1982

Accounting guidelines for the computer services industry; Exposure draft (American Institute of Certified Public Accountants), 1982, April 28

Association of Data Processing Service Organizations

EXPOSURE DRAFT

ACCOUNTING GUIDELINES
FOR
THE COMPUTER SERVICES INDUSTRY

PREPARED BY:	The Association of Data Processing Service Organizations.
Addressing:	Revenue Recognition. Software Construction Costs.
Date:	April 19, 1982

Note: This publication was never finalized. See AICPA Statement of position 91-1 for end result.

EXPOSURE DRAFT

FINAL 4/28/82

CONTENTS

1.0 *INTRODUCTION*

The guidelines addressed in this document represent the work of the ADAPSO Financial Practices Committee and suggest standards for the financial accounting for certain activities of companies in the computer services industry. Such activities involve the principal revenue producing activities of such companies as well as the methods used to recognize certain types of expenses.

Existing authoritative accounting pronouncements do not specifically address many of the activities which are peculiar to the computer services industry. The lack of well established or preferred practices has resulted in numerous alternative accounting practices which are presently being followed. The design of these guidelines is to discuss those areas which are of critical importance and in which alternative practices exist, and to establish a preferred practice in light of those practices currently followed. The relevant issues addressed are:

- Timing and extent of revenue recognition
- Accounting for software construction costs

This document is written primarily for the accounting and auditing communities and presumes knowledge of generally accepted accounting principles.

References are made to technical accounting documents with which the intended reader should be familiar. Emphasis has been placed on establishing general practice guidelines rather than attempting to include an exhaustive treatment of many specific existing practices.

2.0 REVENUE RECOGNITION

While the products and services offered by software, data services, and professional services companies span many technologies and subindustries, the methods of revenue recognition for the sale or use of these products or services are basically covered by APB Statement No.4, Chapter 6, as amended:

> "Revenue is generally recognized when both of the following conditions are met: 1) The earnings process is complete or virtually complete, and 2) An exchange has taken place"

The remainder of this Section addresses specific revenue recognition criteria within several industry segments:

1. Software Products
   a. Licenses
   b. Maintenance
   c. Bundled Warranty/Maintenance
   d. Agent and Distributor sales

2. Data Services

3. Professional Services

2.1 REVENUE RECOGNITION - SOFTWARE PRODUCTS

Definitions

The following definitions are integral to an adequate understanding of the issues and conclusions of this section:

License - A license is a right to use a software product for either a limited or perpetual term.

Lease - A lease is a limited term right to use a Software Product. A lease is not distinguishable from a limited-term license.

Maintenance - Maintenance is the right to receive technical support toward resolution of product or user problems and the right to receive updates of such products. Maintenance may be included in a license contract or may be separately contracted.

Warranty - A warranty is a specific time-limited written guarantee of the integrity of a product and of the vendor's responsibility for the repair or replacement of defects.

Agent - An agent is an individual or company which represents and performs specified services for a software products company. An agent markets in the name of and at the direction of the software products company, has no rights or obligations to provide other services, and receives only a commission or fee for services performed. The agent does not generally have risk of loss on collectability of accounts.

Distributor - A distributor is an individual or company which purchases the rights or title to software products for resale to third parties. A distributor separately contracts with its customers and is obligated to provide for invoicing, collection and other product services.

Software Products - Licenses

Background

Companies which provide package software grant the customer a license to use the software, generally on a perpetual basis. Companies also license software for a fixed-term. While some packages require minimal installation, others require customization or extensive installation support. The license may be further complicated by such factors as an extended payment schedule, or an extended trial or acceptance period.

Based upon these varied factors, the methods of recognizing revenue from software product licenses vary among companies and even among specific types of products within a particular company. Generally, the current practices for the timing of revenue recognition are keyed to the signing of the license agreement, the delivery and the installation of the product or the customer's acceptance of the product.

