relatively high fixed cost for equipment.
- Additional space may be required.
- 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 time available often sell or lease such time to others. This *block time*, if it is available, may be an attractive alternative to owning hardware.

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 should be considered in the following situations:

- There is no in-house equipment, and the CPA desires to obtain some "hands-on" computer experience without making a large dollar commitment.
- Processing volume does not justify in-house equipment.

The advantages and disadvantages of leased time 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 new interactive, small business computer systems enable the CPA to review 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 and other direct costs, plus appropriate personnel and supply costs.

Disadvantages

Input

- Methods, forms, and manuals must be developed, and personnel need to be trained. If an application package is purchased, the methods, forms, and manuals are usually provided by the vendor, and the vendor may also conduct the required training.

Processing

- Application programs available under the leased time option may be less sophisticated than those available for timesharing or through a service center, primarily because the equipment tends 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 PM and 6:00 AM).
- The computer to be leased and the available time and billing computer programs may not be compatible.
- A hardware change by the lessor could require the lessee to undergo a costly program and file conversion effort 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 other lessor emergencies. Since the lessor controls the equipment, his processing will generally take precedence. If this occurs during peak processing periods, the condition may lead to late output and delayed billings and collections.
- All handling of forms must be done by the CPA firm.

Costs

- Computer programs must be purchased, rented, or internally developed. It is the CPA's responsibility to make sure that the 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 the data, and returning output to the user. A service center may also offer system design and programming services for customizing 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

- A good user instruction manual is usually available.

Processing

- Service centers may offer highly sophisticated 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.
- Fixed cost for personnel and equipment is low.
- Firm management is not involved in the processing operation.

Disadvantages

Input

- Because information leaves the CPA's office, there is a possibility that it may be subject to loss or unauthorized access.

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 and Remote Batch Processing

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

Advantages

Input

- Because 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 time and billing systems available for use by CPAs. This eliminates the front-end cost of developing or purchasing application programs.

Output

- Selected inquiry capability is available on interactive systems.

- The established data base can be used for sophisticated financial analysis, personnel analysis, and forecasting if 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 interference can result in lost data.
- When firm information is placed on files at the timesharing or remote batch service, there is a possibility that it may be subject to unauthorized access or use.

Costs

- On-line data storage is often more expensive than alternative modes of storage.

- Operator delays, excessive manipulation of data, or the processing of large data files can result in high costs.
- Where local telephone connection to the timesharing facility is not available, long distance charges may be expensive; however, most services do provide local access numbers or 800 numbers.

Selecting a Processing Option

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

The firm should then contact vendors who provide services or equipment for the remaining options and ask them to develop proposals. Figure 26 lists some available sources of vendor names. The vendors should be supplied with a list of the required reports and features, the estimated transaction volumes, and the projected data storage requirements. (This information should have been developed when the firm profile worksheet (figure 1) was completed.) If the firm is planning to process

additional applications, total activity volume must be considered.

A written request for proposal (RFP) should be sent to the eligible vendors. (Figure 27 presents a sample request for proposal.) The RFP should contain the information that each vendor will need so that they all will be making proposals on the basis of the same specifications. The RFP should also contain background information to assist the vendors in making realistic proposals that will be appropriate for the firm's operating environment. Ground rules that vendors are expected to follow when submitting proposals should be clearly defined. The criteria that the firm will use in making its selection should be presented in detail.⁴

FIGURE 26
PUBLISHERS OF INFORMATION ON AVAILABLE VENDORS

Association of Computer Users, Inc., PO Box 9003, Boulder, Colorado 80301
Association of Data Processing Service Organizations (ADAPSO),
1925 North Lynn Street, Arlington, Virginia 22209
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., 2 Frederick Street, Framingham,
Massachusetts 01701
Management Information Corporation, 140 Barclay Center, Cherry Hill,
New Jersey 08034

⁴ *Guidelines for General System Specifications*, p. 14.

**FIGURE 27
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: Time and billing system for use within a CPA firm.

Activity: Current processing volumes include
800 clients
32 staff
160 time sheets per month
200 client invoices per month
600 accounts receivable
250 cash receipts and adjustments per month

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

Hardware requirements:

Will consider any system that will meet our volume and software requirements.