Discussion of Existing Practices

The earnings process for a software product license normally includes the delivery of some tangible medium (tape, disk, etc.) on which the product has been encoded and the establishment of an irrevocable obligation of the customer to pay for the right to use the product. The actual act of shipping product or documentation manuals to a customer may not be significant to the earnings process. Packaged software is rarely sold and thus title to the software does not normally pass to the customer. For many software products transactions, the actual delivery (including vendor installation) is incidental to the granting of the right to use the software. Therefore, the earnings process may be considered virtually complete at the time the license agreement granting the right to use the product is signed, and an irrevocable obligation to pay for the product is established.

With certain products, installation by the vendor is a major portion of the deliverable content of the contract and may extend over more than one accounting period. In such cases, the earnings process might not be completed within a single period, and the exchange takes place over time, as services are performed.

Customers may license a product for a specified period of time, or may pay for a perpetual license over a period of from several months to several years. Revenues from such installment purchases and noncancellable fixed term licenses are either recognized as invoiced, or are present valued and recorded at the commencement of the payment term.

Generally, revenues from licenses which may be terminated by the customer (sometimes referred to as rentals) are either recognized as invoiced, or ratably over the license term.

Software products companies may grant a customer either an extended trial period or an acceptance period which provides a customer the opportunity to test or return the product. The trial or the acceptance period may influence the point at which the customer is obligated to pay.

Recommendation

ADAPSO recommends that software license fees be recognized as revenue when both of the following criteria are met:

1) The right to use existing, deliverable software is granted.

2) The customer is obligated to make payment for the right to use the software.

3) Performance is essentially complete.

Occasionally, non-incidental services, such as installation or custom software services are bundled with a software product. In such cases, a portion of the total bundled fee should be allocated to the services based on the relative value of the services. The fees allocated to services should be recognized as revenue in accordance with Paragraph 2.3, Revenue Recognition - Professional Services. In certain cases, contractual terms relating to the non-incidental services will affect the time at which the customer's obligation to make payment for the software license becomes fixed and, therefore, will affect the time at which license fee revenue becomes recognizable.

ADAPSO concludes that there is no distinction between term licenses and extended payment licenses, and that revenue be recognized at the point that both the above criteria are satisfied. Such revenue recognition should be recorded net of any imbedded maintenance cost and interest imputed at an appropriate rate of interest consistent with APB Opinion No. 21.

Since licenses with termination rights obligate the customer for no more than one monthly or periodic payment at a time, the revenues from such licenses should be recognized ratably over the license term.

Software Products - Maintenance

Background

Most software product companies offer maintenance contracts for the continuing support of those products. The scope of these contracts ranges from unlimited telephone contact to enhancements and new releases of products and might even include on-site customer assistance.

Discussion of Existing Practices

Many software companies recognize maintenance revenue on contracts or other obligations of one year or less as such maintenance is invoiced. This method is simple to apply and is based on the premise that the incremental cost of providing maintenance services is not material, and therefore, no deferral of such revenue is necessary. A few believe that this same procedure should be extended to contracts of longer than one year, (i.e., two, three or more years). In an effort to properly match the cost of providing maintenance, some companies have provided maintenance reserves by estimating future, specifically identifiable costs of providing maintenance services. While this method is also fairly simple to apply, it makes necessary an accounting estimate of future costs which may not be susceptible to reasonable estimate.

Other companies recognize maintenance revenues ratably over the term of the maintenance agreement. While this method of deferring a portion of such revenues provides a more difficult revenue accounting process, it most closely matches the future committed revenues with the associated costs which are yet to be incurred or determined. It is also the most conservative of the approaches currently utilized.

Recommendation

ADAPSO recommends as the preferable treatment, that maintenance revenues be recognized ratably over the period of the commitment. However, ADAPSO also concludes that the generally accepted practice of recognizing maintenance revenues on commitments of one year or less at the inception of the maintenance period is currently acceptable. If the practice of lump sum recognition of maintenance revenues for commitments of one year or less is followed, a maintenance cost accrual is also recommended. Compliance with the preferable treatment is encouraged, particularly as revenues related to providing maintenance continue to grow in relative significance to total revenues for a given company.