System configuration:

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

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. Identification of clients by name and number.
2. A service code structure that accommodates at least 50 chargeable activities and 10 nonchargeable activities.
3. A service code description field of at least 20 characters.
4. A billing rate structure that accommodates at least five different billing rates applicable to each employee.

FIGURE 27 (continued)

5. Standard billing rate override.
6. Client information maintained on computer files, including address, telephone number, and year-end.
7. Provision for verifying that all input transactions have been processed.
8. 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.
9. Complete audit trail for all transactions, journals, and edits.
10. A standard facility for locating, resolving, and correcting errors.
11. The ability to reprocess without rebuilding the file.
12. Facility to transfer unbilled charges between clients.
13. Facility to transfer unbilled charges between persons with billing responsibility.
14. Facility to process interim billings that reduce total unbilled time without deleting work-in-process detail.
15. Facility to process partial billings, deleting applicable work-in-process detail from the work-in-process file.
16. The following types of reports must be produced by the system:
 - Unbilled-time-and-charges summary by client for each person with billing responsibility and for overall firm.
 - Work-in-process detail reports for each client that include details of unbilled time and charges and a summary by type of services.
 - Time and productivity analyses by employee and for overall firm.
 - Billing journal showing variations from standard billing rates.
 - Summary of nonchargeable time.
 - Aged accounts receivable report by billing responsibility.
 - Accounts receivable statements with details of open items.
 - Cash-received-and-adjustments journal.

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

Evaluation and Selection

After proposals have been received from the vendors, the final phase in the selection process is the evaluation of the proposals and the selection of the one proposal that provides the best cost/requirements ratio. Because of the difficulty in evaluating one system versus another, it may be helpful to reduce the proposals to quantitative factors. The system that is

selected should meet the firm's specifications at a reasonable cost.

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

- Systems features checklist—Appendix 2
- Cost/benefit analysis—Appendix 3

Systems Features Checklist

The systems features checklist provides a means of comparing proposals and of measuring a proposed system against the system specifications developed for the firm.

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 28).

Part 2 lists the additional features to be considered in evaluating 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 28).

Column A requires a judgment about 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, the CPA can develop point values for the systems under consideration. Also, the general system specification checklist included in *Guidelines for General System Specifications for a Computer System* should be used in evaluating the use of computers for time and billing systems.⁵

Cost/Benefit Analysis

A method to establish dollar values for alternative systems is provided by the cost/benefit analysis worksheet in Appendix 3. The various cost elements for the current system and the systems being evaluated are entered on the worksheet. After the estimated annual cost of an alternative system has been calculated, the total points developed on the systems features checklist

(Appendix 2) 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 provides the greatest satisfaction of system specifications for the cost incurred. (This calculation is not valid for systems with a negative total point value.)

Test Processing

Before the firm makes 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; the customer should not rely on a vendor's canned demonstration program. Firm personnel

⁵ *Guidelines for General System Specifications*, pp. 18–21.

should observe the system operation 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 the firm's projected processing volumes.

Summary

As with any data processing application, careful planning and good communication are essential to successful implementation of a time and billing system. In a firm with two or more partners, one partner or a committee should be selected to investigate the alternatives and make a recommendation. It is necessary, however, that all partners be kept informed and that the advantages and disadvantages of each alternative be thoroughly discussed.

It is equally important to involve the people who will be working with the system in order to solicit their ideas and cooperation. This could include secretaries, programmers, equipment operators, and the office manager(s). Prior to implementation, copies of the forms to be used (time reports, work code listings, and so on) should be distributed to the staff for their review. The implementation schedule must allow adequate time for user feedback. Provisions should be made to "run parallel" for a period of time to ensure that the new system is operating properly. A person in each office should be selected to answer questions that may arise during the early stages of implementation.

As stated in the introduction, there are many benefits to using a computerized time and

billing system in a CPA firm. This guideline describes a basic approach that can be used to review and evaluate the many available alternatives; however, no standard evaluation method can provide an exact fit with an individual firm's particular requirements. 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 27 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 requires for a system to meet its needs.

For most CPA firms, the installation of a computerized time and billing system will have an impact, either good or bad, on future activities. Although there is no foolproof way to ensure that a firm will make the right decision, 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 that will lead to the selection of a system that will satisfy the firm's requirements at a reasonable cost.

FIGURE 28
SYSTEMS FEATURES CHECKLIST

VENDOR SUPER COMPUTER PRODUCTS, INC.

SYSTEM TIME AND BILLING SYSTEM

1. MINIMUM FEATURES

(A) Does the system provide the following minimum processing features?

	YES	NO
(a) Identification of clients and employees by name and number	✓	
(b) Adequate service code structure	✓	
(c) Adequate service code description field	✓	
(d) Adequate billing rate structure	✓	
(e) Adequate client information maintained on computer files	✓	
(f) Account for all transactions	✓	
(g) Balance all transactions	✓	
(h) Edit all transactions	✓	
(i) Adequate audit trail in journals and edits	✓	
(j) Facility to locate and resolve errors	✓	
(k) Facility to reprocess time and billing reports	✓	
(l) Facility to transfer unbilled charges between clients	✓	
(m) Facility to transfer unbilled charges between persons with billing responsibility	✓	
(n) Facility to process interim billings that reduce total unbilled time without deleting work-in-process detail	✓	
(o) Facility to process partial billings deleting applicable work-in-process detail from the work-in-process file	✓	
(p) <u>EMPLOYEE CLASSIFICATION CODING</u>	✓	
(q) <u>OFFICE-ASSIGNED-TO CODING</u>	✓	
(r) _____		
(s) _____		
(t) _____		
(u) _____		
(v) _____		
(w) _____		
(x) _____		
(y) _____		
(z) _____		

Note: Any "no" should disqualify a system.

FIGURE 28 (continued)

(B) Does the system provide the following minimum reporting features?	YES	NO
(a) Unbilled-time-and-charges summary by client for each person with billing responsibility and for overall firm	✓	
(b) Work-in-process detail reports for each client that include details of unbilled time and charges and a summary by type of services	✓	
(c) Adequate time and productivity analyses	✓	
(d) Summary of nonchargeable time	✓	
(e) Billing journal showing variations from standard billing rates	✓	
(f) Aged accounts receivable report by billing responsibility	✓	
(g) Accounts receivable statements with details of open items	✓	
(h) Cash-received-and-adjustments journal	✓	
(i) <i>BILLING FOLLOW-UP REPORT</i>	✓	
(j) <i>ACCOUNTS RECEIVABLE FOLLOW-UP REPORT</i>	✓	
(k)		
(l)		
(m)		
(n)		
(o)		
(p)		
(q)		
(r)		
(s)		
(t)		
(u)		
(v)		
(w)		
(x)		
(y)		
(z)		

Note: Any "no" should disqualify a system.

FIGURE 28 (continued)

2. ADDITIONAL FEATURES

(A) Does the system provide the following additional processing features?

	Relative Importance (0-4)	Extent Provided by System (-2, -1, +2)	System Evaluation Score (A x B)
(a) <u>DEPARTMENT-ASSIGNED-TO CODING</u>	<u>4</u>	<u>+2</u>	<u>8</u>
(b) <u>SEPARATE ACCOUNTING FOR MULTIPLE ENGAGEMENTS</u> <u>APPLICABLE TO SAME CLIENT</u>	<u>4</u>	<u>-1</u>	<u>-4</u>
(c) <u>ACTUAL TIME COMPARED TO BUDGETED TIME BY ACTIVITY</u> <u>BILLING ADJUSTMENTS ALLOCABLE TO</u> <u>INDIVIDUAL STAFF MEMBERS</u>	<u>2</u>	<u>-2</u>	<u>-4</u>
(d) <u>INDIVIDUAL STAFF MEMBERS</u>	<u>4</u>	<u>+2</u>	<u>8</u>