It is further concluded that maintenance commitments of over one year should be recognized only to the extent of the current 12-month period rather than lump-sum. This conclusion is based on the consideration that costs beyond one year may be significant to the related revenues and are not reasonably subject to estimation, and that current recognition of such commitments beyond one year fails to recognize the essence of a future commitment, which may have real financial impact upon future years. To accrue future costs associated with these revenues would require burdening these costs with overhead which are period costs relating to transactions of future accounting periods.

Software Products - Bundled Warranty/Maintenance

Background

Maintenance and warranty services are bundled into many software product licenses. Current industry practice is dominated by those companies who do not account for initial term maintenance services separately, but rather recognize the implied maintenance revenue as the companies recognize their license or lease revenue. This procedure is, of course, simple to apply, and is based on the theory that the related cost is either not significant or the costs are provided for in a maintenance reserve.

Alternatively, some companies separate the maintenance portion of the license or sales price, and record the revenue ratably over the maintenance term. The deferred maintenance revenue would typically approximate the separate maintenance charge to other customers for like quantities and products. This method properly matches actual revenues with actual expense, and is conservative in application.

Recommendation

The separate ratable recognition of the maintenance portion of licenses or sales revenues is preferable. However, ADAPSO acknowledges that the generally accepted practice of recognizing implied first year maintenance revenues only as license revenues is also acceptable.

To the extent such services imply or specify some function that is beyond the scope of normal on-going maintenance services, the commitment is the equivalent of a warranty and should properly be accounted for in accordance with the provisions of FASB Statement No. 5.

Software Products - Agent and Distributor Sales

Background

Computer software and service companies often leverage their marketing efforts by engaging agents and distributors to sell the company's products and services.

Current industry practice affords little distinction between agents and distributors. Even where distinction is made, revenues are sometimes recorded either at the gross sales price or net of commissions or fees payable.

Revenues through agents are generally considered revenues of the software and services company because the company, not the agent, retains contracting authority, marketing direction and risk on the transaction. Sales made by distributors are generally considered revenues of the distributor because the above activities and risk are retained by the distributor. The software and services company receives a royalty or fee for the title or rights sold to the distributor. Only the amount of these fees or royalties are properly recorded as revenue to the software and services company.

Recommendation

ADAPSO recommends that revenues from sales through agents be recorded gross, with related agent commissions and fees charged to expense. Revenues from sales by distributors are to be recorded at the amount of the net fee received from the distributor, generally the amount of the royalty.

The timing of revenue recognition relating to software product transactions with distributors and agents is subject to the provisions of Revenue Recognition - Software Products - Licenses on Page 5. Revenue is recognized when the company grants rights and the distributor or agent is obligated to pay.

2.2 REVENUE RECOGNITION - DATA SERVICES

There are two main areas of revenue recognition for Data Services companies:

a) One-time charges such as subscription or initialization fees, and

b) Variable charges such as time sharing, data storage or other processing services.

The issue for one-time charges is whether or not there is a continuing obligation. When there is no continuing obligation associated with the fees, and incremental processing fees are charged for variable usage, revenue is generally recognized at the initialization of the service.

When the obligation of the Company is continuing, such as the need to maintain specialized software or data bases, it is more appropriate and preferable that the fee be recognized over the term of the service contract.

When specialized hardware or software is installed in order to initiate service, the question arises as to how charges for such installations should be classified. Current practice is to either classify the customer charges as revenue or as a reduction of costs. The following guidelines should be used to determine the proper classification of such charges.

If any of the following conditions are met, the charges for service should be treated as a revenue item:

- The charge is not separately priced and cannot be readily apportioned from a bundled price.
- The charge has more than a minimal mark-up. Administrative costs should be taken into account in determining the minimal mark-up.
- The charge is not incidental (i.e., an integral part of the conduct of the business). For example, if hardware is sold at a minimal profit with software applications, the hardware is a necessary part of the entire transaction. In this case, the hardware charges would not be considered incidental.
- Costs related to the transaction are not readily identifible.

Conversely, if none of the above conditions are met, the charge should be treated as a contra-cost.