(o) <u>WORK-IN-PROCESS DETAIL PRINTED ON SELECTIVE</u> <u>BASIS BETWEEN ACCOUNTING PERIODS</u>	<u>3</u>	<u>+2</u>	<u>6</u>
(p) <u>STANDARD RATE OVERRIDE ON EMPLOYEE TIME SHEET</u>	<u>1</u>	<u>+2</u>	<u>2</u>
(q) _____	_____	_____	_____
(r) _____	_____	_____	_____
(s) _____	_____	_____	_____
(t) _____	_____	_____	_____
(u) _____	_____	_____	_____
(v) _____	_____	_____	_____
(w) _____	_____	_____	_____
(x) _____	_____	_____	_____
(y) _____	_____	_____	_____
(z) _____	_____	_____	_____
SUBTOTAL—ADDITIONAL PROCESSING FEATURES			<u>22</u> ①

FIGURE 28 (continued)

(B) Does the system provide the following additional reporting features?

	Relative Importance (0-4)	Extent Provided by System (-2, -1, +2)	System Evaluation Score (A x B)
(a) <u>PROFIT ANALYSIS BY CLIENT ENTITY TYPE (CORP, TRUST, ETC)</u>	<u>2</u>	<u>+2</u>	<u>4</u>
(b) <u>PROFIT ANALYSIS BY CLIENT INDUSTRY TYPE</u>	<u>2</u>	<u>+2</u>	<u>4</u>
(c) <u>SUMMARY OF EMPLOYEE EXPENSES BILLED TO CLIENTS</u>	<u>1</u>	<u>+2</u>	<u>2</u>
(d) <u>TOTAL BILLINGS SUMMARIZED BY SERVICE WITH</u> <u>COMPARISON TO SAME PERIOD PRIOR YEAR AND YEAR-TO-DATE</u>	<u>3</u>	<u>-1</u>	<u>-3</u>
(e) <u>TOTAL BILLINGS BY BILLING RESPONSIBILITY WITH COMPARISON</u> <u>TO SAME PERIOD PRIOR YEAR AND YEAR-TO-DATE</u>	<u>3</u>	<u>-1</u>	<u>-3</u>
(f) <u>WORK-IN-PROCESS DETAIL REPORT FOR USE AS BILLING DRAFT</u>	<u>2</u>	<u>+2</u>	<u>4</u>
(g) _____	_____	_____	_____
(h) _____	_____	_____	_____
(i) _____	_____	_____	_____
(j) _____	_____	_____	_____
(k) _____	_____	_____	_____
(l) _____	_____	_____	_____
(m) _____	_____	_____	_____
(n) <u>CLIENT LIST BY ENGAGEMENT DUE DATE</u>	<u>2</u>	<u>-1</u>	<u>-2</u>
(o) <u>CLIENT LIST BY YEAR-END DATE</u>	<u>4</u>	<u>+2</u>	<u>8</u>
(p) <u>CLIENT MAILING LABELS</u>	<u>1</u>	<u>+2</u>	<u>2</u>
(q) _____	_____	_____	_____
(r) _____	_____	_____	_____
(s) _____	_____	_____	_____
(t) _____	_____	_____	_____
(u) _____	_____	_____	_____
(v) _____	_____	_____	_____
(w) _____	_____	_____	_____
(x) _____	_____	_____	_____
(y) _____	_____	_____	_____
(z) _____	_____	_____	_____
SUBTOTAL—ADDITIONAL REPORTING FEATURES			<u>16</u>
SUBTOTAL—ADDITIONAL PROCESSING FEATURES			<u>22</u> ^①
TOTAL			<u>38</u>