The issue for variable charges is one of timing of revenue recognition.

Current industry practice is to either recognize revenues as the service is performed or as the customer is invoiced. In some cases, the invoicing may be concurrent with the performance of the service.

While there is a range of acceptable treatments of such revenues including cash basis recognition, generally accepted accounting principles provide that recognition upon performance is preferable to other practices.

ADAPSO recommends the practice of recognizing revenues from services at the time of performance. This method most closely matches the revenues with the associated costs.

2.3 REVENUE RECOGNITION - PROFESSIONAL SERVICES

Contract accounting is well covered by Generally Accepted Accounting Principles, and is not unique to the software and services industry. However, certain areas require specific interpretation for this industry.

Per diem billings for custom contract program development should be recognized as revenue in the period in which the work is performed. Under per diem contracts, all work is billable and, thus, is earned as performed.

Fixed fee contracts under which the contractor is entitled to a fixed amount for the development of a custom contract program, should be treated in a manner similar to a long-term construction contract. Only methods that approximate work performed are acceptable. The closest approximation of work performed is generally provided by the percentage of completion method. The most accurate and conservative basis under this method is to use work completed as a percentage of the revised estimate of the total work involved on the project.

An acceptable alternative is to recognize revenues as specific segments of the contract are completed and delivered. This method avoids the difficulty of forecasting the completed percentage. Revenue recognition methods tied to invoicing, such as progress payments, may be unrelated to the performance of work and thus are not acceptable.

Customer reimbursed expenses (i.e., travel, living and other out-of-pocket) should be recorded as contra expenses <u>unless</u> they meet <u>any</u> of the following conditions:

- The charge is not separately priced and cannot be readily apportioned from a bundled price.
- The charge has more than a minimal mark-up. Administrative costs should be taken into account in determining the minimal mark-up.
- The charge is not incidental (i.e., an integral part of the conduct of the business).
- Costs related to the transaction are not readily identifiable.

If any of the above conditions are met, the reimbursement should be recorded as revenue.

3.0 SOFTWARE CONSTRUCTION COSTS

Background

Prior to October 1974, the capitalization of software construction costs was a common practice. No quidelines existed and practices varied widely. In October 1974 and February 1975, respectively, FAS Statement No. 2 and FASB Interpretation No. 6 were released resulting in the accounting community universally disallowing capitalization of the construction costs of software produced for resale, lease or license. This was done based upon the premise that all software construction was deemed to be research and development as defined by paragraphs 8-10 of FAS Statement No. 2. This position was formally challenged in the 1976-1979 period on the basis that:

- Only a very limited amount of software construction is properly classified as R&D under the definition of paragraphs 8-10 of FAS 2. The vast majority of software construction is based on a body of widely existing knowledge and not based on the discovery of new knowledge or the application thereof.

- Computer software products have definite market value and are the major assets of a large number of companies whose business is to construct and license computer software products.

- Financial reporting cycles of computer software products vendors tend to be inordinately distorted if software construction costs are expensed as incurred without consideration of the marketability or value of the future earnings stream of the products.

Discussion of Existing Accounting Principles

In February 1979, the Financial Accounting Standards Board released a statement clarifying their position on the intent of FASB Interpretation No. 6 with regard to computer software.

> "...the Board noted that Statement No. 2 and Interpretation No. 6 are not intended to require that all computer software production costs are research and development costs, as defined in paragraph 8 of Statement No. 2. Statement No. 2 specifies those activities that are to be identified as R&D costs for financial accounting and reporting purposes. In that regard, the activities described in paragraphs 9 and 10 of Statement No. 2 give appropriate recognition to the fact that all costs incurred in producing a given software product or process are not necessarily R&D costs. However, as discussed by the FASB staff and representatives of ADAPSO, a determination that software costs are not research and development does not necessarily mean that those costs are inventoriable or deferrable to future operations. Those

decisions can only be made in light of all the facts and circumstances surrounding the particular situation."

The FASB subsequently formalized this clarification in Technical Bulletin No. 79-2, dated December 28, 1979.