FIRM PROFILE WORKSHEET

	<u>Current Requirements</u>	<u>Projected Requirements in Five Years</u>
1. Staff Information		
Number of		
Clerical staff	_____	_____
Professional staff	_____	_____
Partners	_____	_____
Firm members with billing responsibility	_____	_____
Employee classifications	_____	_____
2. Client Information		
Number of		
Clients	_____	_____
Separate concurrent engagements for each client (maximum)	_____	_____
Client entity types (corporations, trusts, etc.)	_____	_____
Client industry types	_____	_____
3. Firm Information		
Number of		
Offices	_____	_____
Departments	_____	_____
Chargeable activities	_____	_____
Nonchargeable activities	_____	_____
Expense categories	_____	_____
Billing rates for each employee (maximum)	_____	_____
4. Work Load Information		
Number of		
Time reporting periods per month	_____	_____
Time sheets per time reporting period	_____	_____
Client invoices per month	_____	_____
Accounts receivable	_____	_____
Cash receipts and adjustments per month	_____	_____

APPENDIX 2

SYSTEMS FEATURES CHECKLIST

VENDOR _____

SYSTEM _____

1. MINIMUM FEATURES

(A) Does the system provide the following minimum processing features?

	YES	NO
(a) Identification of clients and employees by name and number	_____	_____
(b) Adequate service code structure	_____	_____
(c) Adequate service code description field	_____	_____
(d) Adequate billing rate structure	_____	_____
(e) Adequate client information maintained on computer files	_____	_____
(f) Account for all transactions	_____	_____
(g) Balance all transactions	_____	_____
(h) Edit all transactions	_____	_____
(i) Adequate audit trail in journals and edits	_____	_____
(j) Facility to locate and resolve errors	_____	_____
(k) Facility to reprocess time and billing reports	_____	_____
(l) Facility to transfer unbilled charges between clients	_____	_____
(m) Facility to transfer unbilled charges between persons with billing responsibility	_____	_____
(n) Facility to process interim billings that reduce total unbilled time without deleting work-in-process detail	_____	_____
(o) Facility to process partial billings deleting applicable work-in-process detail from the work-in-process file	_____	_____
(p)	_____	_____
(q)	_____	_____
(r)	_____	_____
(s)	_____	_____
(t)	_____	_____
(u)	_____	_____
(v)	_____	_____
(w)	_____	_____
(x)	_____	_____
(y)	_____	_____
(z)	_____	_____

Note: Any "no" should disqualify a system.

APPENDIX 2 (continued)

(B) Does the system provide the following minimum reporting features?

	YES	NO
(a) Unbilled-time-and-charges summary by client for each person with billing responsibility and for overall firm		
(b) Work-in-process detail reports for each client that include details of unbilled time and charges and a summary by type of services		
(c) Adequate time and productivity analyses		
(d) Summary of nonchargeable time		
(e) Billing journal showing variations from standard billing rates		
(f) Aged accounts receivable report by billing responsibility		
(g) Accounts receivable statements with details of open items		
(h) Cash-received-and-adjustments journal		
(i)		
(j)		
(k)		
(l)		
(m)		
(n)		
(o)		
(p)		
(q)		
(r)		
(s)		
(t)		
(u)		
(v)		
(w)		
(x)		
(y)		
(z)		

Note: Any "no" should disqualify a system.

APPENDIX 2 (continued)

2. ADDITIONAL FEATURES

(A) Does the system provide the following additional processing features?

	Relative Importance (0-4)	Extent Provided by System (-2, -1, +2)	System Evaluation Score (A x B)
(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)	_____	_____	_____

SUBTOTAL—ADDITIONAL PROCESSING FEATURES

①

APPENDIX 2 (continued)

(B) Does the system provide the following additional reporting features?

	Relative Importance (0-4)	Extent Provided by System (-2, -1, +2)	System Evaluation Score (A x B)
(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)	_____	_____	_____

SUBTOTAL—ADDITIONAL REPORTING FEATURES

SUBTOTAL—ADDITIONAL PROCESSING FEATURES

TOTAL

_____ ①

APPENDIX 3

COST/BENEFIT ANALYSIS WORKSHEET

	ESTIMATED ANNUAL COSTS/(COST REDUCTION)				
	PRESENT SYSTEM	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					

APPENDIX 3 (continued)

	ESTIMATED ANNUAL COSTS/(COST REDUCTION)				
	PRESENT SYSTEM	1	2	3	4
Communications Expense:					
Telephone equipment					
Toll charges					
Postage					
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					

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

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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