Since the clarification by the FASB, there has been a trend by companies in certain segments of the computer services industry to capitalize software construction costs. Of note is the fact that several states now allow life insurance companies to capitalize software for the purpose of statutory reporting. Additionally, several small companies not in the data processing services industry consider software capitalization activities material enough to make disclosures in their 10-K's. While the trend of capitalizing software construction is increasing, it must be emphasized, however, that the majority of the companies throughout the industry whose stock is traded publicly capitalize none of their software construction costs. Further, for those companies that do capitalize software construction costs, there is no general agreement as to which costs should be capitalized; direct costs only or costs including full absorption of related overhead.

Recommendations

Given the significance of the costs of constructing software and the distortions which result from not capitalizing, it is appropriate and desirable to capitalize costs which have a high probability of producing significant revenues and attendant profits. The costs to be capitalized should include all costs which can reasonably be directly attributed to the construction process. Capitalized costs should then be amortized using an appropriate method and amortization period. The following should be considered when selecting an appropriate amortization period:

- Expected life cycle of the product.
- Expected principal earnings stream of the product. Later stages of the life cycle (declining income stream period) should not be included in the expected life.
- Life cycle should be selected to match the principal earning period with the period of amortization charges.
- Risk of unplanned obsolescence, i.e., technology changes or unexpected marketplace changes.

All software construction costs which have been capitalized should be subject to periodic review to determine whether the market value, defined as the present value of the future stream of cash, is lower than the unamortized cost. Should this occur, the unamortized cost should be written down to market value.

If software is capitalized and if amounts are material, the original cost and accumulated amortization should be disclosed on a separate line on the balance sheet. The method of amortization as well as the amortization period should be disclosed in Notes to the Financial Statements.

Guidelines and illustrative examples for the capitalization of software construction costs are further discussed in Appendix A.

4.0 FUTURE GUIDELINES

These guidelines have been limited by design to Revenue Recognition and Software Construction costs.

ADAPSO will continue its efforts to establish consistent accounting priorities by addressing areas not clearly covered by Generally Accepted Accounting Principles. Future projects are expected to include:

- Financial statement presentation
- Major account classifications
- Industry audit guide

APPENDIX A

PART I

Guidelines For The Capitalization of Software Construction Costs

The purpose of these guidelines is to present examples of the types of risks that should be evaluated when considering a decision concerning capitalization of software construction costs. These guidelines are not intended to be all inclusive nor is every item expected to apply to every situation. The following are examples of some of the factors which are to be considered in evaluating the Market, Technical and Management Risk:

Market Risk

- Extent of market research performed? Is there evidence of a viable market?
- Similarity to previously proven products?
- Size of target market?
- Market share controlled by others? Is another company dominant in this market?
- Adaptability of sales force to selling the product?
- Projected sales price relative to existing competition?
- Present value of future earnings stream (cash flows), discounted at an appropriate rate, compared to budgeted construction costs?

Technical Risk

- Is the software construction the state of the art?
- Does the software include previously proven technologies?
- Does the technical staff have a proven track record?
- Has the construction team previously produced a viable product, as a team, using the required technology?
- Is a substantial part of the team in place or does it need to be hired?
- Is the hardware architecture on which the software will run stable and accepted in the marketplace?

Management Risk

- Financial condition of the company - are finances adequate and in place or reasonably assured to completely fund the project and all reasonably predictable overruns, including the cost of taking the completed product to market?

- Is it likely that the construction team, currently in place, will remain with the company throughout completion of the product construction cycle.

- Are control systems available to comfort management that the project will be done on time and on budget?

The following are examples of items that would be capitalized by application of these risk guidelines:

1. A product not previously offered by a specific company but employing existing knowledge which is in the public domain. The product type has been proven in the marketplace by others. The construction staff has worked together successfully before and has produced several other projects within budgeted costs and time. Management has performed extensive market research. Market research estimates the market size as significant relative to the budgeted cost of construction. No other vendor dominates the market sector. The aggregate market share covered by others is estimated to be a relatively meaningful but not dominant share of the attainable market. The Company has an effective sales force in place selling a related product to a similar customer base. The present value of future cash to be earned from sales of the product discounted by an appropriate discount rate is several times the budgeted construction costs.

Examples:

- General Ledger
- Payroll
- Sales Accounting
- Inventory Control
- Demand Deposit Accounting
- Accounts Payable

2. Improvements/enhancements and/or modifications to an existing successful product. These improvements/enhancements are expected to add to the marketability of the product and to generate incremental revenues and profits. They may be in the form of additional features or may be performance improvements which cause the product to use less computer resources. They may also take the form of allowing easier use by the product user, or be changes to operate in a different hardware and/or software environment.

Examples:

- Improve efficiency of operation
- Add a calculation option
- Improve the documentation to make the product easier to use
- Improve the data editing features for accuracy improvement
- Increase the capacity of the Product
  - to handle more volume
  - to process additional data types
- New report formats for a general ledger system
- New tax tables and calculations for
  - a payroll tax system
  - an income tax system
- Change the language in which the product is programmed to a different proven, existing language
- Adapt the product to operate on a different computer which is well accepted in the marketplace
- Change the data input technique from one form to another form (i.e., cards to on-line video units)

Since there is apparently a high probability of recovering the construction costs in each of the above cases, it is appropriate to capitalize these costs.

The following is an example of a product construction that would be expensed in terms of application of the Risk Guidelines.

1. A new product not previously in existence, employs new concepts and knowledge not previously applied in a commercially available software product. It may employ unproven methods of accessing data or new algorithms for solving the major problem requirements of the software product. It may utilize an as yet unproven combination of hardware and software. Market research performed to date is not considered reliable due to new technology. Management is optimistic about market size but is unable to effectively document its position for this unique product.

Examples:

- A new modeling or simulation technique
- A new programming language
- A new data base management approach
- Control software for a new computer hardware design not previously marketed.

PART II

THE SOFTWARE CONSTRUCTION CYCLE

The following is a listing of the major activities of the software construction cycle and the most likely accounting treatment for each.

RESEARCH AND DEVELOPMENT (not eligible for capitalization)

Conceptual formulation/design - The exploration of techniques and methods to solve a new problem or to solve an existing problem in a new way. It is the search for new knowledge and the definition of approaches to utilize new knowledge. A more extensive discussion of the general definition of research and development is covered in FAS Statement No. 2.

Market research - An examination of the target market for the product. Market size, pricing boundaries, product need and current penetration by others are examples of efforts undertaken.

Market forecasting - A prediction over a time spectrum of the success the company may have - selling dollar volume and unit volume of the product.

CONSTRUCTION (eligible for capitalization dependent on risk analysis)

Detail Plans - The specification and design of how a product will function and how it is to be structured. All transactions and data elements to be handled by the product are defined as well as their form and method of input, how they are processed by the product, and how they result in useful data. Detail planning includes the definition of programming standards, test data, testing plans, integration plans, and documentation standards.

Programming - The transition of the detail plan into a form which can be interpreted and processed by an electronic computer.

Testing - The verification that the programming phase has been accomplished in a manner consistent with the detail plan definition.

Integration - The process of combining all component programs produced in accordance with the detail plan so that each component works within the boundaries of the computer hardware and its associated operating system(s). This step also verifies that all components of the product are internally consistent.

Documentation - The written description of the product explaining what the product does, how it does it, and how to install and use the product.

Marketing materials - Documents used to promote and describe the product to a prospective buyer.

POST CONSTRUCTION

Maintenance (should normally be expensed) - The repair of errors found in the product subsequent to the construction phase plus the implementation of minor improvements. Usually supplied as a finite-period service and subsequently sold as a service over and above the initial product license price.

Enhancements and Improvements (eligible for capitalization dependent on risk analysis) - The addition of substantive features/capabilities which enhance the market value of the product. These features/capabilities would normally be priced separately and should result in incremental revenues because of separate pricing or through generation of additional sales through competitive advantage.